

Jerrabomberra Creek

# Jerrabomberra Creek Community Land Plan of Management



QUEANBEYAN CITY COUNCIL

Adopted by Queanbeyan City Council  
7 June 2006

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# Jerrabomberra Creek Plan of Management

Prepared by

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Cover photos (left to right):

- Jerrabomberra Creek sign, Old Cooma Road creek crossing.
- Jerrabomberra Creek at Royalla.
- The waterfall at Jerrabomberra, off Tamarind Place.
- Jerrabomberra Park, off Mariners Court.

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## Executive Summary

Queanbeyan City Council has adopted this Jerrabomberra Creek Plan of Management so that it can achieve its goal of conserving, preserving, rehabilitating and monitoring the natural environment on public land used by the community that is located along Jerrabomberra Creek.

Jerrabomberra Creek catchment lies within both NSW and the ACT and is within the larger catchment of the Molonglo River which in turn feeds into the Murrumbidgee River. In NSW, Jerrabomberra Creek flows through both rural and urban land before crossing the border into the ACT and emptying into the Jerrabomberra Wetlands.

The impetus for the Plan stems from recommendations in the Council's State of the Environment Report for 2003-2004 which recommended that it undertake a number of actions in relation to Jerrabomberra Creek, including:

- restoring Jerrabomberra Creek to incorporate endemic species;
- organising Jerrabomberra Creek to be included in the regional Frogwatch Program; and
- establishing additional water sampling sites on Jerrabomberra Creek.

The public land along Jerrabomberra Creek that is identified in the Plan is classified as 'community land' under the Queanbeyan Local Environmental Plan 1998. Community land along Jerrabomberra Creek is proposed to be divided into three categories and they are 'park', 'natural area' and 'watercourse'. These land categories have specific management objectives defined by the LEP and this plan outlines management actions and performance targets to achieve the management objectives.

There are no threatened species known to inhabit community land along Jerrabomberra Creek although there are a number of NSW and Commonwealth listed threatened species and threatened ecological communities that are likely to occur on other land within the catchment in the Local Government Area of Queanbeyan.

If this Plan is adopted by Council, it is expected that the management actions will then become specific activities that will be listed under the environmental improvement program of the Council's Management Plan.

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## 1.0 Introduction

### 1.1 Requirement for the Plan of Management

Queanbeyan City Council (the Council) is required under the NSW *Local Government Act 1993* (the Act) to prepare a Plan of Management (the Plan) for public land allocated for use by the local community that occurs within the Local Government Area (LGA) of Queanbeyan. Implementation of the Plan is the responsibility of the Council, whose charter commits them to:

*manage, protect, restore, enhance and conserve the environment of the area for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development.*

### 1.2 Purpose of the Plan of Management

The primary purpose of the Plan is to outline how community land along Jerrabomberra Creek (see Figure 1) is to be used and managed. The secondary purpose of the Plan is to provide supplementary information about the management of the catchment of Jerrabomberra Creek. Overall, the Plan is intended to provide a framework for the Council for the next twenty years and to facilitate an integrated approach to natural resource management for part of the LGA of Queanbeyan.

### 1.3 Integrated natural resource management

The Council recognises that to manage community land along the Jerrabomberra Creek requires specific knowledge of the condition and processes of the Creek and a broader understanding of the condition and processes of the catchment. As a consequence, the Council accepts that it must take an integrated approach to natural resource management (see Figure 3) so that it can achieve its mission which is to:

*establish and maintain quality lifestyle services and facilities in response to community and environmental needs.*

### 1.4 Catchment setting

The catchment of Jerrabomberra Creek is approximately 128 square kilometres in size and lies within both NSW and the ACT. It is within the larger catchment of the Molonglo River which in turn feeds into the Murrumbidgee River via Lake Burley Griffin. The headwaters of Jerrabomberra Creek occur outside of the LGA of Queanbeyan in the locality of Royalla. In NSW, the Jerrabomberra Creek flows through rural and urban land before crossing the border into the ACT and emptying into the Jerrabomberra Wetlands. From the Jerrabomberra Wetlands the water drains into the East Basin of Lake Burley Griffin (see figure 2).

Jerrabomberra Creek Catchment forms part of the broader Upper Murrumbidgee Catchment. Several other overarching Management Plans cover this area including:

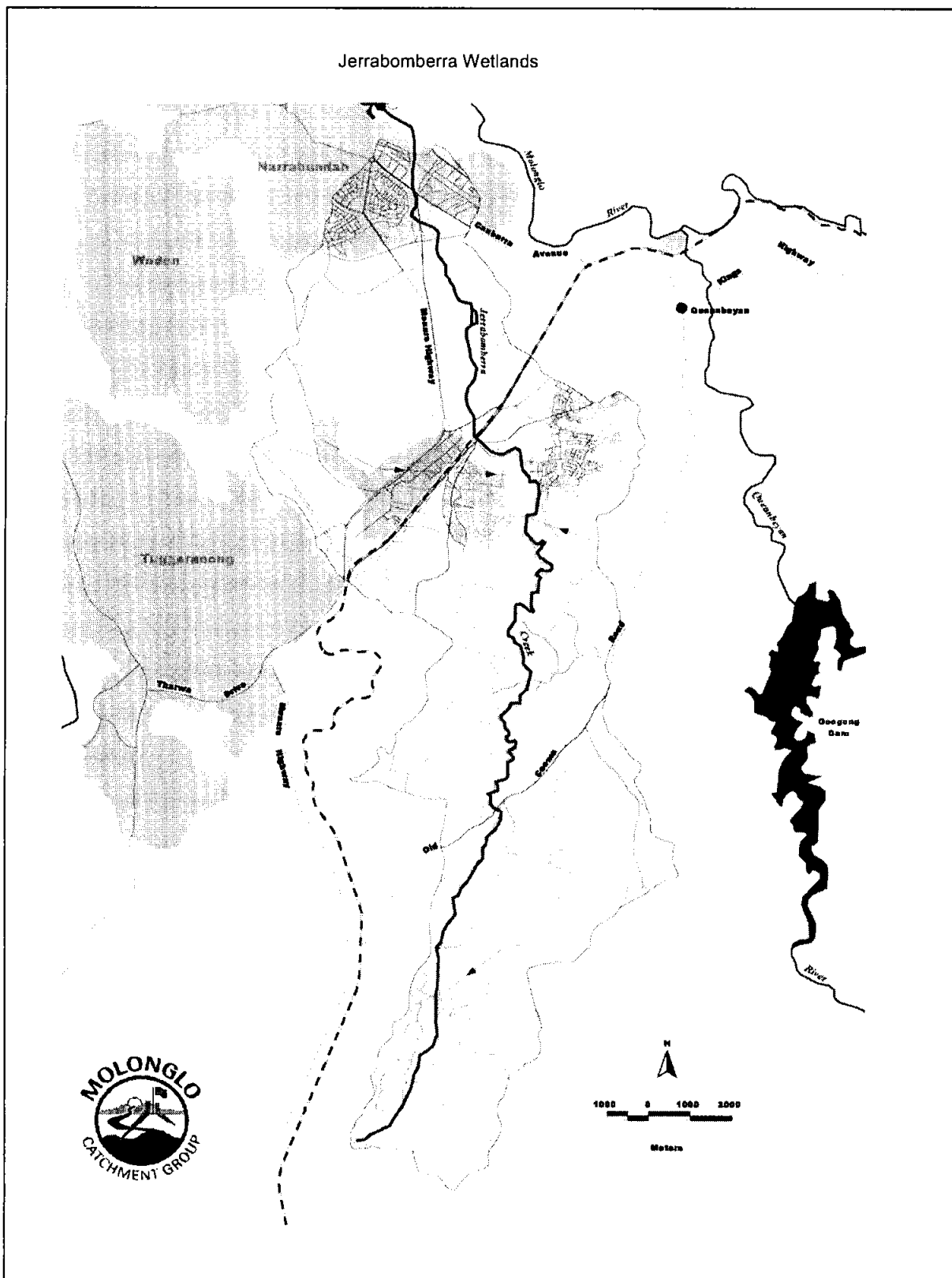
- Draft Murrumbidgee Catchment Action Plan
- Molonglo Catchment Strategy.

The Jerrabomberra Creek Plan of Management sits under these Plans and proposes objectives and actions which are not inconsistent with these important regional plans.

## **1.5 Land use history of Jerrabomberra Creek and its catchment**

Jerrabomberra Creek and its catchment form part of the traditional lands of the Ngunnawal people. Europeans first began to settle in the region soon after their arrival in Australia and the township of Queanbeyan was officially proclaimed in 1838. Jerrabomberra Creek was originally a chain-of-ponds with ephemeral flows and rich alluvial flats in the riparian zones. Today it is a deeply incised channel with eroded gullies and tributaries and this is a result of the past land use practices by European settlers. Since European occupation, the native vegetation in the catchment has been altered and now comprises modified woodland, modified grassland and areas of exotic species. Today's land uses in the catchment are generally limited to agricultural (grazing) and residential (rural and urban).





**Figure 1: Location of Jerrabomberra Creek within the catchment**  
 (Maps provided by Molonglo Catchment Group – [www.molonglocatchment.com.au](http://www.molonglocatchment.com.au))

COMMUNITY LAND TO WHICH THIS PLAN APPLIES

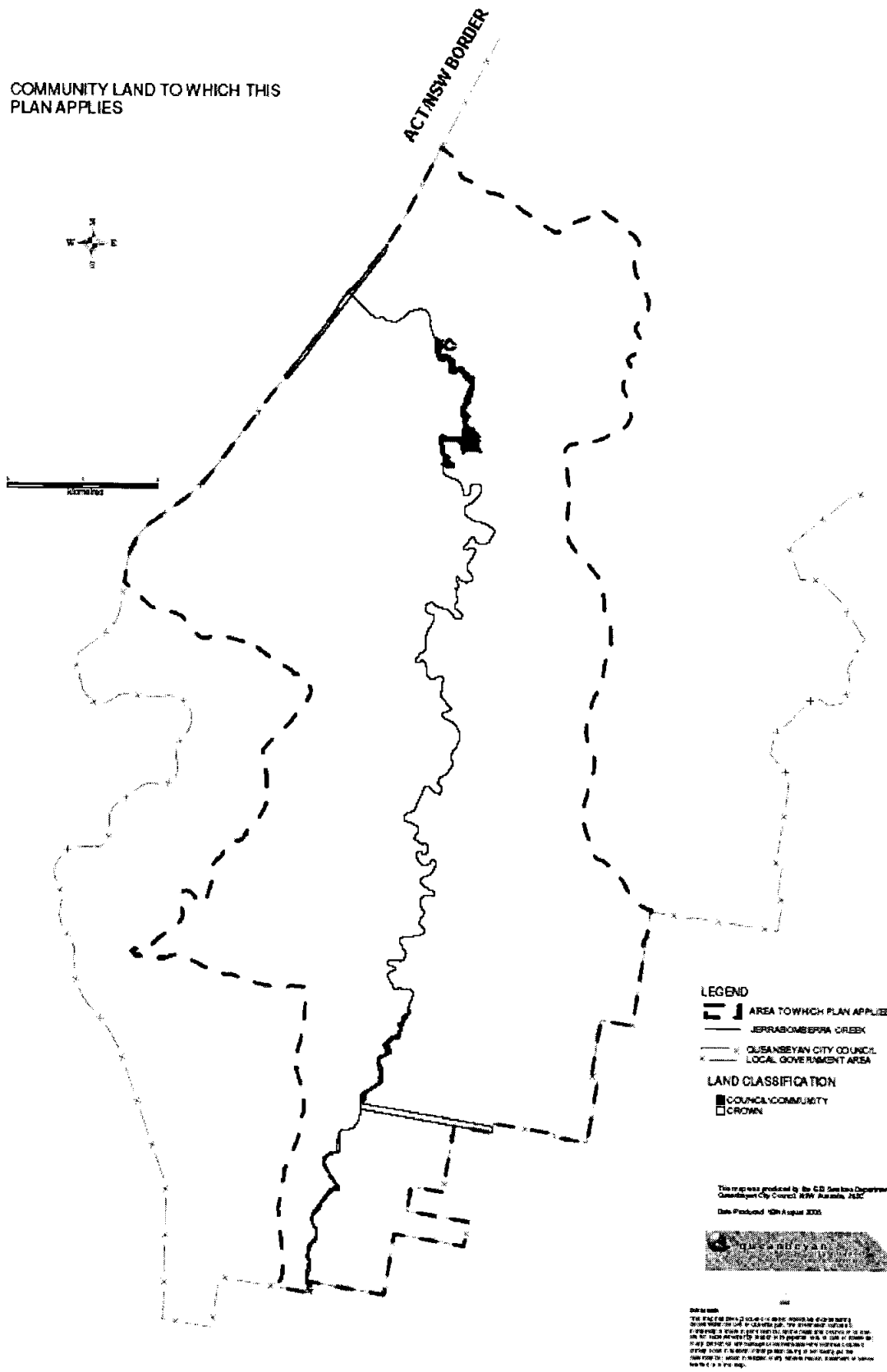


Figure 2: Community land to which this plan applies

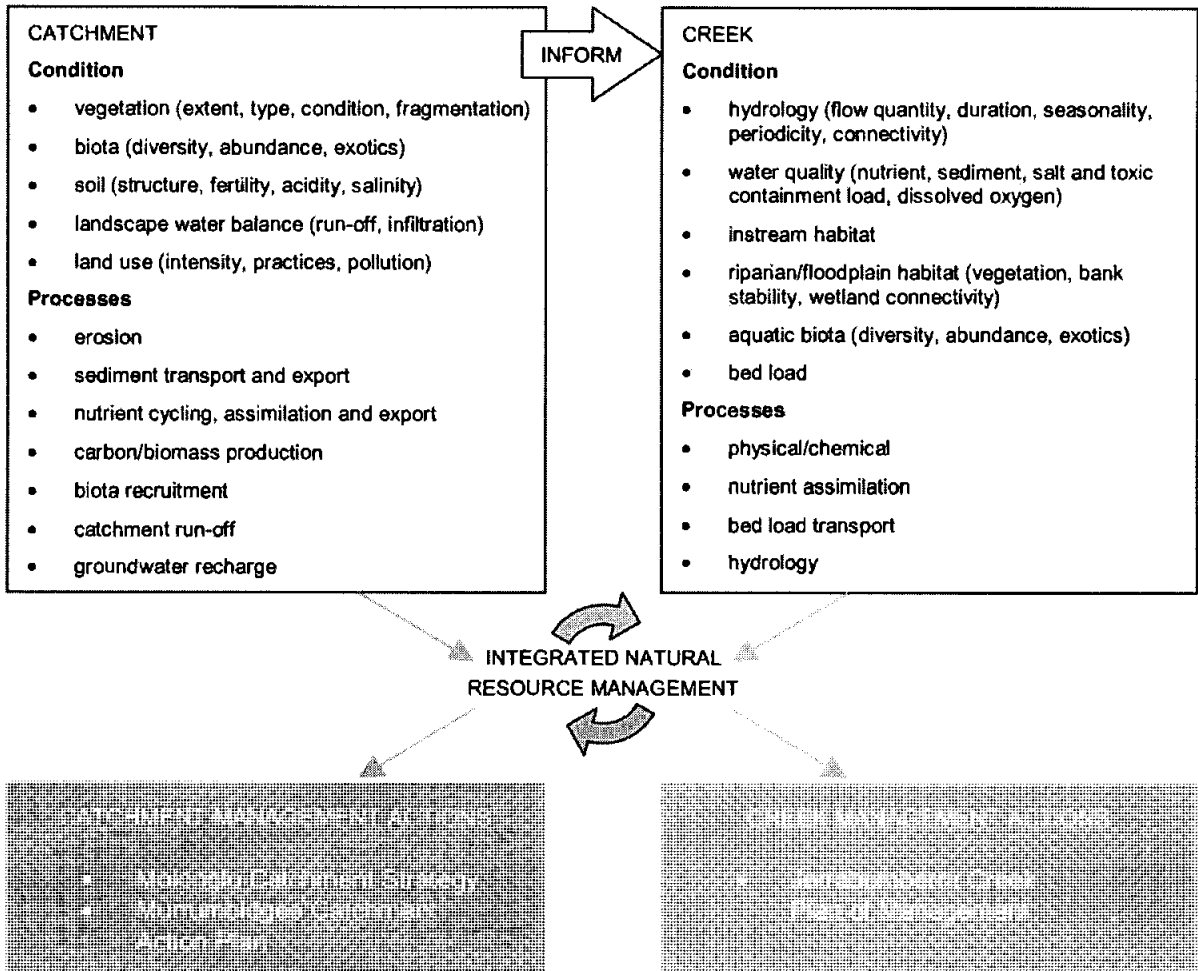


Figure 3: Integrated natural resource management approach<sup>1</sup>

<sup>1</sup> Adapted from the National Land and Water Resources Audit's Australian Catchment, River and Estuary Assessment (2002).

## **1.6 Legal and policy instruments**

### **1.6.1 Legislation**

The management of the Jerrabomberra Creek and its catchment is influenced by a number of laws, the following have particular relevance:

#### New South Wales

- Water Act 1912
- Soil Conservation Act 1938
- National Parks and Wildlife Act 1974
- Environmental Planning and Assessment Act 1979
- Catchment Management Act 1989
- Local Government Act 1993
- Threatened Species Conservation Act 1995
- Native Vegetation Conservation Act 1997
- Native Vegetation Act 2003

#### Commonwealth

- Environment Protection and Biodiversity Conservation Act 1999

### **1.6.2 Policy**

There are numerous policy instruments and strategies that apply to Jerrabomberra Creek and its catchment within the LGA of Queanbeyan. Those relevant to the Plan are as follows:

#### State Government Policy

- Policy for sustainable agriculture in NSW
- State Environment Planning Policy No. 15 - Rural Land-Sharing Communities

#### State Government Strategies

- NSW Salinity Strategy
- NSW Weed Strategy
- NSW Biodiversity Strategy

### Local Government Policy

- Queanbeyan City Council Tree Preservation Order (1998)
- Queanbeyan City Council Significant Tree Policy (1998)
- Queanbeyan City Council Development Control Plan No.41 (1998) - Soil, water and vegetation management plans.
- Queanbeyan City Council Development Control Plan No.42 (2003) - Landscape Policy.
- Queanbeyan City Council Development Control Plan No.27F (2002) - Jerrabomberra Heights, North Terrace and Jerrabomberra Park.

### Local Environmental Plans

- Queanbeyan Local Environmental Plan 1991
- Yarrowlumla Local Environmental Plan 1993
- Queanbeyan Local Environmental Plan 1998
- Yarrowlumla Local Environmental Plan 2002

### 1.6.3

### Catchment and Regional Strategies

- Molonglo Catchment Strategy
- Murrumbidgee Catchment Action Plan
- ACT Willow Management Strategy
- Regional Weed Strategies

Community land along Jerrabomberra Creek needs to be managed in a manner consistent with the catchment. As a consequence, it is considered that strategies must be adopted by all land managers within the catchment of Jerrabomberra Creek. Presented below (Table 1) are strategies which apply to the Molonglo River catchment and therefore have application to the catchment of Jerrabomberra Creek. It is Councils intention to cooperatively and in coordination with the Murrumbidgee Catchment Management Authority, Molonglo Catchment Group, Local Landcare Groups and the ACT Government to resolve the issues as listed below:

Issue	Strategies
<ul style="list-style-type: none"> <li>• Water quality</li> </ul>	<ul style="list-style-type: none"> <li>• Look at achieving 90% groundcover in rural areas across the catchment.</li> <li>• Consider fencing and revegetating to control stock access in riparian areas across the catchment.</li> </ul>
<ul style="list-style-type: none"> <li>• Groundwater</li> </ul>	<ul style="list-style-type: none"> <li>• Consider installing meters on waterbores across the catchment.</li> </ul>
<ul style="list-style-type: none"> <li>• Salinity</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on establishing native grass pastures across the catchment.</li> <li>• Look at retaining, protecting and regenerating native vegetation across the catchment.</li> <li>• Consider revegetating the catchment with appropriate native species.</li> </ul>
<ul style="list-style-type: none"> <li>• Weeds</li> </ul>	<ul style="list-style-type: none"> <li>• Consider removing invasive willows from streams within the catchment. Council has obligations under the Noxious Weeds Act 1993, in respect to noxious weeds on Council land and may undertake chargeable works on Crown and private land.</li> </ul>
<ul style="list-style-type: none"> <li>• Remnant vegetation management</li> </ul>	<ul style="list-style-type: none"> <li>• Consider fencing to protect remnant vegetation and create wildlife corridors within the catchment.</li> </ul>
<ul style="list-style-type: none"> <li>• Riparian restoration</li> </ul>	<ul style="list-style-type: none"> <li>• Consider establishing stock watering points away from streams across the catchment.</li> <li>• Consider excluding and control livestock access to streams within the catchment.</li> </ul>
<ul style="list-style-type: none"> <li>• Erosion</li> </ul>	<ul style="list-style-type: none"> <li>• Look at initiating soil stabilisation works across the catchment.</li> </ul>
<ul style="list-style-type: none"> <li>• Feral Animals</li> </ul>	<ul style="list-style-type: none"> <li>• The control of feral animals on public land is the responsibility of Council and on private land it is the owners responsibility. Contact Council for further information on 62980101.</li> </ul>

Table 1: Issues and strategies for all land managers

## 2.0 Land covered under the Plan of Management

The Council owns a number of land parcels along Jerrabomberra Creek and these are detailed in Table 2. These parcels represent the land specifically addressed under this Plan.

Lot & Deposited Plan Number	Land Category	Suburb	Area
Lot 744 DP 814725	Park	Jerrabomberra	5.033 ha
Lot 939 DP 850891	Park	Jerrabomberra	2.98 ha
Lot 57 DP 1017138	Park	Jerrabomberra	5.2 ha
Lot 112 DP 1037423	Natural Area	Jerrabomberra	22.78 ha
Lot 148 DP 1041324	Natural Area	Jerrabomberra	4.47 ha
Lot 2 DP 1042627	Watercourse	Royalla	13.3 ha
Lot 41 DP 1056538	Watercourse	Royalla	9.0 ha

Table 2: Land parcel details

### 2.1 Impacts on Private Land

While Council acknowledges that this Plan is not able to specifically cover areas of private land it is important to recognise that much of the land adjoining the Creek and in the broader catchment is in private ownership. Landholders are encouraged to use the principles and objectives detailed in this Plan to guide their own management practices on private land along the Creek. In fact there will be many cases where it may be beneficial for the Council and adjacent landowners to work together to restore and rehabilitate areas of the Creek. Examples could include proposals to seek joint funding for willow removal or noxious plant control or riparian zone protection and rehabilitation.

Funding for this type of work is available from different sources from time to time. For information on current sources of funding please see Council's website [www.qcc.nsw.gov.au](http://www.qcc.nsw.gov.au) or contact Council's Environmental Services on (02) 6298 0268.

## 3.0 Classification and category of the land

### 3.1 Land classification

The public land along Jerrabomberra Creek that is identified in the Plan is classified as 'community land' under the Local Government Act 1993. Community land along Jerrabomberra Creek is divided into three categories and they are 'park', 'natural area' and 'watercourse'.

#### 3.1.1 Category - Park

Community land along Jerrabomberra Creek in the vicinity of Mariners Court, in the suburb of Jerrabomberra is categorised as 'park'. The following parcels are classified as park land:

Lot and Deposited Plan Number	Description	Street Address	Area (Hectares)
Lot 744 DP 814725	Park	7 Mariners Court, Jerrabomberra	5.033
Lot 939 DP 850891	Park	2 Waterfall Drive, Jerrabomberra	2.98
Lot 57 DP 1017138	Park	18 Waterfall Drive, Jerrabomberra	5.2

Table 3: Park parcel details

The objectives for the management of this land as set down in the Local Government Act 1993 are as follows:

- encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities;
- provide for passive recreational activities or pastimes and for the casual playing of games; and
- improve the land in such a way as to promote and facilitate its use.



### 3.1.2 Category - Natural area

Community land along Jerrabomberra Creek, between Tamarind Place and Camphorwood Close in the suburb of Jerrabomberra, is categorised as a 'natural area'. The following parcels of land are classified as natural area:

Lot and Deposited Plan Number	Description	Street Address	Area (Hectares)
Lot 112 DP 1037423	Natural Area	8 Banyalla Close	2.98
Lot 148 DP 1041324	Natural Area	137 Waterfall Drive	4.47

Table 4: Natural area parcel details

The objectives for the management of this land are as follows:

- conserve biodiversity and maintain ecosystem function as a natural area;
- maintain the land, or that feature of the habitat, in its natural state and setting;
- provide for the restoration and regeneration of the land;
- provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion; and
- assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in a recovery plan or threat abatement plan prepared under the *Threatened Species Conservation Act 1995* or the *Fisheries Management Act 1994*.

### 3.1.3 Category - Watercourse

Community land along the upper reaches of the Jerrabomberra Creek is categorised as a 'watercourse'. The following parcels of land are classified as watercourse:

Lot and Deposited Plan Number	Description	Street Address	Area (Hectares)
Lot 2 DP 1042627	Watercourse	1731 Old Cooma Road, Googong	13.3
Lot 41 DP 1056538	Watercourse	146 Thoroughbred Drive, Royalla	9.0

Table 5: Watercourse parcel details

The objectives for the management of this land are as follows:

- manage watercourse so as to protect the biodiversity and ecological values of the instream environment, particularly in relation to water quality and water flows;
- manage watercourse so as to protect the riparian environment, particularly in relation to riparian vegetation and habitats and bank stability;
- restore degraded watercourse; and
- promote community education, and community access to and use of the watercourse.

## 4.0 Ownership of Land

### 4.1 Owner of the Land

All land referred to in Part 2 and 3 of this Plan is owned by Queanbeyan City Council and classified as Community Land under the Local Government Act 1993.

### 4.2 Other Ownership

Generally the remainder of land adjoining or encompassing the Creek catchment is in private ownership. The exceptions are:

- Locations where the Creek crosses roadways generally under the control of Council.
- Locations where the Creek abuts Crown Road reserves generally under the control of the Department of Lands.
- An area of Crown Land operated by the Rail Infrastructure Corporation located at the furthest downstream point of the Creek before it enters the ACT. This land includes the existing railway line.
- An area of Crown Land managed by Little Burra Pty Ltd located at the southern end of the community land in Little Burra and identified as Lot 7001 DP1027109 (Refer to Figure 11).
- Lake Jerrabomberra is a man-made stormwater retention basin, situated on the eastern side of Jerrabomberra Creek at Jerrabomberra Estate. Lake Jerrabomberra is classified as "Operation Land" under the QLEP 1998 for the purposes of stormwater drainage and as such is not covered by this Plan of Management which relates only to Community Land. There is an operational Draft Plan of Management which specifically addresses management and maintenance of the lake.

## 5.0 Management of the Land

### 5.1 Background to the Management of Community Land

This plan of management seeks to:

- Comply with the core objective for this type of community land and all other statutory provisions;
- Set up a management and maintenance regime in order to maintain the facilities on the lands covered by this plan in good order so as to reduce public liability risk and to protect public investment as well as their users.
- Authorise leases for specific sites.
- Identify landscape development plans for specific sites.

The management of these sites is undertaken by the **Queanbeyan City Council**.

The action priorities for **Jerrabomberra Creek** are shown in the tables which have been arranged according to the following management issues:

Generic Section of the Plan (Section 5.1):

- Compliance with the Core Objective (applicable to this type of community land).
- Maintenance.
- Community Consultation.
- Public Access to the Sites.

Specific Sections of the Plan (Parts B, C and D):

- Specific Site Maintenance.
- Landscape Development Plan.

5.1.1

General Compliance with Core Objective for All Areas

Management Issues	Core Objective	Performance Target	Means of achieving the objective and performance target	Manner of assessing objectives and performance targets	Responsibility
<p><b>COMPLIANCE WITH THE CORE OBJECTIVE FOR LAND CATEGORISED AS PARK (AS PRESCRIBED UNDER THE LOCAL GOVERNMENT ACT 1993).</b></p>	<ul style="list-style-type: none"> <li>• Encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities;</li> <li>• Provide for passive recreational activities or pastimes and for the casual playing of games; and</li> <li>• Improve the land in such a way as to promote and facilitate its use.</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance at all times with the core objective for Parks.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to the core objectives when amending this plan of management.</li> </ul>	<ul style="list-style-type: none"> <li>• When reviewing this plan, include a review of the terms of its compliance/non-compliance with the core objective(s) and all other statutory provisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Parks and Recreation Services Section.</li> <li>• Strategic Planning Section.</li> </ul>

Management Issues	Core Objective	Performance Target	Means of achieving the objective and performance target	Manner of assessing objectives and performance targets	Responsibility
<p><b>COMPLIANCE WITH THE CORE OBJECTIVE FOR LAND CATEGORISED AS NATURAL AREA (AS PRESCRIBED UNDER THE LOCAL GOVERNMENT ACT 1993)</b> (Continued)</p>	<ul style="list-style-type: none"> <li>• Conserve biodiversity and maintain ecosystem function as a natural area;</li> <li>• Maintain the land, or that feature of the habitat, in its natural state and setting;</li> <li>• Provide for the restoration and regeneration of the land;</li> <li>• Provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion; and</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance at all times with the core objective for Natural Area.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to the core objectives when amending this plan of management.</li> </ul>	<ul style="list-style-type: none"> <li>• When reviewing this plan, include a review of the terms of its compliance/non-compliance with the core objective(s) and all other statutory provisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Parks and Recreation Services Section.</li> <li>• Strategic Planning Section.</li> </ul>

Management Issues	Core Objective	Performance Target	Means of achieving the objective and performance target	Manner of assessing objectives and performance targets	Responsibility
<p><b>COMPLIANCE WITH THE CORE OBJECTIVE FOR LAND CATEGORISED AS NATURAL AREA (AS PRESCRIBED UNDER THE LOCAL GOVERNMENT ACT 1993)</b> (Continued)</p>	<ul style="list-style-type: none"> <li>Assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in a recovery plan or threat abatement plan prepared under the <i>Threatened Species Conservation Act 1995</i> or the <i>Fisheries Management Act 1994</i>.</li> </ul>				

Management Issues	Core Objective	Performance Target	Means of achieving the objective and performance target	Manner of assessing objectives and performance targets	Responsibility
<p><b>COMPLIANCE WITH THE CORE OBJECTIVE FOR LAND CATEGORISED AS WATERCOURSE (AS PRESCRIBED UNDER THE LOCAL GOVERNMENT ACT 1993).</b></p>	<ul style="list-style-type: none"> <li>• Manage watercourse so as to protect the biodiversity and ecological values of the instream environment, particularly in relation to water quality and water flows;</li> <li>• Manage watercourse so as to protect the riparian environment, particularly in relation to riparian vegetation and habitats and bank stability;</li> <li>• Restore degraded watercourse; and</li> <li>• Promote community education, and community access to and use of the watercourse.</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance at all times with the core objective for Watercourse.</li> </ul>	<ul style="list-style-type: none"> <li>• Refer to the core objectives when amending this plan of management.</li> </ul>	<ul style="list-style-type: none"> <li>• When reviewing this plan, include a review of the terms of its compliance/non-compliance with the core objective(s) and all other statutory provisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Parks and Recreation Services Section.</li> <li>• Strategic Planning Section.</li> </ul>

5.1.2

General Maintenance of All Areas

Management Issues	Objective	Performance Target	Means of achieving the objective	Manner of assessing performance	Responsibility
GENERAL SITE MAINTENANCE.	GENERAL SITE MAINTENANCE.	<ul style="list-style-type: none"> <li>To minimise public risk and to ensure the proper management of the site.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to finance and to provide administrative support for the maintenance of each site.</li> <li>Continue to report all damaged structures/embellishments to Engineering Operations for repair/replacement.</li> <li>Continue to maintain the grounds in accordance with the parks seasonal maintenance programme</li> </ul>	<ul style="list-style-type: none"> <li>Whether or not funds for the maintenance are included in the annual management plan.</li> <li>Visual inspection to determine general maintenance standard of the buildings and surrounding areas/structures/embellishments.</li> <li>Assessment of whether or not buildings, structures, surroundings and embellishments are in good order and/or comply with the relevant Australian Standards or are high risk.</li> </ul>	<ul style="list-style-type: none"> <li>Engineering Operations Section.</li> <li>Parks and Recreation Services Section.</li> </ul>



Management Issues	Objective	Performance Target	Means of achieving the objective	Manner of assessing performance	Responsibility
<b>GENERAL SITE MAINTENANCE (continued).</b>	<ul style="list-style-type: none"> <li>• As above.</li> </ul>	<ul style="list-style-type: none"> <li>• As above.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue to monitor any existing buildings, embellishments and structures (public assets) with regard to their usefulness/appropriateness, risk, condition, long term maintenance, and compliance with the relevant Australian Standards.</li> <li>• Annual risk assessment of the sites, any buildings on them and other embellishments/structures.</li> <li>• Salvage or discard embellishments/structures surplus to requirements or which exceed Council's risk management assessment.</li> </ul>	<ul style="list-style-type: none"> <li>• Whether or not annual risk assessment is undertaken.</li> <li>• Whether or not appropriate remedial action is taken to ensure that all buildings, structures, surroundings and embellishments are in good order and/or comply with the relevant Australian Standards or are high risk.</li> </ul>	<ul style="list-style-type: none"> <li>• As above.</li> </ul>

5.1.3

Community Consultation

Management Issues	Objective	Performance Target	Means of achieving the objective	Manner of assessing performance	Responsibility
<b>COMMUNITY CONSULTATION</b>	<ul style="list-style-type: none"> <li>To provide for community input into the general management of the site and into this plan of management.</li> </ul>	<ul style="list-style-type: none"> <li>Consultation being in accordance with the <i>Local Government Act, 1993</i> during any revision of this plan of management.</li> </ul>	<ul style="list-style-type: none"> <li>Continue to undertake reviews of this plan in the public consultation provisions of the <i>Local Government Act, 1993</i>.</li> </ul>	<ul style="list-style-type: none"> <li>At every review of this plan of management check to see that consultation has been undertaken with the <i>Local Government Act, 1993</i>.</li> </ul>	<ul style="list-style-type: none"> <li>Strategic Planning Section.</li> </ul>

**5.1.4**

**Public Access to the Sites**

<b>Management Issues</b>	<b>Objective</b>	<b>Performance Target</b>	<b>Means of achieving the objective</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<b>PUBLIC ACCESS</b>	<ul style="list-style-type: none"> <li>To facilitate the ongoing community, recreational and other uses of this land and which are consistent with the core objective(s) for it.</li> </ul>	<ul style="list-style-type: none"> <li>Maintenance of reasonable and safe public access to this land.</li> <li>Assess condition of concrete path regularly</li> </ul>	<ul style="list-style-type: none"> <li>Continue policies which enable the public reasonable and safe access to this land.</li> </ul>	<ul style="list-style-type: none"> <li>Regular review of public accessibility to the land.</li> </ul>	<ul style="list-style-type: none"> <li>Engineering Operations Section.</li> <li>Parks and Recreation Services Section.</li> </ul>

## **5.2 Condition of the Land**

### **5.2.1 Soil**

The catchment of Jerrabomberra Creek in the LGA of Queanbeyan and adjoining areas comprises soil derived from predominantly volcanic rocks such as granite, although there are also some sedimentary rocks, and therefore alluvial soils underlying a small part of the suburb of Jerrabomberra. Vegetation clearing and grazing practices of early European settlers, together with rabbit plagues, have contributed over the years to the loss of soil within the catchment and this has affected the condition of Jerrabomberra Creek. The catchment is considered to be suffering minor to moderate gully erosion (see Figure 4) while Jerrabomberra Creek carries significant amounts of sediment and is under threat from minor to moderate stream bank erosion (see Figure 5).

Conclusions for best practice land management from the geomorphic research carried out by Wasson and Star on the Creek, indicate that revegetation of much of the riparian zones; prevention of stock access to the creek channel and providing other watering points; and implementing sustainable grazing practices will be the most appropriate actions to stabilise the channels, stream banks and gullies and prevent excessive mobilisation of sediment.

### **5.2.2 Vegetation**

The original vegetation within the catchment prior to European settlement, consisted of dry sclerophyll forest on the steep slopes, savannah woodlands on the undulating hills and expanses of native grasslands on the flatter, colder valley floor. Since European settlement, the vegetation in the catchment has been gradually altered in the rural areas and dramatically changed in the urban areas. Today, the catchment including the Jerrabomberra Creek still contains pockets of diverse species of grasses, shrubs and trees. The condition of this vegetation is considered to be good with much of the native vegetation in a healthy state. The current distribution of the different vegetation types across the catchment is shown at Figure 6.

### **5.2.3 Surface and ground water**

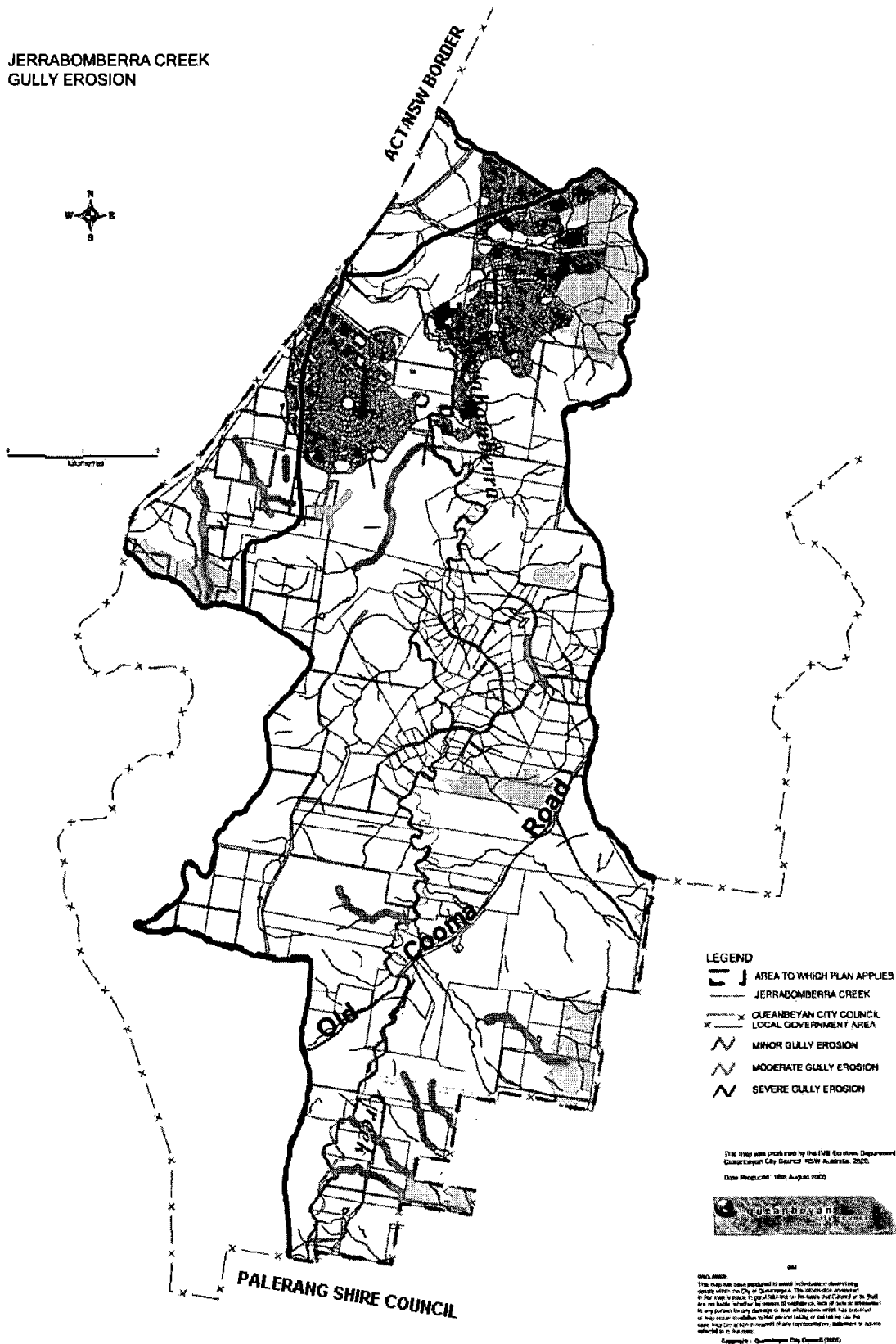
#### **Surface water**

The condition of surface water across the catchment is considered to be poor due to the presence of sediments and nutrients in farm dams and in channel and pools along the Jerrabomberra Creek. Past water quality monitoring results from the Jerrabomberra Creek show that the quality of the water seems to be degrading and it is possible that this is being caused by overgrazing and pollutants from stormwater associated with road surfaces and residential areas. Other reasons for the poor condition of surface water and reduced flows may be because of the increasing number and location of farm dams within the catchment which are limiting flows and direct extraction of Creek water for stock and domestic purposes and extraction of groundwater which would otherwise provide base flow for the Creek.

#### **Groundwater**

The condition of the groundwater within the catchment is considered to be of good quality, with salinity levels in the deeper fractured rock aquifer at acceptable levels. Use of groundwater within the catchment is generally limited to livestock and domestic use in the suburbs of Royalla and Googong. No information was available detailing the number of licences for extraction which have been granted and the number of bores drilled.

JERRABOMBERRA CREEK  
GULLY EROSION



**Figure 4: Jerrabomberra Catchment Gully Erosion**  
(Maps provided by Molonglo Catchment Group – [www.molonglocatchment.com.au](http://www.molonglocatchment.com.au))



JERRABOMBERRA CATCHMENT  
VEGETATION DATA

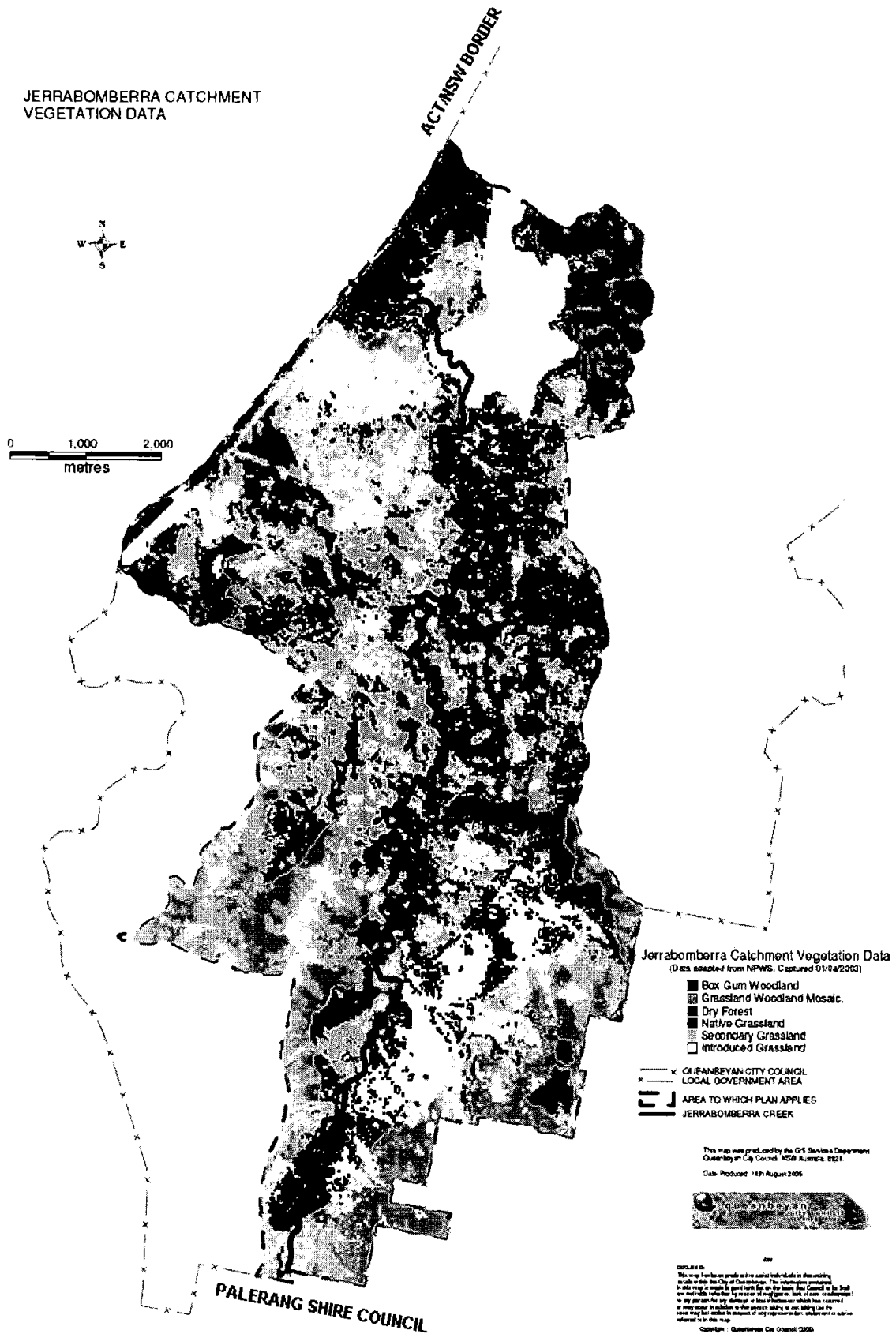


Figure 6: Jerrabomberra Catchment Vegetation Data  
(Maps provided by Molonglo Catchment Group – [www.molonglocatchment.com.au](http://www.molonglocatchment.com.au))

#### 5.2.4 Catchment

The condition of the upper and middle sections of the catchment is considered good since these areas of the catchment are mostly unmodified due to the fact that:

- land use has been generally restricted to rural activities in the form of grazing;
- native vegetation is reasonably intact; and
- loads of suspended sediment, total nitrogen and total phosphorus in Jerrabomberra Creek are close to natural.

The condition of the lower section of the catchment, below the waterfall, is however considered to be substantially modified since there has been:

- urban development;
- significant loss of native vegetation; and
- moderate to high loads of suspended sediment, total nitrogen and total phosphorus found in Jerrabomberra Creek.

#### 5.3 Threatened species and ecological communities on the land

There are no NSW or Commonwealth listed threatened species or ecological communities known to inhabit community land along Jerrabomberra Creek although there are a number that are likely to occur on other land within the catchment. If any threatened species are present the actions presented in this report should help to preserve them.

#### New South Wales

Common Name / Scientific Name	Habitat
<b>Plants</b>	
<ul style="list-style-type: none"> <li>• Button Wrinklewort <i>Rutidosia leptorrhynchoides</i></li> </ul>	<ul style="list-style-type: none"> <li>• Box-Gum Woodland or Natural Temperate Grassland.</li> </ul>
<ul style="list-style-type: none"> <li>• Small Purple-pea <i>Swainsona recta</i></li> </ul>	<ul style="list-style-type: none"> <li>• Woodlands with grassy understorey dominated by Kangaroo Grass <i>Themeda australis</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Pomaderris pallida</i></li> </ul>	<ul style="list-style-type: none"> <li>• Brittle Gum <i>Eucalyptus mannifera</i> and Red Stringybark <i>Eucalyptus macrorhyncha</i> woodland.</li> </ul>



<b>Birds</b>	
<ul style="list-style-type: none"> <li>• Speckled Warbler <i>Pyrrholaemus sagittatus</i></li> </ul>	<ul style="list-style-type: none"> <li>• Rocky ridges or gullies with eucalypt woodland that has a grassy understorey.</li> </ul>
<ul style="list-style-type: none"> <li>• Diamond Firetail <i>Stagonopleura guttata</i></li> </ul>	<ul style="list-style-type: none"> <li>• Grassy eucalypt woodlands.</li> </ul>
<ul style="list-style-type: none"> <li>• Hooded Robin <i>Melanodryas cucullata</i></li> </ul>	<ul style="list-style-type: none"> <li>• Open eucalypt woodland.</li> </ul>
<ul style="list-style-type: none"> <li>• Glossy Black Cockatoo <i>Calyptorhynchus lathami</i></li> </ul>	<ul style="list-style-type: none"> <li>• Open eucalypt woodland</li> </ul>
<ul style="list-style-type: none"> <li>• Brown Treecreeper <i>Climacteris picumnus victoriae</i></li> </ul>	<ul style="list-style-type: none"> <li>• Open eucalypt woodland</li> </ul>
<b>Insects</b>	
<ul style="list-style-type: none"> <li>• Golden Sun Moth <i>Synemon plana</i></li> </ul>	<ul style="list-style-type: none"> <li>• Natural Temperate Grasslands and grassy Box-Gum Woodlands in which the groundlayer is dominated by wallaby grasses <i>Austrodanthonia</i> spp</li> </ul>
<b>Mammals</b>	
<ul style="list-style-type: none"> <li>• Eastern False Pipistrelle <i>Falsistrellus tasmaniensis</i></li> </ul>	<ul style="list-style-type: none"> <li>• Eucalypt trees taller than 20m.</li> </ul>
<ul style="list-style-type: none"> <li>• Eastern Bentwing-bat <i>Miniopterus schreibersii oceanensis</i></li> </ul>	<ul style="list-style-type: none"> <li>• Caves, stormwater tunnels, buildings and other man-made structures.</li> </ul>
<b>Reptiles</b>	
<ul style="list-style-type: none"> <li>• Pink-tailed Legless Lizard <i>Aprasia parapulchella</i></li> </ul>	<ul style="list-style-type: none"> <li>• Open woodland areas, dominated by Kangaroo Grass <i>Themeda australis</i>, with rock outcrops or scattered, partially-buried rocks.</li> </ul>
<ul style="list-style-type: none"> <li>• Rosenberg's Goanna <i>Varanus rosenbergi</i></li> </ul>	<ul style="list-style-type: none"> <li>• Woodland.</li> </ul>

<ul style="list-style-type: none"> <li>• Little Whip Snake <i>Suta flagellum</i></li> </ul>	<ul style="list-style-type: none"> <li>• Rocky outcrops</li> </ul>
<b>Ecological communities</b>	
<ul style="list-style-type: none"> <li>• White Box, Yellow Box, Blakely's Red Gum Woodland</li> </ul>	

Table 3: NSW listed threatened species and ecological communities

Commonwealth

Common Name / Scientific Name	Habitat
<b>Plants</b>	
<ul style="list-style-type: none"> <li>• Button Wrinklewort <i>Rutidosia leptorrhynchoides</i></li> </ul>	<ul style="list-style-type: none"> <li>• Box-Gum Woodland or Natural Temperate Grassland.</li> </ul>
<ul style="list-style-type: none"> <li>• Small Purple-pea <i>Swainsona recta</i></li> </ul>	<ul style="list-style-type: none"> <li>• Woodlands with grassy understorey dominated by Kangaroo Grass <i>Themeda australis</i></li> </ul>
<ul style="list-style-type: none"> <li>• Austral Toadflax <i>Thesium australe</i></li> </ul>	<ul style="list-style-type: none"> <li>• Grassland</li> </ul>
<b>Birds</b>	
<ul style="list-style-type: none"> <li>• Australian Painted Snipe <i>Rostratula australis</i></li> </ul>	<ul style="list-style-type: none"> <li>• Wetlands</li> </ul>
<ul style="list-style-type: none"> <li>• Regent Honeyeater <i>Xanthomyza phrygia</i></li> </ul>	<ul style="list-style-type: none"> <li>• Woodland</li> </ul>
<b>Fishes</b>	
<ul style="list-style-type: none"> <li>• Murray cod <i>Maccullochella peelii peelii</i></li> </ul>	<ul style="list-style-type: none"> <li>• Clear, rocky streams</li> </ul>
<ul style="list-style-type: none"> <li>• Macquarie Perch <i>Macquaria australasica</i></li> </ul>	<ul style="list-style-type: none"> <li>• Deep creek pools and riffles above a waterfall.</li> </ul>

<b>Insects</b>	
<ul style="list-style-type: none"> <li>Golden Sun Moth <i>Synemon plana</i></li> </ul>	<ul style="list-style-type: none"> <li>Natural Temperate Grasslands and grassy Box-Gum Woodlands in which the groundlayer is dominated by wallaby grasses <i>Austrodanthonia</i> spp.</li> </ul>
<b>Mammals</b>	
<ul style="list-style-type: none"> <li>Grey-headed Flying-fox <i>Pteropus poliocephalus</i></li> </ul>	<ul style="list-style-type: none"> <li>Open woodlands</li> </ul>
<b>Reptiles</b>	
<ul style="list-style-type: none"> <li>Pink-tailed Legless Lizard <i>Aprasia parapulchella</i></li> </ul>	<ul style="list-style-type: none"> <li>Open woodland areas, dominated by Kangaroo Grass <i>Themeda australis</i>, with rock outcrops or scattered, partially-buried rocks.</li> </ul>
<ul style="list-style-type: none"> <li>Striped Legless Lizard <i>Delma impar</i></li> </ul>	<ul style="list-style-type: none"> <li>Natural grasslands dominated by <i>Stipa</i> and <i>Themeda</i> spp.</li> </ul>
<ul style="list-style-type: none"> <li>Grassland Earless Dragon <i>Tympanocryptis lineata pinguicolla</i></li> </ul>	<ul style="list-style-type: none"> <li>Treeless natural tussock grassland, ungrazed or lightly grazed on gentle slopes.</li> </ul>
<b>Ecological communities</b>	
<ul style="list-style-type: none"> <li>Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory.</li> </ul>	

Table 6: Commonwealth listed threatened species and ecological communities.

## 6.0 Approvals for Activities on the Land

With the exception of the Council, its employees and contractors, a person who intends on undertaking an activity which involves physical disturbance to community land along Jerrabomberra Creek is required to seek approval of the Council prior to undertaking such an activity.

## **PART B – SPECIFIC MANAGEMENT PLAN FOR PARK**

### **A. Condition of the Land and Structures on Adoption of the Plan**

<b>FEATURE</b>	<b>DESCRIPTION/CONDITION</b>
<b>LOCATION</b>	LOT 939 DP 850891 2 WATERFALL DRIVE JERRABOMBERRA (Figure 7) LOT 57 DP 1017138 11 WATERFALL DRIVE JERRABOMBERRA (Figure 7) LOT 744 DP 814725 7 MARINERS COURT JERRABOMBERRA (Figure 7)
<b>AREA</b>	5.033 HA, 2.98HA, 5.2HA (13.21 Ha in Total)
<b>LANDFORM AND SURROUNDING LAND USE</b>	Riparian zone separating watercourse and urban area. Used for passive recreational purposes by surrounding residents. A section abuts Jerrabomberra Lake.
<b>VEGETATION</b>	Modified riparian vegetation including exotic species Modified grasslands of mowable grade
<b>IMPROVEMENTS</b>	Approximately 500 metres of formal paved footway. Outdoor exercise equipment Approximately 180 metres gabion erosion control barriers Stormwater outlet and energy dissipater near Tamarind Place
<b>URBAN SERVICES</b>	The following services are provided in proximity to the site: electricity, gas, telephone stormwater, town water, and sewerage.
<b>SUMMARY</b>	An elongated strip of park land on the eastern side of Jerrabomberra Creek separating the watercourse from residential areas and Jerrabomberra Lake. It should be noted that Lake Jerrabomberra is not included in this plan as it has it's own plan of management.

### **B. Use of the Land and Structures at the Date of Adoption of the Plan**

This site is used for general recreational purposes

### **C. Threatened Species Legislation**

Land covered by this Plan has been assessed under the *Threatened Species Conservation Act 1995*.

### ***D. Future Use of the Land***

There are currently no changes proposed to the use.

### ***E. Scale and Intensity***

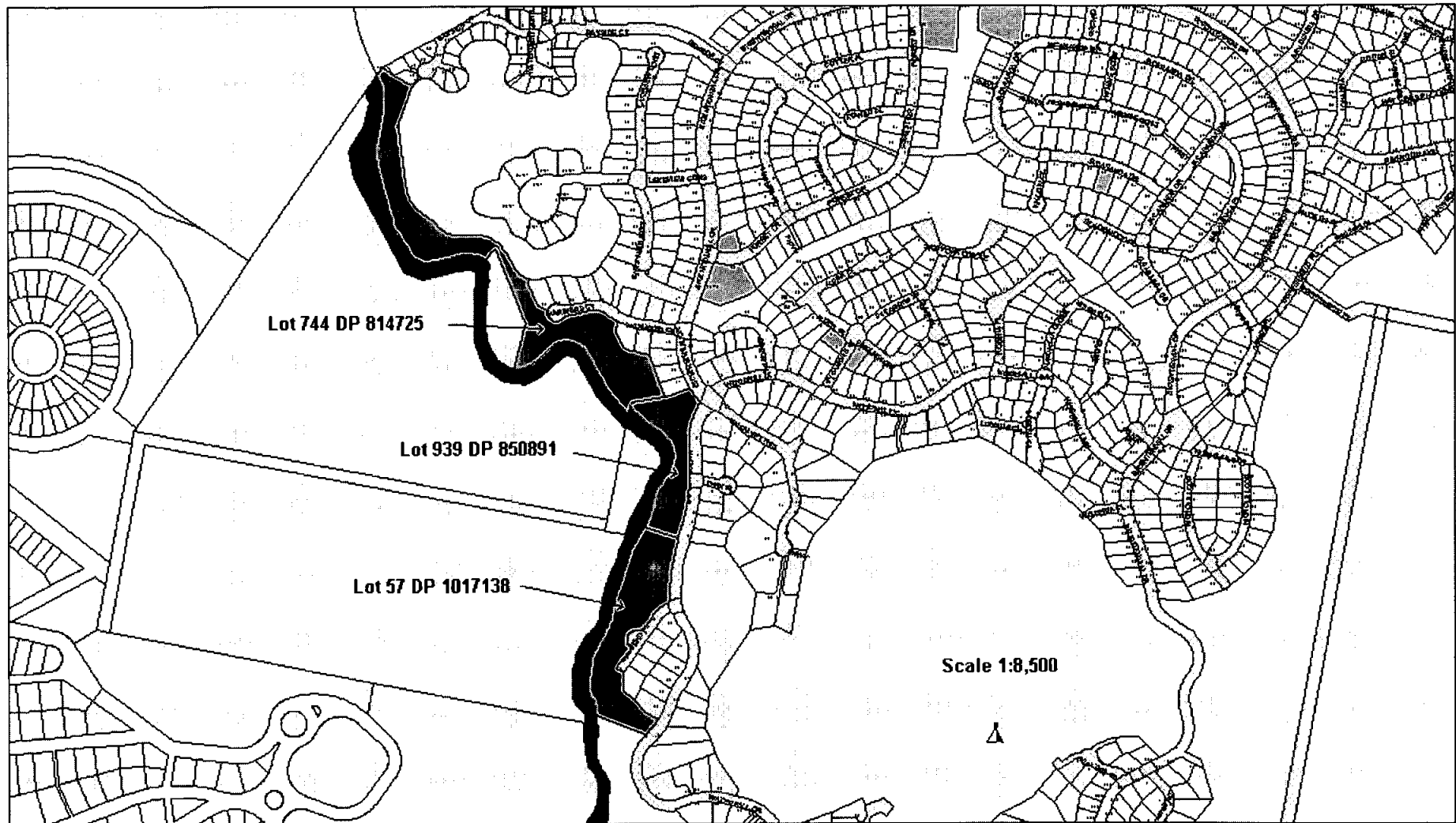
Passive recreation.

### ***F. Leases, Licences and Other Estates***

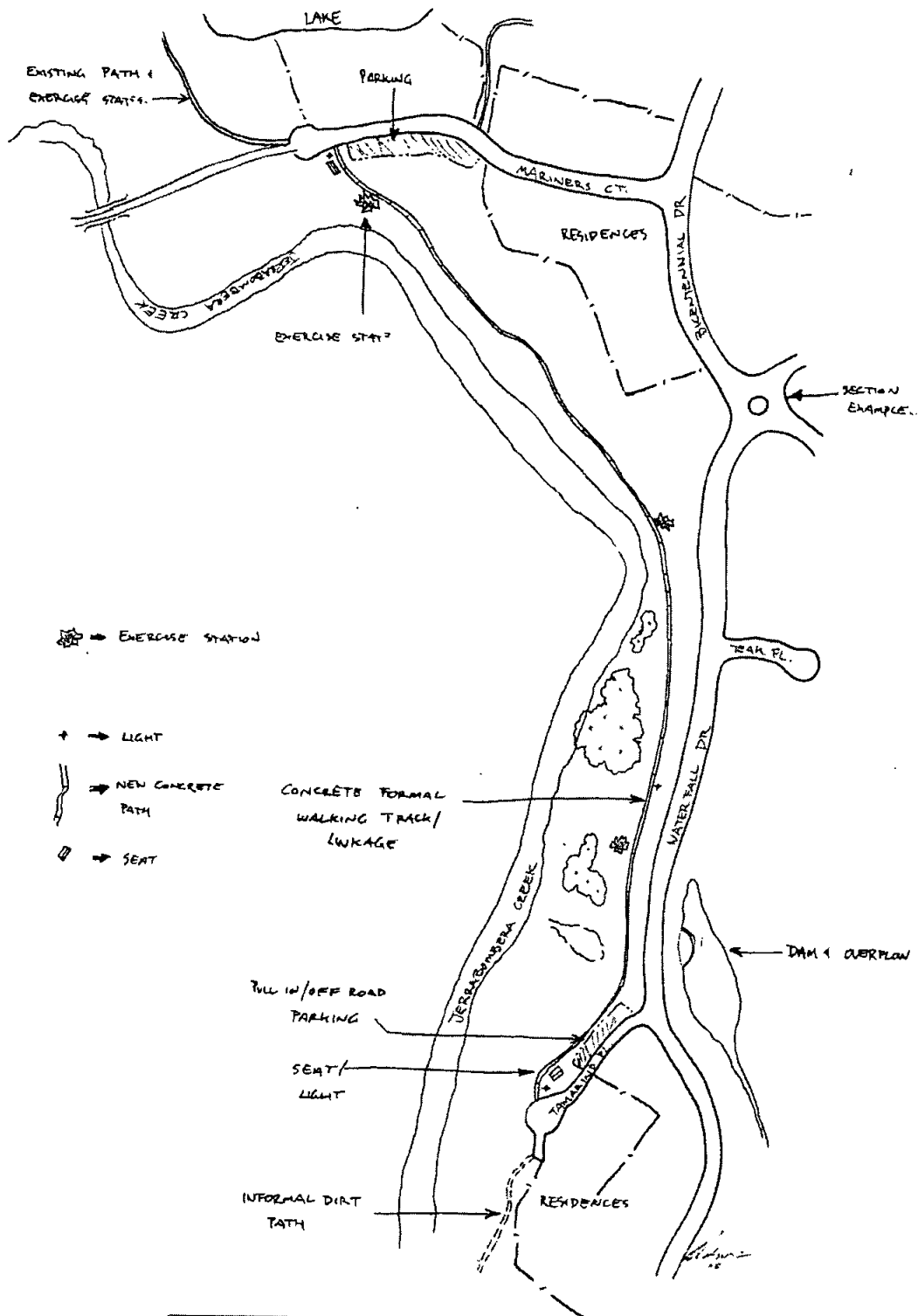
Leases and licences and the granting of other estates are primarily governed by sections 44-47 of the *Local Government Act 1993*.

This plan of management authorises the lease, licence or grant of any other estate over 7 Mariners Court, 2 Waterfall Drive and 11 Waterfall Drive Jerrabomberra which is consistent with the core objective of this plan and which is permissible under *Queanbeyan Local Environmental Plan 1998*.

A right of way exists over the land to allow access to Lots 11 and 12 DP730220 off the end of Mariners Court.



**Figure 7: Location of 'Park' Area**



QUEANBEYAN CITY COUNCIL PARKS AND RECREATION Andrew McMorris, Landscape Architect for QCC 211 CLAWFOLD STREET, QUEANBEYAN NSW 3620 TEL: (02) 6798 9181 FAX: (02) 6297 0264	Title <b>MANAGEMENT PLAN</b>	Project <b>PARKS GENERAL LAYOUT</b>
	Date <b>SEPT 05</b>	Drawn by <b>NTS</b>
	Author <b>Andrew McMorris</b>	Date <b>1/1</b>
	Scale <b>1:1</b>	Date <b>1/1</b>

Figure 8: Landscape Development Plan – "Park"



**Specific Site Maintenance "Park"**

<b>Management Issues</b> This Part of the Plan relates specifically to the following allotments of land as shown on Figure 7 which are categorised as "Park" in the Plan of Management.		<b>Objective</b> Part B.1 - Improve the land in such a way as to promote and facilitate its use	
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>• Investigate clarification of ownership of the Creek.</li>   <li>• Carry out restoration work of eroded areas within the Park</li>   <li>• Work with adjacent land owners to stabilise banks and remove erosion hazards</li>   <li>• Revegetate banks and new facility areas with appropriate endemic landscaping</li> </ul>	<ul style="list-style-type: none"> <li>• The legal standing of ownership is clarified.</li>   <li>• A survey detailing priority areas for work over the next 10 years to be prepared within 12 months of Plan adoption</li>   <li>• Selected areas along path and facilities to be landscaped with species recommended (see Landscape Plan for area recommended and Appendix A for suitable species)</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of Survey within 12 months</li>   <li>• Percentage of endemic plantings indicated on Landscape Plan which have been completed.</li> </ul>	<ul style="list-style-type: none"> <li>• Eng Services</li> <li>• Env Services</li> <li>• Parks and Recreation</li>   <li>• Env Services</li> <li>• Parks and Recreation</li> <li>Community</li> </ul>

**Specific Site Maintenance "Park"(Continued)**

**Management Issues**

This Part of the Plan relates specifically to the following allotments of land as shown on Figure 7 which are categorised as "Park" in the Plan of Management.

**Objective**

Part B.1 - Improve the land in such a way as to promote and facilitate its use

Means of achieving the objective	Performance Target	Manner of assessing performance	Responsibility
<ul style="list-style-type: none"> <li>• Commence discussion with adjoining land owners about the need for replacement and maintenance of the fencing.</li> <li>• Work with adjacent land owners to restrict access of livestock to the banks of the creek.</li> </ul>	<ul style="list-style-type: none"> <li>• Determination made on the replacement of the fence.</li> <li>• Carry out meetings with land holders adjacent to "park" to determine their needs in respect of access to Creek.</li> <li>• Seek funding to provide controlled access if required.</li> </ul>	<ul style="list-style-type: none"> <li>• Fence is either removed and/or replaced.</li> <li>• Meetings with land holders completed within 12 months of Plan adoption</li> </ul>	<ul style="list-style-type: none"> <li>• Env Services</li> </ul>

**Specific Site Maintenance "Park"(Continued)**

<b>Management Issues</b>		<b>Objective</b>	
<p>This Part of the Plan relates specifically to the following allotments of land as shown on Figure 7 which are categorised as "Park" in the Plan of Management.</p>		<p>Part B.1 - Improve the land in such a way as to promote and facilitate its use</p>	
<ul style="list-style-type: none"> <li>• Work with adjacent land owners to control any plants that have an adverse impact on the environment including invasive weeds.</li>   <li>• If water is required for landscaping, consideration be given to using water from retention basin.</li> </ul>	<ul style="list-style-type: none"> <li>• To have willows and other invasive woody weeds controlled and revegetation works undertaken within 5 years</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of willows and woody weeds removed within 5 years.</li> </ul>	<ul style="list-style-type: none"> <li>• Env Services</li> <li>• Parks and Recreation</li> <li>• Community</li> </ul>

**Landscape Development Plan "Park"**

Management Issues		Objective	
To develop a distinct landscape character and individual identity for this site through an appropriate landscape development plan as shown on Figure 8.		Part B.2 - Encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities	
Means of achieving the objective	Performance Target	Manner of assessing performance	Responsibility
<ul style="list-style-type: none"> <li>• Provide cultural and recreation facilities for different age and ethnic groups in the 'park' to include:                             <ul style="list-style-type: none"> <li>➢ Informal carpark preferably close to, but not adjacent to or in front of houses in Tamarind Place</li> <li>➢ Provision of litter bins.</li> <li>➢ The need for a playground and associated works in the "Park" area be reviewed within 3 years of the date of adoption</li> <li>➢ Lighting to be considered in the future depending on usage of the path and demand for it.</li> </ul> </li> <li>• Work with Jerrabomberra Public School to nominate area or areas for schools to carry out water testing.</li> </ul>	<ul style="list-style-type: none"> <li>• Informal carparking facilities to be constructed within 5 years.</li> <li>• Litter bins to be installed at time of footpath construction.</li> <li>• Assessment of need for playground and associated works undertaken within 3 years.</li> <li>• That an area or area/s be nominated and access provided for the school.</li> </ul>	<ul style="list-style-type: none"> <li>• Construction of carpark completed within time frame</li> <li>• Number of litter bins installed when footpath constructed</li> <li>• Report provided on the need for playground within time frame.</li> <li>• Water monitoring area provided for community water testing.</li> </ul>	<ul style="list-style-type: none"> <li>• Parks and Recreation</li> <li>• Eng Services</li> <li>• Parks and Recreation/ Env Services</li> <li>• Env Services</li> </ul>



*Landscape Development Plan (Continued)*

<b>Management Issues</b>		<b>Objective</b>		
To develop a distinct landscape character and individual identity for this site through an appropriate landscape development plan as shown on Figure 8.		Part B.2 - Encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities		
<b>Means of achieving the objective</b>		<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>Install interpretive signage along walkways</li> </ul>		<ul style="list-style-type: none"> <li>Prepare a concept plan showing possible locations for interpretive signage and content within 3 years of plan adoption</li> </ul>	<ul style="list-style-type: none"> <li>Concept plan completed within 3 years</li> </ul>	<ul style="list-style-type: none"> <li>Env Services</li> <li>Community</li> </ul>
<ul style="list-style-type: none"> <li>Support Landcare activities in the 'park'</li> </ul>		<ul style="list-style-type: none"> <li>To have a least one Landcare activity in the Park each year</li> </ul>	<ul style="list-style-type: none"> <li>Number of Landcare activities carried out in Park each year</li> </ul>	<ul style="list-style-type: none"> <li>Landcare</li> </ul>

*Landscape Development Plan (Continued)*

<b>Management Issues</b>		<b>Objective</b>	
To develop a distinct landscape character and individual identity for this site through an appropriate landscape development plan as shown on Figure 8.		Part B.3 - Provide for passive recreational activities or pastimes and for the casual playing of games	
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>• Provide passive recreation facilities in the 'park'. This may include:                             <ul style="list-style-type: none"> <li>➢ Footpath/bicycle paths</li> <li>➢ Provision of seating in strategic locations for rest and supervision of children</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 100 metres of footpath to be constructed each year until complete</li> <li>• Install one seat approx every 250 metres of walkway.</li> </ul>	<ul style="list-style-type: none"> <li>• Metres of footpath constructed as a % of total length</li> <li>• Number of seats installed</li> </ul>	<ul style="list-style-type: none"> <li>• Eng Services</li> <li>• Parks and Recreation</li> </ul>

## **PART C – SPECIFIC MANAGEMENT PLAN FOR NATURAL AREA**

### ***A. Condition of the Land and Structures on Adoption of the Plan***

<b>FEATURE</b>	<b>DESCRIPTION/CONDITION</b>
<b>LOCATION</b>	LOT 112, DP 1037423 8 BANYALLA CLOSE JERRABOMBERRA (Figure 9) LOT 148 DP 1041324 137 WATERFALL DRIVE JERRABOMBERRA (Figure 9)
<b>AREA</b>	2.98 HA, 4.47HA
<b>LANDFORM AND SURROUNDING LAND USE</b>	An area of open woodland adjoining the eastern boundary of Jerrabomberra Creek. Consists of undulating land with areas tending to be steep and rocky toward the northern section of the Creek where a small gorge ends in a waterfall.
<b>VEGETATION</b>	Remnant bushland consisting of open woodland and riparian areas. Still has a good coverage and distribution of native vegetation.
<b>IMPROVEMENTS</b>	An old weir is placed across the northern reach of the Creek before it enters the gorge. Some existing rural type fencing has been constructed along the eastern side of the Creek on Lot 148. A sedimentation pond has been constructed at the end of Banyalla Close to reduce sediment from residential development entering the Creek.
<b>URBAN SERVICES</b>	The following services are available in close proximity to the site: electricity, gas, telephone stormwater, town water, and sewerage
<b>SUMMARY</b>	An area of natural habitat which is in reasonably good condition and would be ideal for passive recreation such as walking and bird watching without significant resources being devoted to rehabilitation.

### ***B. Use of the Land and Structures at the Date of Adoption of the Plan***

This site is used for general recreational purposes

### ***C. Threatened Species Laws***

Land covered by this Plan has been assessed under the *Threatened Species Conservation Act 1995*.



#### ***D. Future Use of the Land***

There are no changes proposed to the use.

#### ***E. Scale and Intensity***

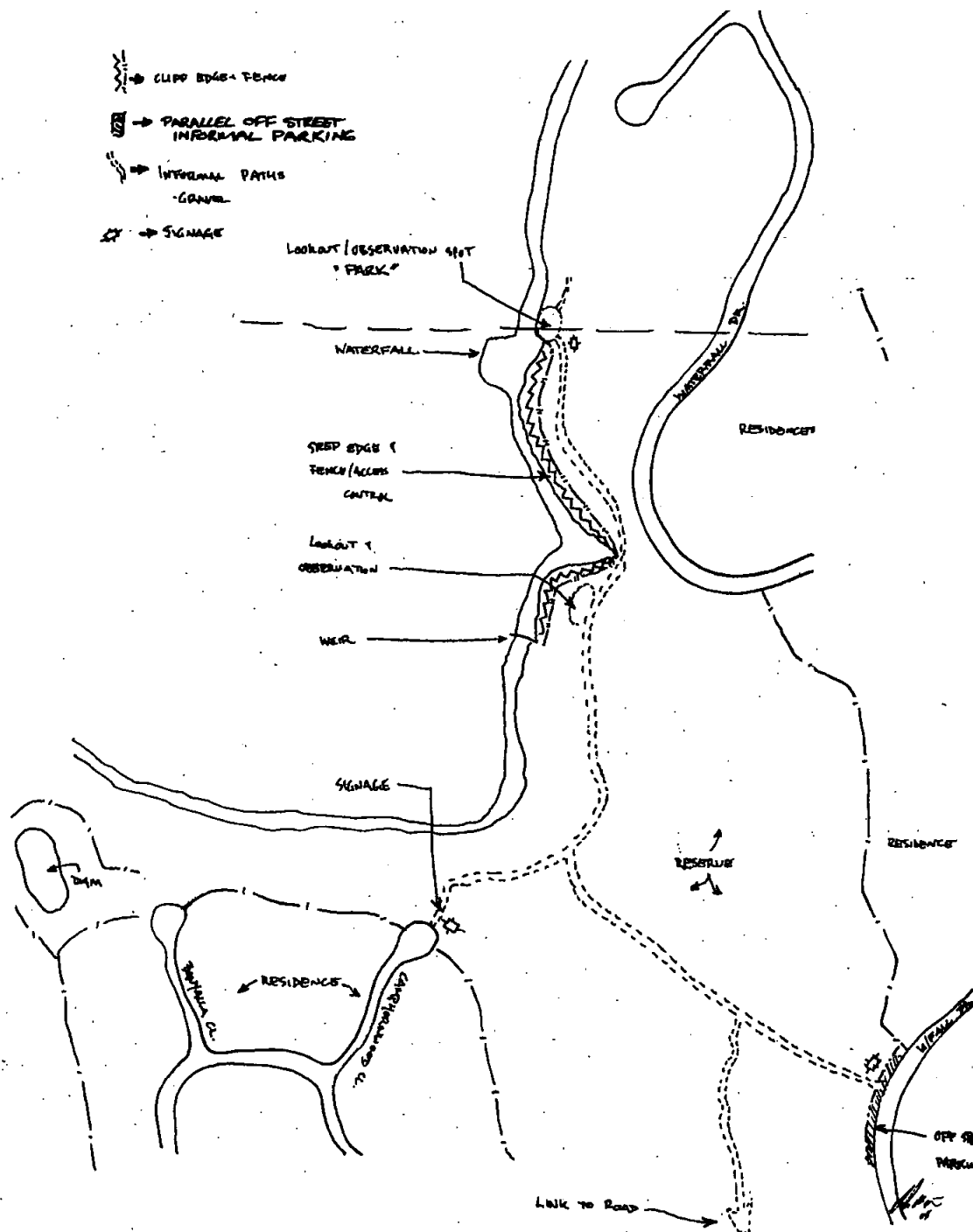
Minor.

#### ***F. Leases, Licences and Other Estates***

Leases and licences and the granting of other estates are primarily governed by sections 44-47 of the *Local Government Act 1993*.

This plan of management authorises the lease, licence or grant of any other estate over 8 Banyalla Close and 137 Waterfall Drive, Jerrabomberra which is consistent with the core objective of this plan and which is permissible under *Queanbeyan Local Environmental Plan 1998*.





<b>QUEANBEYAN CITY COUNCIL PARKS AND RECREATION</b> <small>Andrew Mitchell, Landscape Architect for QCC 25 CLAYFORD STREET, QUEANBEYAN NSW 2630 TEL: (02) 6921 5700 FAX: (02) 6921 0564</small>	Project	NATURAL ZONE AREA	
	Start Date	SEPT 05	YES
	End Date		Andrew Mitchell
	Scale	1:1	

Figure 10: Landscape Development Plan – "Natural Area"

**Specific Site Maintenance "Natural Area"**

<b>Management Issues</b>		<b>Objective</b>		
This Part of the Plan relates specifically to the following allotments of land as shown on Figure 9 which are categorised as "Natural Area" in the Plan of Management.		Part C.1 – Conserve biodiversity and maintain ecosystem function as a natural area.		
<b>Means of achieving the objective</b>		<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>Survey the "natural area" to determine the distribution and abundance of species.</li> </ul>		<ul style="list-style-type: none"> <li>Assess existing information and studies and conduct additional research if necessary within 2 years.</li> </ul>	<ul style="list-style-type: none"> <li>Assessment is documented and reported to Env Advisory Committee within 2 year time frame.</li> </ul>	<ul style="list-style-type: none"> <li>Env Services</li> </ul>

**Specific Site Maintenance "Natural Area" (Continued)**

<b>Management Issues</b>		<b>Objective</b>		
<p>This Part of the Plan relates specifically to the following allotments of land as shown on Figure 9 which are categorised as "Natural Area" in the Plan of Management.</p>		<p>Part C.2 – Maintain the land, or that feature of the habitat, in its natural state and setting.</p>		
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>	
<ul style="list-style-type: none"> <li>• Undertake regular maintenance of the native vegetation within the "natural area".</li> <li>• Identify and assess existence and necessity for artificial structures along the creek.</li> </ul>	<ul style="list-style-type: none"> <li>• Spend at least 12 hours per annum on maintenance of area.</li> <li>• Carry out investigation and assessment within 10 years.</li> </ul>	<ul style="list-style-type: none"> <li>• Minimum number of hours is achieved.</li> <li>• Assessment is documented and reported to Env Advisory Committee within 10 year time frame.</li> </ul>	<ul style="list-style-type: none"> <li>• Parks and Recreation.</li> <li>• Env Services</li> </ul>	

**Specific Site Maintenance "Natural Area" (Continued)**

<b>Management Issues</b>	<b>Objective</b>		
<p>This Part of the Plan relates specifically to the following allotments of land as shown on Figure 9 which are categorised as "Natural Area" in the Plan of Management.</p>	<p>Part C.3 – Provide for the restoration and regeneration of the land.</p>		
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>• Rehabilitate eroded stream banks within the "natural areas"</li>   <li>• Regenerate areas of bush by controlling exotic/introduced plant species and where necessary revegetate with endemic species.</li>   <li>• Work with land owners to remove willows and invasive species.</li>   <li>• Work with adjacent land owners to restrict access of livestock to the banks of the creek.</li> </ul>	<ul style="list-style-type: none"> <li>• A survey detailing priority areas for work over the next 10 years to be prepared within 12 months of Plan adoption</li>   <li>• All exotic introduced plant species controlled within 2 years.</li>   <li>• To have all willows and invasive woody weeds removed within 5 years</li>   <li>• Carry out meetings with landholders adjacent to natural area to determine their needs in respect of access to Creek.</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of Survey within 12 months</li>   <li>• Control program in place within 2 year time frame.</li>   <li>• Percentage of willows and woody weeds removed within 5 years.</li>   <li>• Meeting with landholders completed within 12 months.</li> </ul>	<ul style="list-style-type: none"> <li>• Eng Services</li> <li>• Env Services</li> <li>• Parks and Recreation</li>   <li>• Parks and Recreation</li>   <li>• Env Services</li> <li>• Parks and Recreation</li> <li>• Community</li> <li>• Env Services</li> </ul>

**Site Specific Landscape Development Plan “Natural Areas”**

Management Issues		Objective		
To develop a distinct landscape character and individual identity for this site through an appropriate landscape development plan as shown on Figure 10.		Part C.4 – Provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion.		
Means of achieving the objective	Performance Target	Manner of assessing performance	Responsibility	
<ul style="list-style-type: none"> <li>Organise for the “natural area” to be included in the regional Frogwatch and/or Waterwatch programs</li> <li>Informal bushwalking track to be provided down to “park” area.</li> <li>Fence off areas of remnant vegetation adjacent to residential areas along the creek to prevent unauthorised vehicle access</li> </ul>	<ul style="list-style-type: none"> <li>Involve local community in Frogwatch and/or Waterwatch activities within 12 months.</li> <li>Create approximately 800 metres of informal walking trails within 3 years.</li> <li>Carry out an annual assessment of whether low intensity vehicle barriers to the end of cul-de-sacs and open areas adjacent to roadways are required to prevent vehicle entry.</li> </ul>	<ul style="list-style-type: none"> <li>At least one Frogwatch and /or Waterwatch survey carried out within first 12 months.</li> <li>Length of walking trails created as a percentage of target.</li> <li>Have annual inspections been carried out.</li> </ul>	<ul style="list-style-type: none"> <li>Env Services.</li> <li>Parks and Recreation</li> <li>Parks and Recreation</li> </ul>	

**Site Specific Landscape Development Plan “Natural Areas” (Continued)**

<b>Management Issues</b>		<b>Objective</b>		
To develop a distinct landscape character and individual identity for this site through an appropriate landscape development plan as shown on Figure 10.		Part C.5 – assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in a recovery plan or threat abatement plan prepared under the <i>Threatened Species Conservation Act 1995</i> or the <i>Fisheries Management act 1994</i> .		
<b>Means of achieving the objective</b>		<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>As and if required</li> </ul>		<ul style="list-style-type: none"> <li>To be determined</li> </ul>	<ul style="list-style-type: none"> <li>To be determined</li> </ul>	<ul style="list-style-type: none"> <li>To be determined</li> </ul>



## **PART D – SPECIFIC MANAGEMENT PLAN FOR WATERCOURSE**

### **A. Condition of the Land and Structures on Adoption of the Plan**

<b>FEATURE</b>	<b>DESCRIPTION/CONDITION</b>
<b>LOCATION</b>	LOT 41 DP 1056538 146 THOROUGHbred DRIVE ROYALLA (Figure 12) LOT 2 DP 1042627 1731 OLD COOMA ROAD GOOGONG (Figure 11)
<b>AREA</b>	13.3HA, 9.0HA (22.9 HA IN TOTAL)
<b>LANDFORM AND SURROUNDING LAND USE</b>	Historic erosion has caused highly channelised and eroded creek bed. Eroded banks varying from 3-5 metres. During dry periods the stream bed is a series of ponds. Riparian areas are modified grasslands as a result of historical pastoral use. Landscape is bare with very few trees. Within creek bed there is some evidence of self regeneration following restriction of livestock following development for rural residential subdivision. Surrounding use is mainly rural residential.
<b>VEGETATION</b>	Modified grassland as a result of historic pastoral use.
<b>IMPROVEMENTS</b>	Rural fencing has been constructed to separate the riparian strip from the rural residential properties.
<b>URBAN SERVICES</b>	There are no urban services available.
<b>SUMMARY</b>	An incised and degraded stream bed caused as a result of erosion at the turn of the century. Although erosion is not getting significantly worse there may be opportunities to rehabilitate the worst affected areas.

### **B. Use of the Land and Structures at the Date of Adoption of the Plan**

This site is riparian rehabilitation zone.

### **C. Threatened Species Laws**

Land covered by this Plan has been assessed under the *Threatened Species Conservation Act 1995*.

#### ***D. Future Use of The Land***

There are no changes proposed to the use

#### ***E. Scale and Intensity***

Minor.

#### ***F. Leases, Licences and Other Estates***

Leases and licences and the granting of other estates are primarily governed by sections 44-47 of the *Local Government Act 1993*.

This plan of management authorises the lease, licence or grant of any other estate over 1731 Old Cooma Road and 146 Thoroughbred Drive which is consistent with the core objective of this plan and which is permissible under *Queanbeyan Local Environmental Plan 1998*.

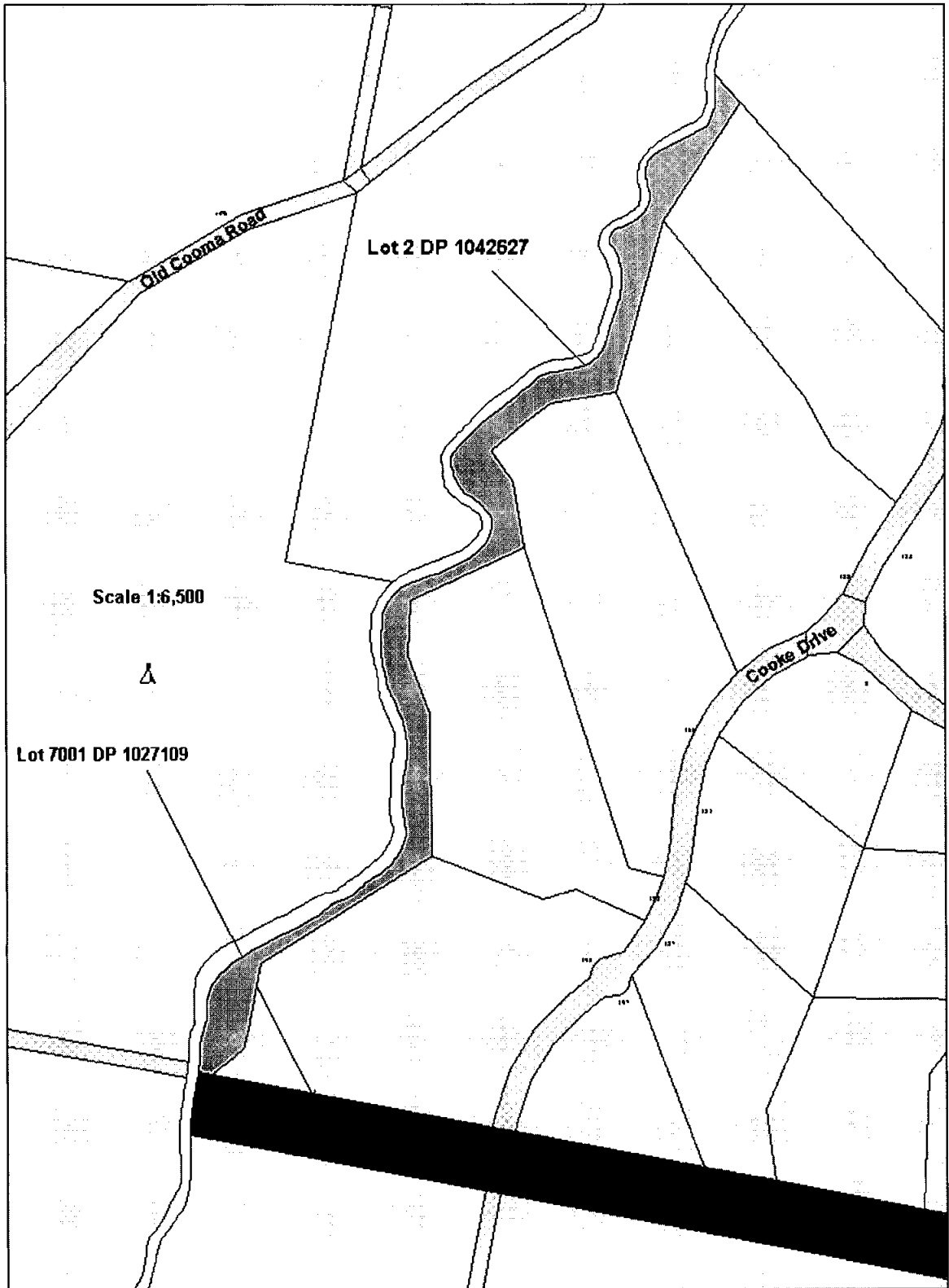


Figure 11: Location of Lot 2 DP 1042627

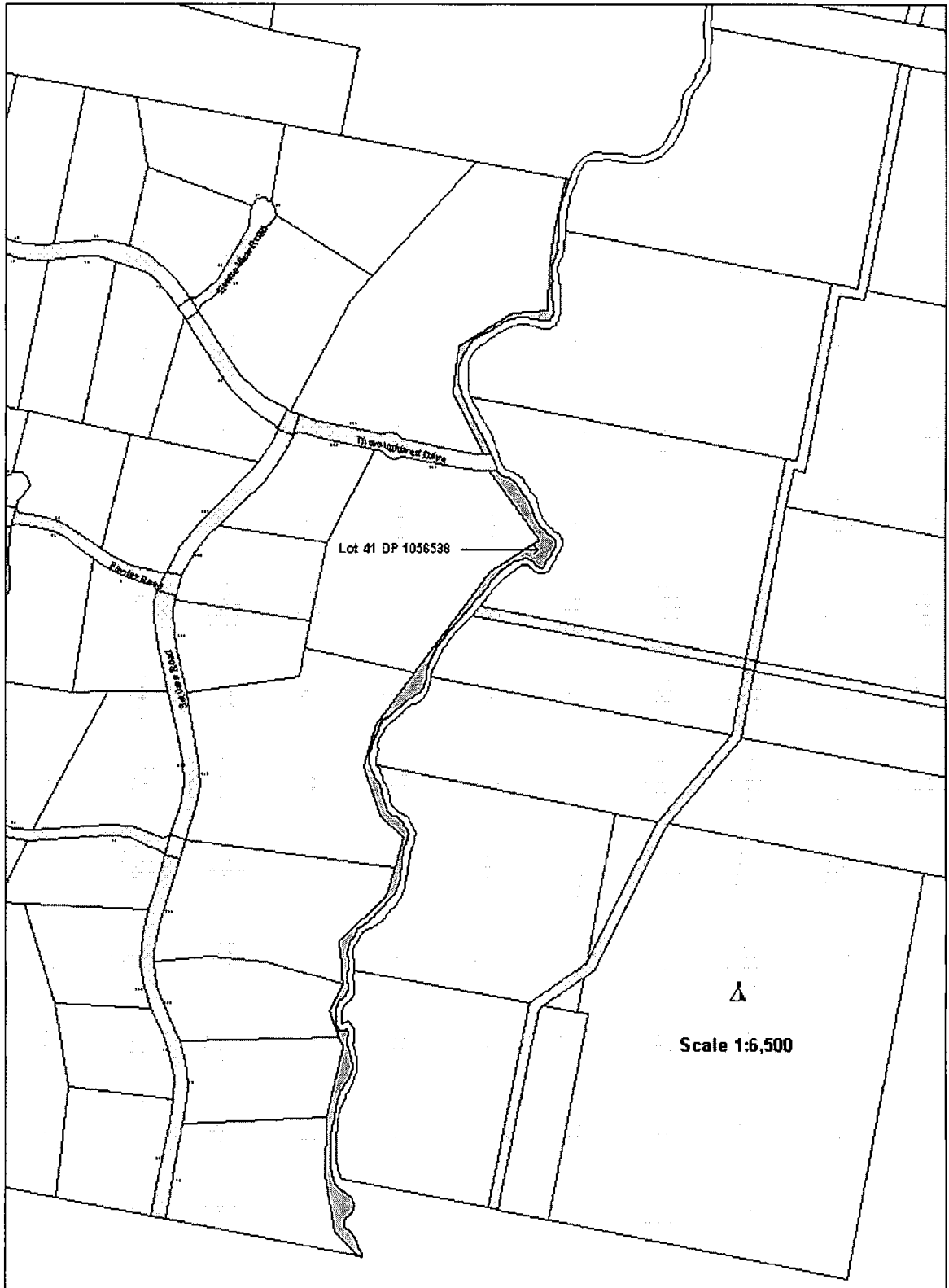


Figure 12: Location of Lot 41 DP 1056538



**Specific Site Maintenance "Watercourse" (Continued)**

<b>Management Issues</b> This Part of the Plan relates specifically to the following allotments of land as shown on Figure 11 & 12 which are categorised as "Watercourse" in the Plan of Management.		<b>Objective</b> Part D.2 – Protect the riparian environment, particularly in relation to riparian vegetation and habitats and bank stability.	
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>• Maintain existing fencing along the length of the watercourse to exclude livestock. Assist land owners with advice on alternative options for watering stock (e.g. pumps or troughs or funding opportunities to provide such alternatives).</li> <li>• Investigate active erosion sites and possible methodologies for stabilisation.</li> <li>• Control feral animals along length of watercourse.</li> </ul>	<ul style="list-style-type: none"> <li>• Monitor integrity of fence on an annual basis.</li> <li>• Survey to be carried out within 2 years.</li> <li>• Feral animals to be controlled. Programs to be implemented within 2 years.</li> </ul>	<ul style="list-style-type: none"> <li>• Inspection of fence has is carried out each year.</li> <li>• Survey has been documented within set timeframe with actions to be prioritised.</li> <li>• Feral animal control programs have been initiated and monitored.</li> </ul>	<ul style="list-style-type: none"> <li>• Parks and Recreation</li> <li>• Env Services</li> </ul>

**Specific Site Maintenance "Watercourse" (Continued)**

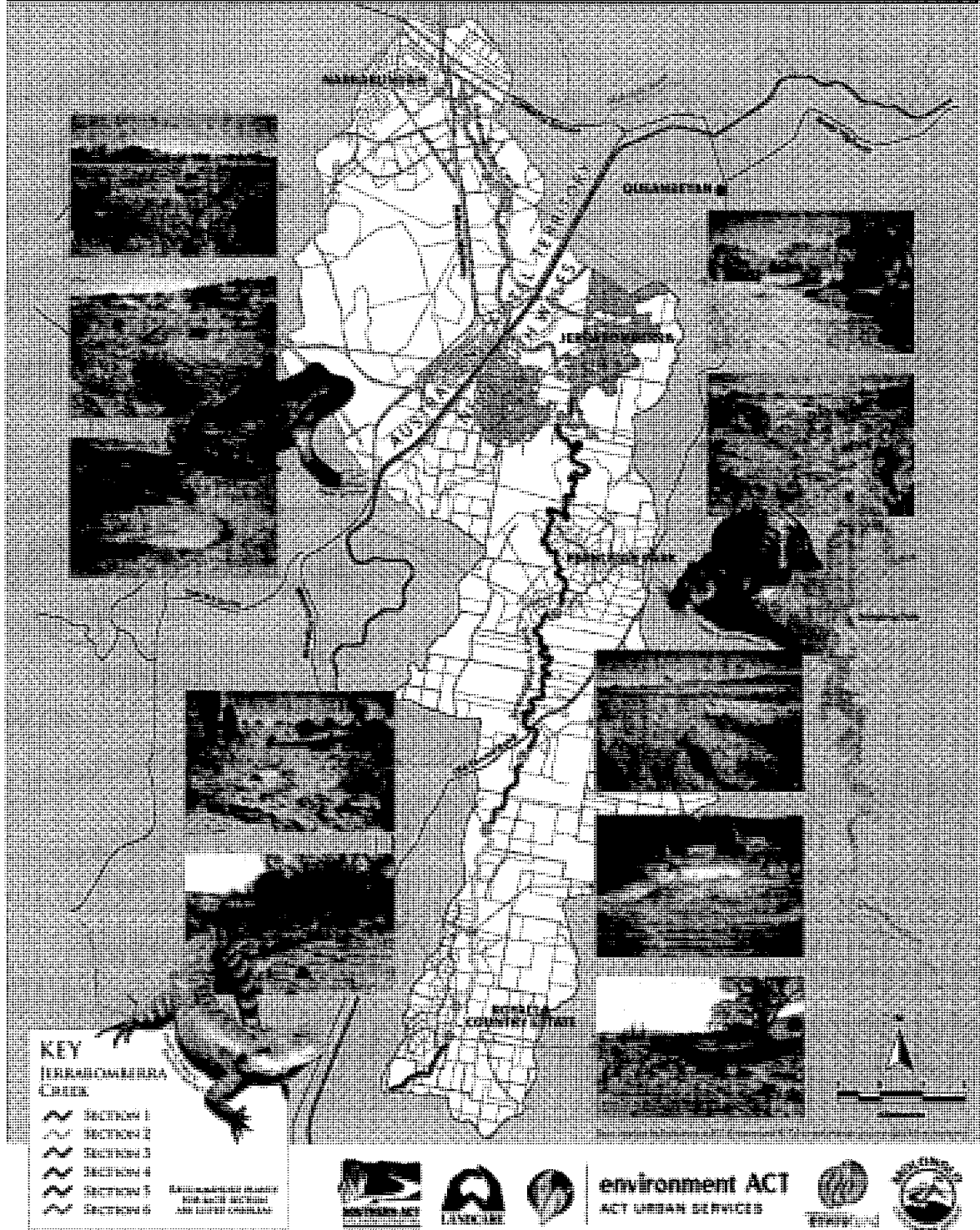
<b>Management Issues</b>		<b>Objective</b>	
<p>This Part of the Plan relates specifically to the following allotments of land as shown on Figure 11 &amp; 12 which are categorised as "Watercourse" in the Plan of Management.</p>		<p>Part D.3 – Restore degraded watercourse.</p>	
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>• Work with adjacent land owners to control any plants that have an adverse impact on the environment including invasive weeds.</li> </ul>	<ul style="list-style-type: none"> <li>• To have willows and other invasive woody weeds controlled and revegetation works undertaken within 5 years</li> </ul>	<ul style="list-style-type: none"> <li>• Percentage of invasive willows and woody weeds controlled and revegetation works undertaken within 5 years.</li> </ul>	<ul style="list-style-type: none"> <li>• Env Services</li> <li>• Parks and Recreation</li> <li>• Community</li> </ul>

**Specific Site Maintenance “Watercourse” (Continued)**

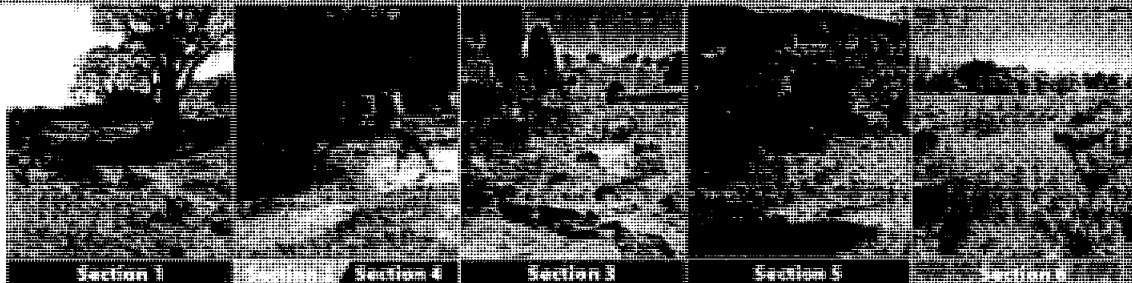
<b>Management Issues</b>		<b>Objective</b>	
<p>To enhance the natural landscape character and individual identity for this site through minimal landscape development.</p> <p>No Landscape Plan developed.</p>		<p>Part D.4 – Promote community education, and community access to and use of the watercourse.</p>	
<b>Means of achieving the objective</b>	<b>Performance Target</b>	<b>Manner of assessing performance</b>	<b>Responsibility</b>
<ul style="list-style-type: none"> <li>• Investigate ways of providing access for members of the public for passive recreational purposes and for future maintenance including:                             <ul style="list-style-type: none"> <li>• Informal walking</li> </ul> </li> <li>But not extending to:                             <ul style="list-style-type: none"> <li>• Dangerous areas (eg sand cliffs)</li> <li>• Water extraction</li> <li>• Extraction of minerals</li> <li>• Access by stock</li> <li>• Horse riding</li> <li>• Bike riding</li> <li>• Recreational vehicle access</li> <li>• Other activities that have an adverse environmental impact on the creek</li> </ul> </li> <li>• Erect signage providing information about the watercourse and its need for protection.</li> </ul>	<ul style="list-style-type: none"> <li>• Complete investigation including a plan of proposed access points for consideration by members of the community within 2 years.</li> <li>• Fence off access points along watercourse to prevent unauthorised access by recreational vehicles within 2 years.</li> <li>• Signage erected by the end of the 2<sup>nd</sup> year after adoption of the plan.</li> </ul>	<ul style="list-style-type: none"> <li>• Investigation completed and plan prepared within 2 years.</li> <li>• Fence has been erected within specified time frame.</li> <li>• Signs have been erected within specified time frames.</li> </ul>	<ul style="list-style-type: none"> <li>• Env Services.</li> <li>• Community.</li> <li>• Parks and Recreation</li> <li>• Little Burra Pty Ltd</li> <li>• Local Landcare Groups</li> <li>• Env Services</li> </ul>



# JERRABOMBERRA CREEK CATCHMENT MAP



# PLANTS RECOMMENDED FOR EACH SECTION OF JERRABOMBERRA CREEK



**Trees**  
*Eucalyptus bridgesiana*  
*E. melliodora*  
*E. rubida*

**Shrubs**  
*Acacia dealbata*  
*Bursaria lasiophylla*  
*Cryptandra amara*  
*Melichrus urceolatus*

**Grasses & Forbs**  
*Bulbine bulbosa*  
*Carex appressa*  
*Chrysocephalum apiculatum*  
*Clematis microphylla*  
*Craspedia variabilis*  
*Cymbonotus lawsonianus*  
*Elymus scaber*  
*Gonocarpus tetragynus*  
*Leptorhynchus squamatus*  
*Lomandra coriacea*  
*Pimelea curviflora*  
*Plantago varia*  
*Poa labillardieri*  
*Stackhousia monogyna*  
*Swainsona sericea*  
*Themeda australis*  
 (syn *T. triandra*)  
*Wurmbea dioica*

**Trees**  
*Eucalyptus bridgesiana*  
*E. pauciflora*  
*E. rubida*  
*E. stellulata*

**Shrubs**  
*Acacia dealbata*  
*A. melanoxylon*  
*Bursaria lasiophylla*  
*Cassinia longifolia*  
*Rubus triphyllus*  
 (syn. *Rubus parvifolius*)

**Grasses & Forbs**  
*Acaena ovina*  
*Brachycome petrophyla*  
*Carex appressa*  
*C. breviculmis*  
*Cymbonotus lawsonianus*  
*Danthonia* sp.  
*Danthonia racemosa*  
*Einadia nutans*  
*Elymus scaber*  
*Lomandra bracteata*  
*Luzula* sp.  
*Microlaena stipoides*  
*Phragmites australis*  
*Plantago varia*  
*Poa labillardieri*  
*Scleranthus biflorus*  
*Stipa scabra* ssp. *falcata*  
*Themeda australis*  
 (syn *T. triandra*)  
*Typha* sp.

**Trees**  
*Eucalyptus bridgesiana*  
*E. melliodora*  
*E. pauciflora*  
*E. rubida*  
*E. stellulata*

**Shrubs**  
*Acacia dealbata*  
*Bursaria lasiophylla*  
*Melichrus urceolatus*

**Grasses & Forbs**  
*Carex tereticaulis*  
*Chrysocephalum apiculatum*  
*Danthonia* sp.  
*Dicheiachne crinita*  
*Elymus scaber*  
*Lomandra coriacea*  
*L. filiformis*  
*Plantago varia*  
*Poa labillardieri*  
*P. sieberiana*  
*Scleranthus biflorus*  
*Sorghum leiocladum*  
*Stipa bigeniculata*  
*Themeda australis*  
 (syn *T. triandra*)

**Trees**  
*Eucalyptus bridgesiana*  
*E. melliodora*  
*E. pauciflora*  
*E. polyanthemus*  
*E. rossii*  
*E. rubida*

**Shrubs**  
*Acacia dealbata*  
*A. mearnsii*  
*A. rubida*  
*Bursaria lasiophylla*  
*Callistemon paludosus*  
*Cryptandra amara*  
*Dodonaea viscosa*  
*Kunzea ericoides*  
*Rubus triphyllus*  
 (syn. *Rubus parvifolius*)

**Grasses & Forbs**  
*Bulbine bulbosa*  
*Carex appressa*  
*Cheilanthes sieberi*  
*Chrysocephalum apiculatum*  
*Cymbopogon refractus*  
*Danthonia* sp.  
*Elymus scaber*  
*Enneapogon nigricans*  
*Lomandra bracteata*  
*L. coriacea*  
*Lomandra longifolia*  
*Pimelea curviflora*  
*Poa labillardieri*  
*P. sieberiana*  
*Stackhousia monogyna*  
*Stipa scabra* ssp. *falcata*  
*Themeda australis*  
 (syn *T. triandra*)  
*Typha* sp.  
*Vittadinia cuneata*  
*Wurmbea dioica*

**Trees**  
 None.  
 No trees are likely to have occurred at this site and therefore none should be planted if ecological principles are to be upheld.  
 However, if there is a strong desire to plant the following species are recommended:

*Eucalyptus aggregata*  
*E. pauciflora*\*  
*E. stellulata*\*

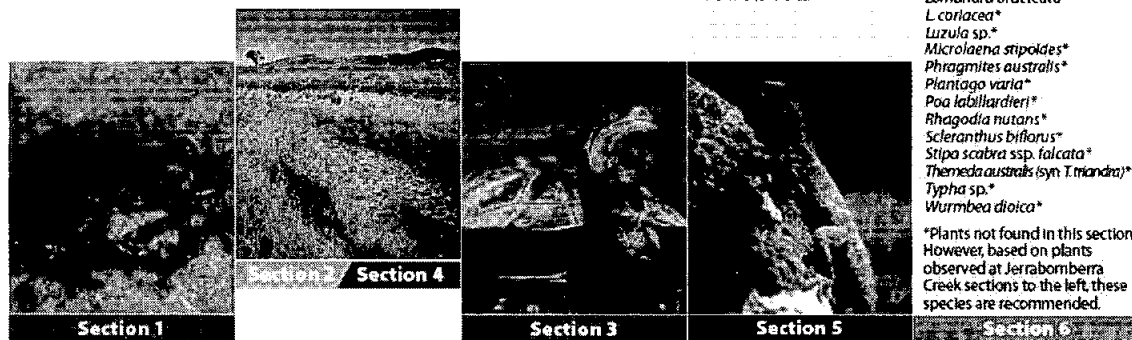
**Shrubs**  
*Acacia dealbata*\*  
*Acacia melanoxylon*\*  
*Bursaria lasiophylla*\*  
*Callistemon paludosus*\*  
*Hakea microphylla*\*  
*Rubus triphyllus*  
 (syn. *Rubus parvifolius*)\*

**Grasses & Forbs**  
*Acaena ovina*\*  
*Brachycome petrophyla*\*  
*Carex appressa*  
*C. breviculmis*\*  
*Chrysocephalum apiculatum*\*  
*Craspedia variabilis*\*  
*Cymbonotus lawsonianus*\*  
*Cynodon dactylon*  
*Danthonia racemosa*\*  
*Danthonia* sp.  
 probably several species\*  
*Einadia nutans*  
*Eleocharis sphacelata*  
 Tall Spike Rush  
*Elymus scaber*\*  
*Geranium solanderi*\*  
*Leptorhynchus squamatus*\*  
*Lomandra bracteata*\*  
*L. coriacea*\*  
*Luzula* sp.\*  
*Microlaena stipoides*\*  
*Phragmites australis*\*  
*Plantago varia*\*  
*Poa labillardieri*\*  
*Rhagodia nutans*\*  
*Scleranthus biflorus*\*  
*Stipa scabra* ssp. *falcata*\*  
*Themeda australis* (syn *T. triandra*)\*  
*Typha* sp.\*  
*Wurmbea dioica*\*

\*Plants not found in this section. However, based on plants observed at Jerrabomberra Creek sections to the left, these species are recommended.

For species collected in NSW and ACT, relevant permits need to be obtained for threatened species or those collected from endangered ecological communities.

Primary reference "Flora of NSW" Editor Gwan Harden 2000



environment ACT  
 ACT URBAN SERVICES



Any Queries? - Happy to Help! Please contact the Molonglo Catchment Group on (02) 6230 1484 if you have any queries, or visit [www.molonglocatchment.com.au](http://www.molonglocatchment.com.au)

(Flora Survey provided by Molonglo Catchment Group - [www.molonglocatchment.com.au](http://www.molonglocatchment.com.au) & Environment ACT)