Royal Park Planting Plan

Section 1

Principles

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city of Melbourne

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Acknowledgments

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Document change record

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October 1999	New issue for discussion purposes	
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Contents

1 Introduction

Royal Park encompasses 188 hectares of parkland. It is the City of Melbourne's biggest park. Royal Park is a resource that fulfils many functions for a wide range of user groups as diverse as the emergency helicopter of the Royal Children's Hospital to the supporters of the game of Frisbee Golf. Royal Park is one of Melbourne's most significant 'natural' environments. The significance of the park is increasing with the process of implementation of the 1987 Landscape Development Plan. As time has passed from the initial establishment of the Master Plan there has been an increasing awareness in the public's perception of Royal Park as a key native flora and fauna resource in Melbourne. The park is perceived as one of the last vestiges of the landscape character, which existed prior to the establishment of what is now the City of Melbourne. Royal Park is also a critical part of a system of indigenous corridors that provides food and habitats to many of the native fauna which is slowly inhabiting the city area once more. As the canopy establishes the prevalence and diversity of fauna, particularly birds, is increasing.

The southern boundary of Royal Park is within two kilometres of the Central Activities District. Royal Park is bounded by Park Street, Brunswick to the north, The Avenue and Gatehouse Street to the east, Flemington Road to the south, CSL Ltd and Orygen Youth Helath, Manningham and Oak Street's to the west.

Royal Park is set aside in perpetuity as a public park and is Crown Land. The City of Melbourne is responsible for the management of the whole of Royal Park with the exception of the Zoo and the State Netball Hockey Centre.

1.1 Objectives

- To build on the existing design philosophy of the Royal Park Master Plan.
- To recognise the evolving trial and error nature of planting by creating a dynamic, accessible format.
- To produce a document that is suitable for use and application by contractors in the field.
- To review the existing species selection (i.e. the vegetation associations) and respond to issues arising from this review.
- To review the existing vegetation zones, including updating to reflect changes made since 1999.
- To recognise the different stages in management and implementation in achieving the landscape vision for the park.

1.2 Study Area

The study area of the Royal Park Planting Plan includes the whole of Royal Park. There are a number of associated areas which are also within the bounds of this study. These areas are:

- The former railway reserve between Royal Parade and The Avenue which links the park to Princes Park;
- The wetlands *Trin Warren Tam-boore* and
- The small reserves adjacent to Royal Parade at the northern and southern ends of The Avenue

1.3 Issues

- Determining the landscape character and planting associations for the park as a whole,
- Identify planning precincts to allow compartmentalisation of the park for ease of management,
- Providing a planting design that encourages a wide range of native wildlife to reside within or utilise the park,
- Ascertaining the management and implementation procedures for the short, medium and long term,
- Determining specific treatments for areas in relation to the above time frame constraints,

- Determining the best species to be planted in the conditions whilst maintaining the spirit of the Master Plan,
- Providing a mix of planting that is compatible with the divergent requirements of the various user groups within the park,
- Balancing the mix of planting and culling of unwanted but mature exotic specimens,
- Determine the best way to extend and protect the existing remnant vegetation,
- Providing a clear definition of the key entry points and the boundaries of the park,
- Maintaining a sense of security to user groups whilst also incorporating planting regimes ranging from open woodland to dense thickets,
- Assess the suitability of the proposed planting design recommendations put forward in the 1998 Implementation Plan,
- Assess the viability of the trial native grassland,
- Assess the impact of the proposed Royal Childrens Hospital on the existing vegetation within the environs of the proposed site

1.4 Background

This report arose as a result of the Implementation Plan (1998) and the preceding Master Plan Review (1997). The changes to the park that are espoused in both of these documents necessitated a review of the planting design for the whole of Royal Park. The issues that have arisen from further public consultation undertaken in the Master Plan Review and it being a timely point in the evolution of the park are other factors that have made this report a necessary review of the current situation. The review is also critical from the perspective of the proposed developments within the park's boundaries.

2 Approach to Planting Design Review

2.1 Review of Existing Information

This has involved a comprehensive review of the initial Master Plan and Landscape Development Plan, the more recent Master Plan and Implementation Plan. Relevant reports such as the Royal Park Management Plan, Tree Assessment Report of the Hockey Netball Centre, Vegetation and Fauna Studies of Royal Park West among others have been reviewed. Other documents such as the Domain Parklands Planting Concept, the North West 2010 Local Area Plan were read as indicators of study scope and possible format guides. Other important material such as maps plans and drawings have been an integral part of the development of this report.

A further critical part of the review has been done in discussion with City of Melbourne staff such as Damien Burgess, Gill Marshall and Ron Jones. Specific information was collected in 1999 with the help of Allan Jones of Serco, Greg Thorpe of Excell and Jim Morton of Australian Landscape Management. Specific information was collected in 2007 by Charles Pinnuck of Serco, with the help of Mary Chapman, Oliver Pohls and Ian Shears of the City of Melbourne.

2.2 Site Analysis

The site analysis process has been informed by the review and meetings with the Project Team at City of Melbourne. The site analysis was initially carried out by frequent site visits either accompanied by one of Gil Marshall or Damien Burgess or by frequent individual visits. This entailed systematically walking through the designated precincts recording specific site information and ascertaining where potential planting opportunities are. A great deal of site specific information was collected with the help of Allan Jones in a detailed assessment of each precinct. The analysis process involved assessing the various factors impacting on each precinct.

The factors that were considered in this process were

- Landform and topography
- Existing vegetation character
- Distribution and vigour of vegetation
- Key uses of the site
- Soil conditions
- Known historical and cultural importance of the site
- Quality of adjoining precincts
- Existing views and their future treatment
- Landscape character
- Micro-climatic factors influencing the site
- Proposed site works and modifications
- Assessing the Master Plan design principles within the context each precinct
- The sense of each site in relation to scale and degree of exposure

2.3 Methodology

1. Break up the park into useable precincts;
2. Identity areas in need of planting within each precinct;
3. Identity spatial qualities and scale of each precinct;
4. List any known specific conditions in each precinct;
5. Assess the performance of planting resulting from the Landscape Development Plan;
6. Review the existing vegetation oddities, prime specimens etc;
7. Identity views and open spaces to be maintained;
8. Record the Masterplan proposals yet to be realised for each precinct;

9. Identity future planting opportunities;
10. Record any anomalies within the precincts;
11. Identify exotics to be removed;
12. Determine the time frame for proposed works;
13. Identify the strategic need of works within the context of the whole park;
14. Assess the proposals in the Implementation Plan in the according to information gathered for each precinct

2.4 References

1997 Royal Park Master Plan – Implementation Plan, 1998	1998	Chris Dance Land Design
Australian Native Garden, Royal Park – Vegetation Management Plan	June, 2000	Australian Landscape Management
Fauna of Royal Park, City of Melbourne	Mar, 1999	Ecoplan Australia
Management plan for remnant sites in Royal Park	Nov, 2003	Australian Landscape Management
Parks Policy	Undated	City of Melbourne
Royal Park Entrances & Pathways	Jan, 2002	Australian Landscape Management
Royal Park Fire Management Plan	June, 2002	Practical Ecology
Royal Park Landscape Development Plan	Nov 1985	Laceworks Landscape Collaborative
Royal Park Master Plan, 1997	1997	City of Melbourne
Royal Park Planting Plan	1999	City of Melbourne
Royal Park, Parkville: An Aboriginal Archeological and Historical Heritage Study	June, 2002	Andrew Long & Associates
Royal Park: Submission for Stage 2 of the Royal Park Master Plan Competition	~1984	Laceworks Landscape Collaborative
Survey of Values and Threats in Remnant Areas Within Royal Park – Brens Drive & Royal Park West'	Feb 2002	Australian Landscape Management
The Fauna of Royal Park West, City of Melbourne	July, 1993	Applied Australian Ecological Research Unit, Deakin University
Tree Policy	Undated	City of Melbourne
Vegetation and management of Royal Park West, City of Melbourne, Victoria	Feb, 1992	Ecological Horticulture
Vegetation of the Brens Drive site and an evaluation of native grassland establishment and management techniques, Royal Park, City of Melbourne, Victoria	July, 1991	Ecological Horticulture

3 Royal Park Master Plan

3.1 Master Plan Review

The Royal Park Master Plan was reviewed in 1997 to assess the changes since the implementation of the 1984 Master Plan was implemented. The review was also necessary to deal with any new or ongoing issues and any opportunities that may have arisen since 1984. The purpose of this was to allow the original aims of the Master Plan to be better met within the current context.

The Master Plan has been developed around the design philosophies and principles that will provide strategic guidelines for the ongoing maintenance and development of the Park. The realisation and interpretation of these philosophies and principles is subject to variations because of different interpretations by a range of individuals in a range of situations.

The Master Plan review established that the original design principles were still relevant to the ongoing development to the Park. These principles provide for the development of Royal Park in a way that will:

- Evoke the original Australian landscape character of land and space, using the important qualities of the Park that are already present. This is to be done principally by an editing or clarification of the landscape, rather than by further development of new features;
- Physically unite the presently separate areas of the Park and establish a circulation system that serves and supports use of the Park, by eliminating or bridging through traffic routes, defining and directing vehicular access and parking, and creating a network of foot and bicycle paths;
- Encourage greater use and enjoyment of the Park through balanced provision for different types of recreational activities, ranging from organised involvement in physical sports through to casual, spontaneous and individual uses of public open space;
- Ensure other facilities, including the Royal Melbourne Zoo and sporting facilities, complement the objectives of the Royal Park Master Plan;
- Respect the cultural and historical heritage of Royal Park in keeping with its landscape objectives.

3.2 Implementation Plan

In 1998 in response to the revised Master Plan the City of Melbourne engaged Chris Dance Land Design to develop an Implementation Plan to identify the critical works to undertake in order to realise the Master Plan.

In the process of developing the Master Plan the consultant broke the park down into precincts. Each precinct represented a project. There were 19 precincts and 4 major project areas identified. The boundaries of these areas were somewhat arbitrarily prescribed.

The Implementation Plan identified nine different categories of works (earthworks and drainage, road and car park construction, shared pathways, toilet, shelter and barbecues, furniture, play facilities, vegetation and lighting) and provided general costings for each site based on the level of input required to implement the project.

This planting design review builds upon the format of the Implementation Plan to provide more detail for vegetation works planning. It also identifies areas where the Implementation Plan needs to be corrected.

3.3 Planting History

Royal Park has suffered from an inconsistent landscape development and maintenance program. To date there have been three major waves of planting input to bolster and embellish the existing remnant vegetation. In the 1930's many *Eucalyptus cladocalyx* (Sugar Gums) and *E. camaldulensis* (River Reds Gums) were incorporated into the Park in accordance with the enthusiasm of the day for Australiana. After the initial Master Plan development in 1984 a new wave of planting was carried out in accordance with the above objectives and images. This period of planting is characterised today by the landscape near Flemington Road which provides a glimpse of the intended landscape character

of the Park as proposed by the Master Plan. More recently in 1997 over 5000 trees and many thousands of understorey plants have been planted into the park especially within the Zoo environs. This planting has already begun to dramatically alter the relationship between the Zoo, the golf course and the adjacent sports fields to create a more cohesive core of the park.

Since then there has been a steady program of planting trees, shrub clusters and garden beds, a significant amount as part of community plantings, to develop the following areas:

- South of Elliott Avenue/Macarthur Rd,
- The 'old hockey fields' north of Elliott Avenue, west of the tramline,
- The 'old netball courts' on the hilltop between Brens Drive and the rail line,
- The west side of the rail line cutting, Royal Park West,
- The 'skink habitat area' formerly known as the old tip, Royal Park West.

3.4 Planting Objectives

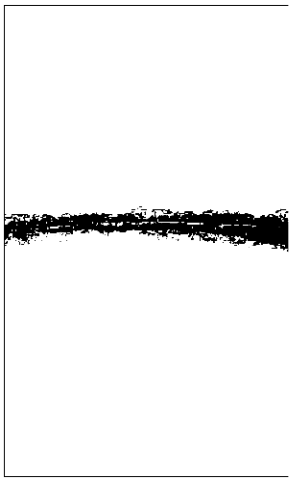
The planting objectives as specified by the revised Master Plan are to:

- Develop a Park landscape analogous to that confronting the first European settlers, by evoking its open, spacious, character and typical plant associations of open woodland, grassland and pockets of wetland.
- To use plants which seem natural to the place, without restricting choice to indigenous species. Native species selection is to be made on the basis of intended landscape character of the area, function, location and time frame requirements.
- Arrange the planting patterns and select plants according to variations in the *'terroir'* , that is the topography, the soil conditions and characteristics, aspect and microclimatic conditions, where uses do not require otherwise.
- Maintain formal planting patterns and historically important trees in selected locations to express important Park uses, define and identify key locations such as entry points to the Park and the Zoo entry.
- Progressively remove existing inappropriate vegetation that detracts from the intended landscape or that presents ongoing management problems and/or poses a major risk to Park users.
- Encourage and develop the Park's role as a part of a wider open space/wildlife network.

3.5 Landscape images

Associated with these aims are four landscape images that are inherent in the present landscape character of the Park and which direct the physical intent of the design proposals.

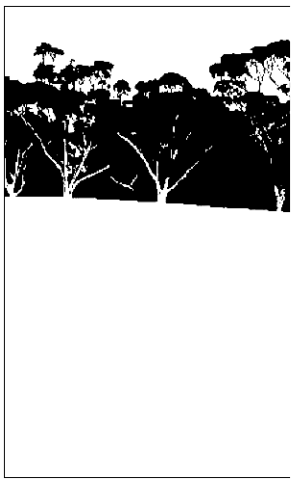
They are images of:



landform and horizon

sky and wind

expansive grassland



tree form and silhouette

3.6 Planting Patterns

The planting design builds on the planting patterns that already exist within the Park. The planting patterns are:

- exotic and native grasslands,
- informal open woodlands,
- formalised planting along avenues, peripheral planting around ovals and other sport fields,
- signature or gateway planting,
- wetland pockets in low lying land,

The existing planting will be managed over the long term in a manner that allows for the removal of exotic species, the development and extension of the spatial distribution of species and the improvement of the species range and complexity. The selection of plants for Royal Park is to be based on the requirements of site, function, time frame objectives and the intended character of that particular part of the Park.

Overall Planting Scheme

The Park is to be dominated by seemingly random woodland of indigenous *Eucalypts* preferably grown from seed collected from remnant individuals. The species mix and density of planting should vary according to the existing site conditions. The understorey will vary according to the same forces that impact upon tree selection as well as the practical concerns relating to use, safety and needs for screening, shelter and visibility. Understorey planting shall range from close mown exotic grass, rough mown grass, ground covers, mixed shrubs and understorey trees.

Hilltops and ridge lines

Hilltops and ridge lines will generally be kept clear of trees in order to heighten the sense and scale of spaciousness. This is in accordance with the spirit of the landscape images especially that of sky and wind, landform and horizon, expansive grassland.

Allocasuarina verticillata (Drooping She-oak) and associated understorey plants should be sited to uphill views along ridge lines especially at the high point of the railway cutting overlooking Manningham Street. It is important that it is not to close to the perimeter of the open grassland Circle as it would diminish and detract from the sense of elevation, outlook, exposure and scale of one of the most remarkable sites within the City of Melbourne.

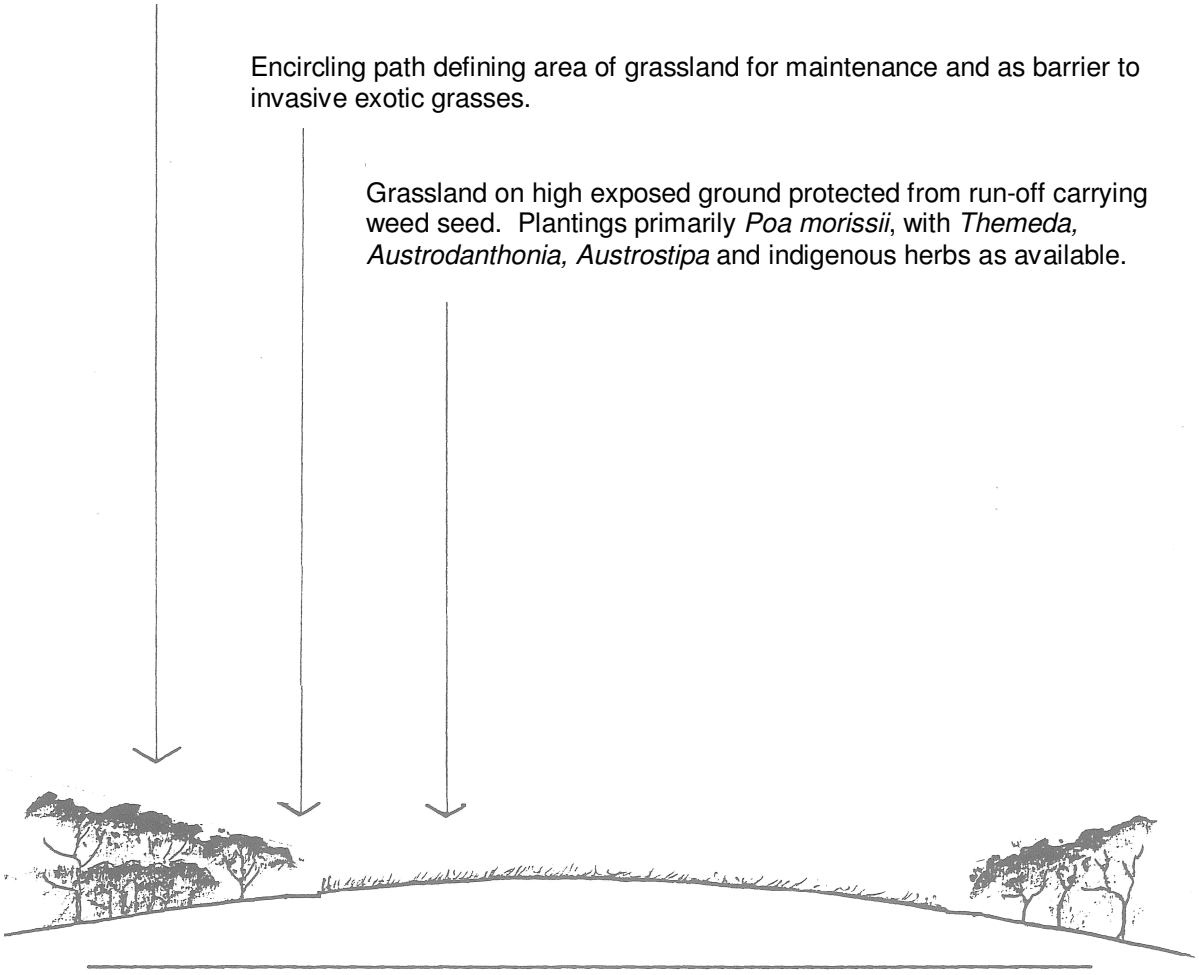
Open woodland on the side slopes is to be most commonly inhabited by indigenous Eucalypts and other associated species. The density of the planting should increase on the lower slopes, near drainage ways and on southern facing slopes especially for associated understorey species. Planting densities will thin out as the elevation of the slope increases so that desirable vistas and the sense of openness are maintained.

Grasslands

City and outer areas of park with active recreation facilities separated from grasslands by woodland buffer-zone used for passive recreation and play. *Eucalyptus camaldulensis* et. al. dominant. Taller, denser plantings located downhill to reduce shading and root competition with grasses and herbs, and to preserve distant views.

Encircling path defining area of grassland for maintenance and as barrier to invasive exotic grasses.

Grassland on high exposed ground protected from run-off carrying weed seed. Plantings primarily *Poa morissii*, with *Themeda, Austrodanthonia, Austrostipa* and indigenous herbs as available.



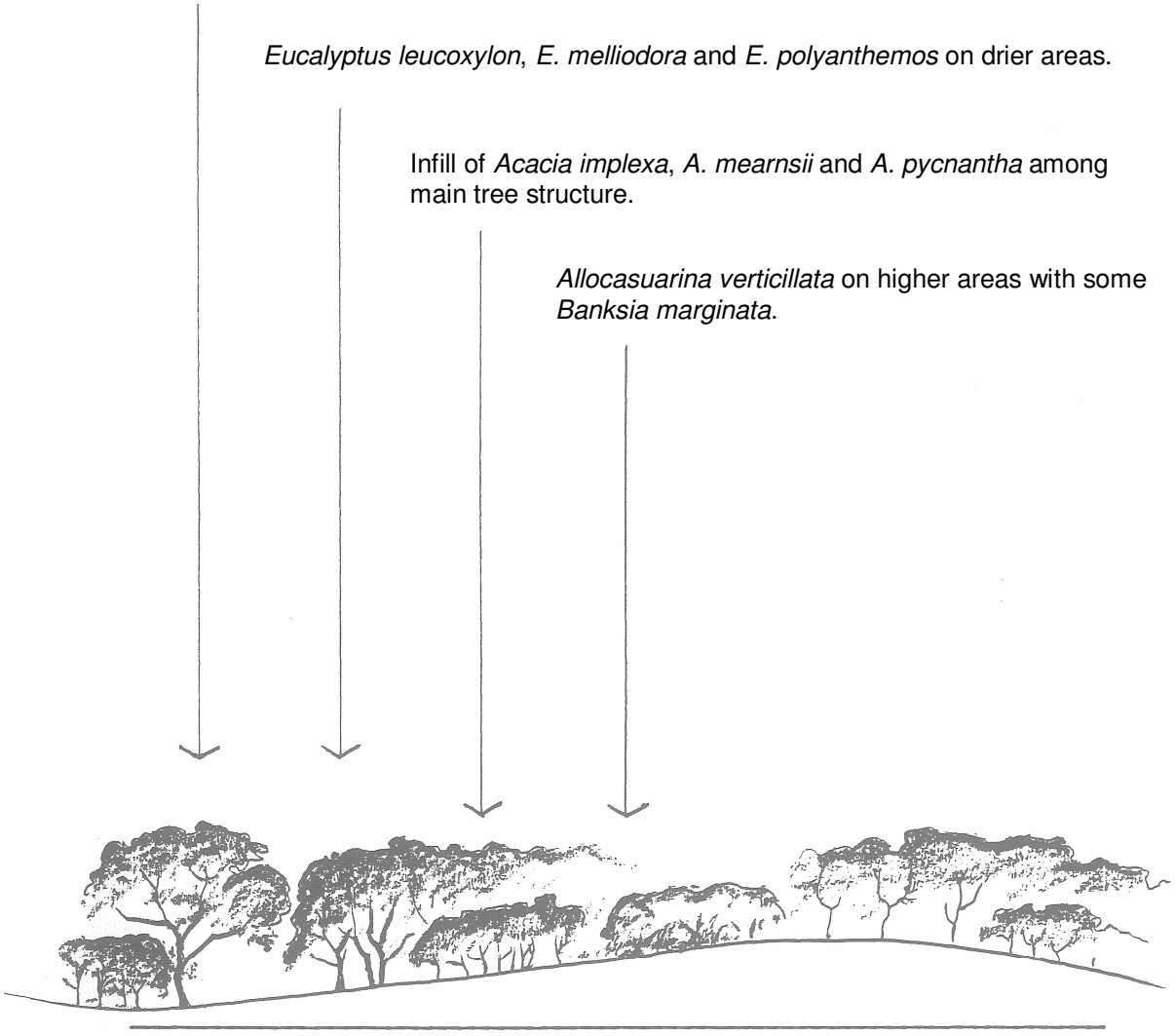
Woodlands

Drainage channels with dominant *Eucalyptus camaldulensis* and *Acacia melanoxylon*.

Eucalyptus leucoxylon, *E. melliodora* and *E. polyanthemos* on drier areas.

Infill of *Acacia implexa*, *A. mearnsii* and *A. pycnantha* among main tree structure.

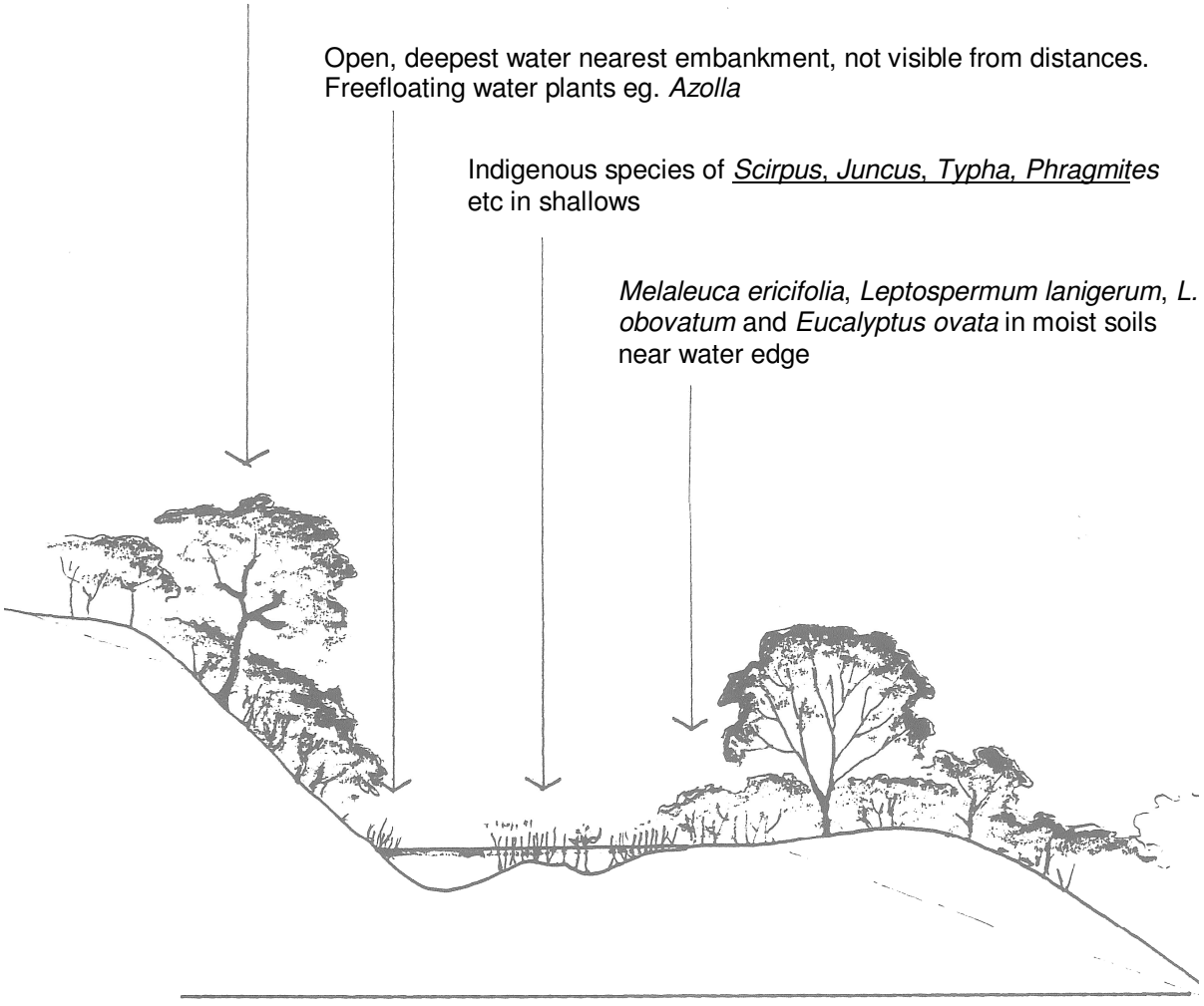
Allocasuarina verticillata on higher areas with some *Banksia marginata*.



Drainage and wetlands

Existing drainage ways should be harnessed to create sites of wetland vegetation and, where appropriate, seasonal water bodies. The pond in the Australian Native Garden has been reconfigured and planted with wetland species and the 'bog garden' reworked to accept stormwater from The Avenue and clean it before feeding it into the pond. Similar opportunities to reclaim stormwater draining from roads exist along the south side of Elliott Avenue, and along the west side of Brens Drive.

Slopes graded to form hollows containing level areas and ponds. Woodland plantings including *Bursaria spinosa, Hakea sericea* and as nesting shelter for birds and as deterrent to short-cuts across vulnerable slopes



Formal avenue planting

At the parks edge, where appropriate, formal avenue tree planting should be maintained.
A 10 m wide, seemingly, random belt of *E. camaldulensis* (River Red Gum) will bound the perimeter of the Park and blur the distinction between the formal street plantings and those of the informal woodland. No understorey other than grass should be in place in this zone as a means of maintaining visibility and street side security.

Major entrances and edges

*Corymbia citriodora (*Lemon Scented Gum) is to be planted as signature or gateway trees at the major roadway entrances and other key entry points. This should be in numbers that create a definite presence rather than a few specimens lost in the mass of woodland.

An informal belt of *E. cladocalyx* (Sugar Gum) should enclose and define the Zoo perimeter on the northern, eastern and southern boundaries. The western boundary of the Zoo should be planted with an informal belt *of Allocasuarina verticillata.* The purpose of this will be to match up with the existing stand of *A. cunninghamiana* on the western side of the tram line, between the Zoo and the State Netball & Hockey Centre, and the recently planted stand adjacent to the tram line in the Zoo's overflow car park near the residence and service entry. The planting on the eastern side of the State Netball & Centre should be reinforced by further planting of *A. verticillata.*

Where the form of major ovals is clearly fixed by earthworks and perimeter fencing these should be further defined by a perimeter planting *of Corymbia maculata* (Spotted Gum). Where existing planting is appropriate the *Corymbia maculata* can be integrated into the planting as would be the case with the *Eucalyptus camaldulensis* on the eastern side of Walker Oval. If exotic species are in place the long term aim would be to replace these with the *C. maculata* which could be interplanted where space is available or as it arises over time. This procedure could be implemented at Brens and Smith Ovals.

Removal of exotics

As a general principle exotic species are to be removed as appropriate in the short, medium and long term. Trees that have poor health or add little or no relevance to the existing and proposed landscape character should be systematically removed.

Removal of exotic trees must also take into account other values such as provision of shade, provision of fauna habitat or historical significance.

Corridor plantings

Planting along roadways, train lines and tramways within the park should attempt to link the two sides of the corridor so that the landscape in effect flows through these artificial divides. This may require a long term view to achieve this as many of the internal roadways are bounded by mature exotic trees which should not be removed until the replacement vegetation is beginning to take shape, or if the replacements will be severely hindered by the presence of those exotics.

3.7 Vegetation Associations

Summary

The 1999 Royal Park Planting Plan review proposed changing the codes for the Vegetation Associations, plus modifying slightly the detail of some of the Associations. This was never implemented and almost all planting design since then has used the original codes. This review will revert to the original codes, add some Associations (particularly relating to wetlands) and modify slightly some existing Associations.
Below is a summary of the Vegetation Associations, followed by detailed descriptions.

LOCATION	DESCRIPTION
1. Ridges	1a Open Grassland Native Grasses
	1b Open Grassland
	1c Eucalypt clumps
	1d Allocasuarina Grove
2. Slide Slopes	2a Open Woodland
	2b Woodland with sparse understorey
	2c Woodland with light understorey
	2d Open Woodland with dense understorey
3. Drainage-ways	3a Riparian Woodland with light understorey
	3b *Eucalyptus camaldulensis* woodland
4. Wetlands	4a Riparian woodland with dense understorey
	4b *Eucalyptus camaldulensis* swamp woodland
	4c Marsh
5. Perimeter streets	5a. Parades (Royal Parade & Flemington Rd)
	5b. Local and collector streets (Park, Gatehouse, Manningham Sts, The Avenue)
	5c. Entrance drives to zoo and major facilities
	5d. Horse-drawn tram fig avenue
6. Park perimeter	Informal band of *Eucalyptus camaldulensis*
7. Sports ovals	Perimeter planting of formal ovals
8. Park “Entries”	Signature planting
9. Neighbourhood Parks	Neighbourhood Parks
10. Zoo	10a. Zoo perimeter wall
	10b. East (main) Entrance
	10c. North (railway station) Entrance

Vegetation Zones

Figure 1. Vegetation Zones tiles map layout

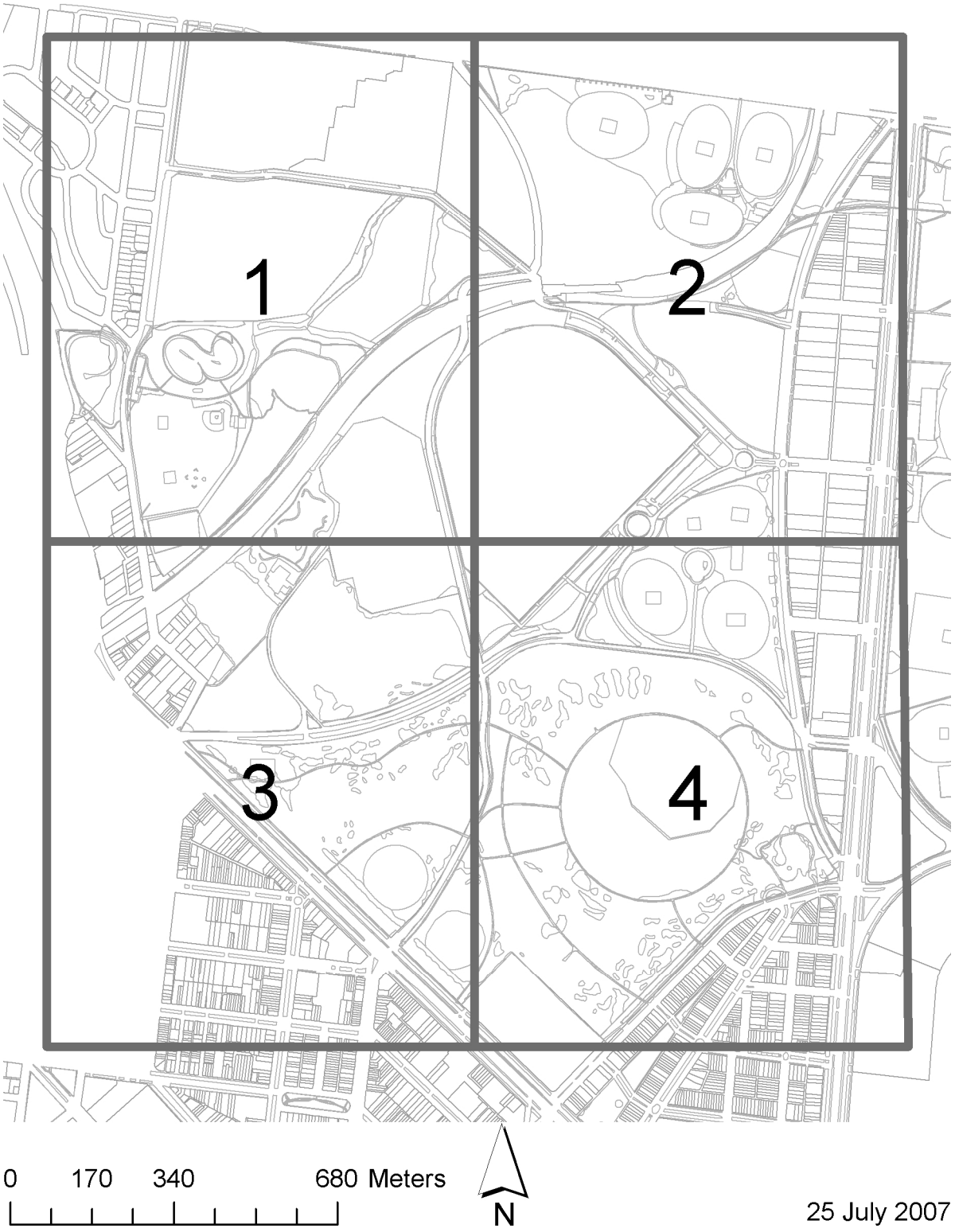


Figure 2. Royal Park Vegetation Zones - Tile 1

Figure 3. Royal Park Vegetation Zones - Tile 2

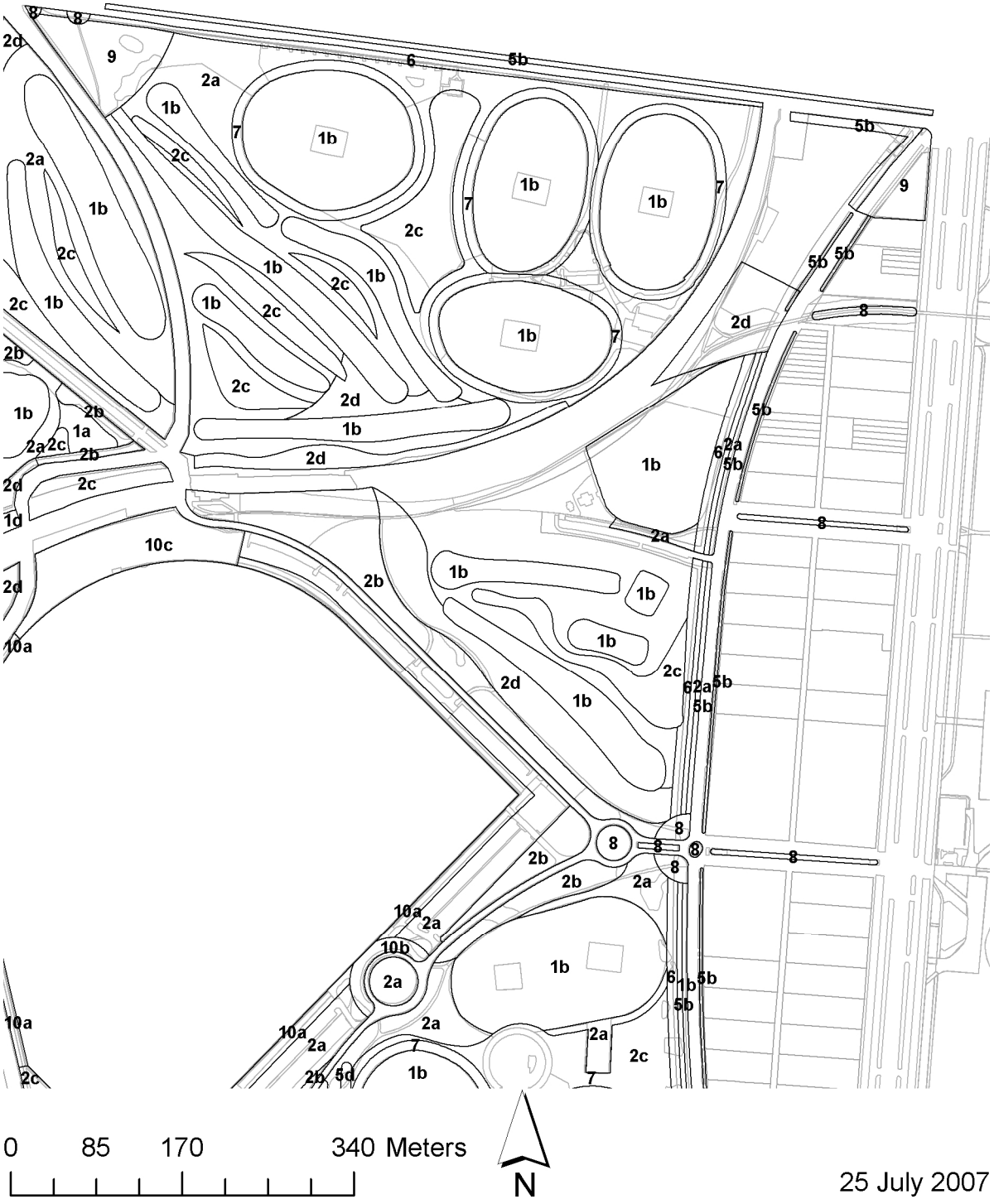
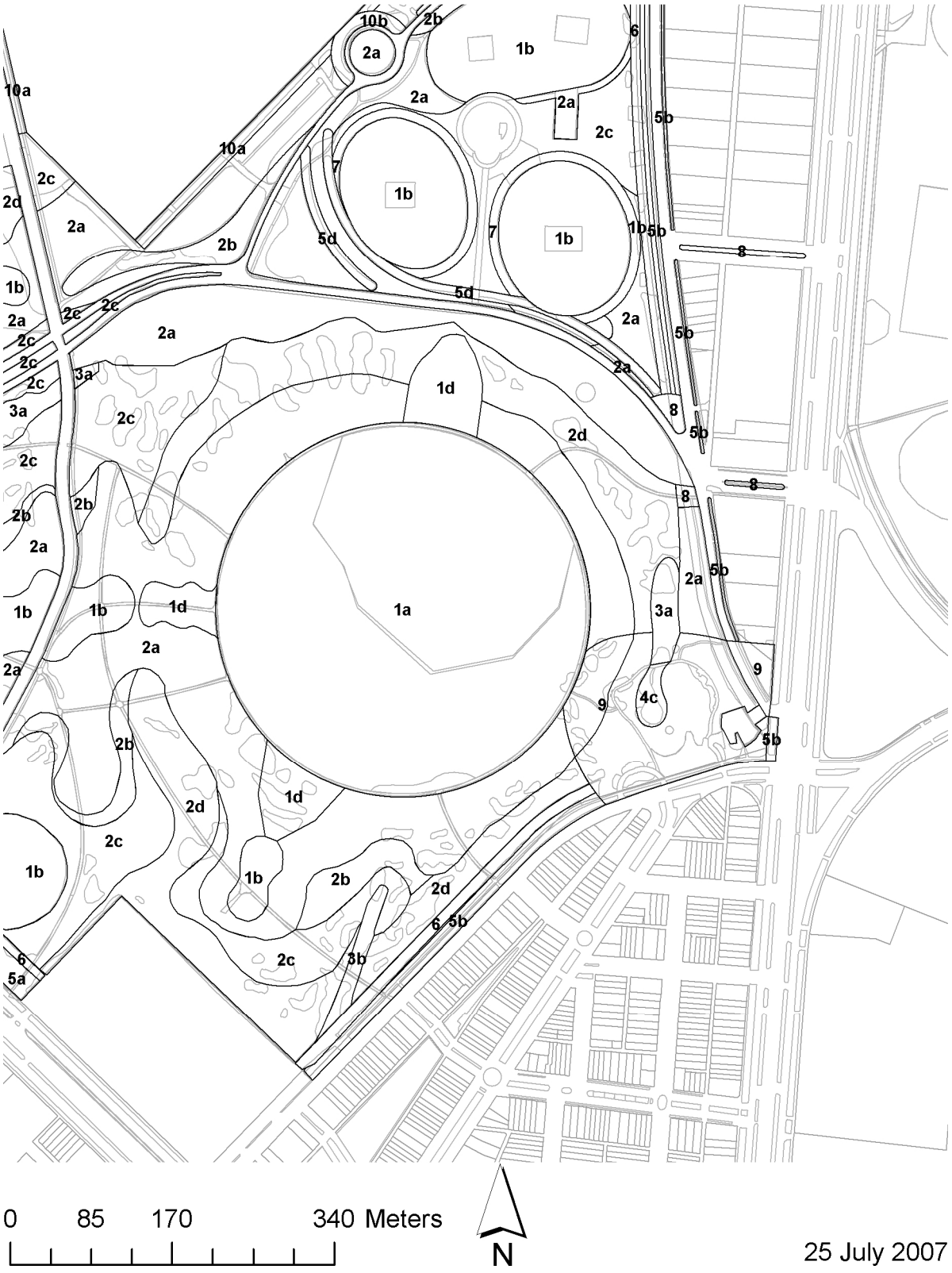


Figure 4. Royal Park Vegetation Zones - Tile 3

Figure 5. Royal Park Vegetation Zones - Tile 4



Vegetation Associations

1. Ridges

1a Open Grassland Native Grasses

CANOPY SPECIES (first listed most dominant)	COMMENTS
-	-
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Native grasses. Refer Planting Detail List 1.	Clusters of detailed grass & forbe planted beds around the Big Circle at prominent locations (ie opposite incoming pathways). Refer Planting Detail List 2.

1b Open Grassland

CANOPY SPECIES (first listed most dominant)	COMMENTS
-	-
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses	Rough mown to height as per Maintenance Zone.

1c Eucalypt clumps

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis	Clumps of 1-10 located to side of ridgeline
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses or native grasses and forbs in clumps as required.	Rough mown to height as per Maintenance Zones.

1d Allocasuarina Grove

CANOPY SPECIES (first listed most dominant)	COMMENTS
Allocasuarina verticillata *Eucalyptus camaldulensis* *A. littoralis*	Groves located on high points, merging into adjacent planting types. *Eucalyptus camaldulensis* very sparsely planted. *Allocasuarina littoralis* occurring in small, sporadic groves.
UNDERSTOREY SPECIES	**COMMENTS**
Banksia marginata *Acacia implexa* *Bursaria spinosa* *Callistemon sieberi* *Hakea nodosa*	Sparsely to lightly planted throughout grove. *Callistemon sieberi* and *Hakea nodosa* can be used in wetter areas.
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses or native grasses and forbs in clumps as required. Refer Planting Detail List 3.	Much of area will be covered with leaf litter. Where grass occurs it should be rough mown to height as per Maintenance Zones.

	Protect and encourage native grasses where the competition from the *Allocasuarina's* favours them over exotic grasses.

2. Slide Slopes

2a Open Woodland

CANOPY SPECIES (first listed most dominant)	**COMMENTS**
Eucalyptus camaldulensis *Eucalyptus melliodora* *Eucalyptus leucoxylon* *Eucalyptus polyanthemos* *Allocasuarina verticillata*	< 20% projective foliage cover. *Eucalyptus leucoxylon, E. polyanthemos* and *Allocasuarina verticillata* sparsely planted.
UNDERSTOREY SPECIES	**COMMENTS**
Acacia implexa *Acacia mearnsii*	Mainly in breaks in canopy
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses or native grasses and forbs in clumps as required. Refer Planting Detail List 3.	Rough mown to height as per Maintenance Zones.

2b Woodland with sparse understorey

CANOPY SPECIES (first listed most dominant)	**COMMENTS**
Eucalyptus camaldulensis *Eucalyptus melliodora* *Eucalyptus leucoxylon* *Eucalyptus polyanthemos* *Allocasuarina verticillata*	< 35% projective foliage cover. *Eucalyptus leucoxylon, E. polyanthemos* and *Allocasuarina verticillata* sparsely planted.
UNDERSTOREY SPECIES	**COMMENTS**
Acacia pycnantha *Acacia acinacea* *Acacia genistifolia* *Acacia paradoxa* *Acacia implexa* *Acacia mearnsii*	Mainly in breaks in canopy. For planting into remnant sites refer Planting Detail List 5.
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses or native grasses and forbs in clumps as required. Refer Planting Detail List 3. For planting into remnant sites refer Planting Detail List 5.	Rough mown to height as per Maintenance Zones. Leaf litter below acacia clumps.

2c Woodland with light understorey

CANOPY SPECIES (first listed most dominant)	**COMMENTS**
Eucalyptus camaldulensis *Eucalyptus melliodora* *Eucalyptus polyanthemos* *Allocasuarina verticillata*	< 35% projective foliage cover. *Eucalyptus polyanthemos and Allocasuarina verticillata* sparsely planted.
UNDERSTOREY SPECIES	**COMMENTS**
Acacia pycnantha *Acacia verniciflua*	Mainly in breaks in canopy, becoming thicker on lower slopes

Acacia implexa
Dodonea cuneata
Acacia dealbata
Bursaria spinosa
Hymenanthera dentata
Acacia genistifolia
Acacia retinodes
Acacia mearnsii
Acacia verticillata
Exocarpis cupressiformis
Myoporum viscosum

GROUNDCOVER SPECIES	COMMENTS
Exotic grasses or native grasses and forbs in clumps as required. Refer Planting Detail List 3.	Grasses rough mown to height of 200-300mm. Leaf litter where under storey thick.

2d Open Woodland with dense understorey

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis *Eucalyptus melliodora* *Eucalyptus leucoxylon* *Eucalyptus polyanthemos* *Eucalyptus viminalis*	< 20% projective foliage cover. *Eucalyptus leucoxylon* and *Eucalyptus polyanthemos* very sparsely planted.

UNDERSTOREY SPECIES	COMMENTS
All of 2c plus – *Daviesia ulicifolia* *Goodenia ovata* *Cassinia arcuata* *Cassinia aculeata* *Cassinia longifolia* *Hakea sericea* *Kunzea ericoides*	Forming dense thickets over much of area

GROUNDCOVER SPECIES	COMMENTS
Low native herbs around edges of thickets. Refer Planting Detail List 3.	Predominantly leaf litter where exotic grasses occur they will be rough mown to height of 200 – 300mm

3. Drainage-ways

3a Riparian Woodland with light understorey

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis	<35% projective foliage cover occurs along major drainage ways

UNDERSTOREY SPECIES	COMMENTS
Acacia melanoxylon *Callistemon sieberi* *Acacia dealbata* *Acacia verticillata* *Acacia retinodes* *Kunzea ericoides*	Discontinuous understorey predominantly in clumps

GROUNDCOVER SPECIES **COMMENTS**

Low native herbs and sedges. Refer Planting Detail List 3.	Predominantly leaf litter where exotic grasses occur they will be rough mown to height of 200 – 300mm

3b *Eucalyptus camaldulensis* woodland

CANOPY SPECIES **(first listed most dominant)**	**COMMENTS**
Eucalyptus camaldulensis	<35% projective foliage cover. Occurs along major drainage-ways
UNDERSTOREY SPECIES	**COMMENTS**
Acacia melanoxylon *Acacia dealbata*	-
GROUNDCOVER SPECIES	**COMMENTS**
Low native herbs and sedges. Exotic grasses. Refer Planting Detail List 3.	Grasses mown to height of 200 – 400mm

4. Wetlands

4a Riparian woodland with dense understorey

CANOPY SPECIES **(first listed most dominant)**	**COMMENTS**
Eucalyptus ovata *Eucalyptus viminalis* *Eucalyptus camaldulensis*	Dense woodland up to 35% projective foliage cover. Occurs along banks on deep side of pools.
UNDERSTOREY SPECIES	**COMMENTS**
Leptospermum obovatum *Melaleuca ericifolia* *Hymenanthera dentata* *Callistemon sieberi* *Acacia melanoxylon* Acacia dealbata *Muehlenbeckia florulenta* *Bursaria spinosa* *Gynatrix pulchella* *Kunzea ericoides*	Dense understorey often forming thickets. Spiny plants used to deter shortcuts and thus erosion on steep slopes.
GROUNDCOVER SPECIES	**COMMENTS**
Native grasses and sedges.	-

4b *Eucalyptus camaldulensis* swamp woodland

CANOPY SPECIES **(first listed most dominant)**	**COMMENTS**
Eucalyptus camaldulensis	<25% projective foliage cover occurs on shallow side of pools.
UNDERSTOREY SPECIES	**COMMENTS**
Melaleuca ericifolia *Muehlenbeckia cunninghamii* *Callistemon sieberi*	Dense thickets. Native grasses along waters edge.
GROUNDCOVER SPECIES	**COMMENTS**
Native grasses and forbs. *Carex appressa* *Carex fascicularis* *Carex gaudichiana* *Eryngium vesiculosum*	20 – 40cm above high water line.

Juncus flavidus
Leptinella reptans
Persicaria decipiens ssp. motevidensis

4c Marsh

CANOPY SPECIES (first listed most dominant)	COMMENTS
-	-
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Refer Planting Detail List 4.	Low native herbs, rushes and sedges planted in dense thickets.

5. Perimeter streets

5a. Parades (Royal Parade & Flemington Rd)

CANOPY SPECIES (first listed most dominant)	COMMENTS
Ulmus sp.	Single row along side where built up. Double row along open areas (as existant along most of Flemington Rd, north side). Single row in each median strip. Spaced to provide overlapping canopies.
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses	-

5b. Local and collector streets (Park, Gatehouse, Manningham Sts, The Avenue)

CANOPY SPECIES (first listed most dominant)	COMMENTS
Lophostemon confertus *Ulmus sp.*	Lophostemon confertus in single row along building side of street. *Ulmus* sp in a single row along park side of the street.
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses	-

5c. Entrance drives to zoo and major facilities

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis *Robinia pseudoacacia* 'Frisia' *Corymbia citrodora* *Eucalyptus tricarpa*	*Corymbia citrodora* on central median of Walker St and Kendall Avenue, and *Robinia pseudoacacia* 'Frisia' on sides of Walker St. *E. tricarpa* in Elliott Av-Poplar Rd roundabout. 10m wide informal band of *E. camaldulensis* on sides of Brens Dr, Kendall Av and Poplar Rd.
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses.	-

Native grasses in the Elliott/Poplar/Kendall intersection roundabout.

5d. Horse-drawn tram fig avenue

CANOPY SPECIES (first listed most dominant)	COMMENTS
Ficus macrophylla	-
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
-	-

6. Informal band of *Eucalyptus camaldulensis*

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis	Informal band 10m wide around full perimeter of the park. Spaced 35m from Flemington Rd. Spaced 10-15m (as space permits) from other boundary roads.
UNDERSTOREY SPECIES	**COMMENTS**
As for 2c	In small groups. Located to provide screening and enclosue, but without isolating the houses fronting the park: adjacent to Walker and RG Smith Ovals.
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses or clumps of dry-tolerant groundcovers at edges of understorey plantings: *Atriplex semibacata* *Einadia nutans* *Enchylaena tomentosa* *Rhagodia parabolica*	Rough mown to height of 100-200mm.

7. Perimeter planting of formal ovals

CANOPY SPECIES (first listed most dominant)	COMMENTS
Corymbia maculata	Single complete ring all sports ovals Existing secondary rows gradually replaced by other adjacent planting types.
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grass or crushed rock	**-**

8. Park "Entries"

CANOPY SPECIES (first listed most dominant)	COMMENTS
Corymbia citriodora	Scattered in highly visible locations at each entry.
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses	Rough mown to height of 100-200mm

9. Neighbourhood Parks

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis	Located according to park layout generally with projective canopy cover up to 30%.
UNDERSTOREY SPECIES	**COMMENTS**
As for 2c.	Located to provide screening and enclosure.
GROUNDCOVER SPECIES	**COMMENTS**
Exotic grasses	Rough mown to height of 50-150mm

10. Zoo

10a. Zoo perimeter wall

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus cladocalyx	*E.* cladocalyx planted as an informal single band along east and north zoo perimeter walls, except at entries. *A. verticillata* planted along western wall.
Allocasuarina verticillata	
UNDERSTOREY SPECIES	**COMMENTS**
-	-
GROUNDCOVER SPECIES	**COMMENTS**
Gravel	-

10b. East (main) Entrance

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis	*E. camaldulensis* in roundabout.
Corymbia citriodora	*L. australis* in forcourt either side of entry.
Livistonia australis	*C. citriodora* in forcourt either side of roundabout closer to Elliott Avenue.
UNDERSTOREY SPECIES	**COMMENTS**
As for 2c.	Located to provide screening and enclosure.
GROUNDCOVER SPECIES	**COMMENTS**
Dianella caerulea	-
Lomandra longifolia	
Brachyscome spp.	
Chrysocephalum spp.	

10c. North (railway station) Entrance

CANOPY SPECIES (first listed most dominant)	COMMENTS
Eucalyptus camaldulensis	*C. citriodora* at entry.
Eucalyptus melliodora	*E. tricarpa* along main pedestrain link to entry.
Eucalyptus tricarpa	
Allocasuarina verticillata	
Corymbia citriodora	
Eucalyptus leucoxylon	
Eucalyptus ovata	
Eucalyptus polyanthemos	
Eucalyptus viminalis	
UNDERSTOREY SPECIES	**COMMENTS**
As for 2c.	Planted on railway easement. *Acacia implexa* and *A. melanoxylon* in north and

GROUNDCOVER SPECIES	COMMENTS
Main Pedestrian Entry: *Dianella admixta* *D. longifolia* *Hardenbergia violacea* *Themeda triandra*	west perimeter plantings.
Informal plantings and railway easement: As above plus- *Austrostipa scabra* *Enchyleana tomentosa* *Lomandra longifolia* *Poa labillarderi*	

Planting Detail List 1.

NATIVE GRASSLAND

Austrodanthonia spp.
Austrostipa elengantissima
Austrostipa scabra ssp. falcata
Chloris truncata
Microlaena stipoides
Poa labillardieri
Poa morissii
Poa siberiana
Themeda triandra

Planting Detail List 2.

NATIVE GRASSLAND GARDEN

Grasses

Austrodanthonia racemosa
Austrodanthonia setacea
Austrostipa elegantissima
Austrostipa scabra ssp. *falcata*
Dichelachne crinata
Poa sieberiana
Themeda triandra

Lilies

Arthropodium milleflorum
Arthropodium strictum
Dianella longifolia
Dianella admixta (syn. revoluta)

Forbes

Asperula conferta
Brachyschome basaltica
Brachyscome dentata
Calocephalus citreus
Calotis anthemoides
Calotis sapigera
Chrysocephalum apiculatum
Chrysocephalum semipapposum
Craspedia variabilis
Dichondra repens
Eryngium ovimum
Leptorhynchos tenuifolia
Lobelia pratioides
Mentha diemenica
Microseris lanceolata
Stackhousia monogyna
Stylidium graminifoloium
Veronica gracilis
Wahlenbergia communis
Wahlenbergia luteola
Wahlenbergia stricta

Planting Detail List 3.

OPEN PARKLAND

Grasses

Austrodanthonia spp.
Austrostipa bigeniculata
Austrostipa scabra ssp. *falcata*
Poa labillardieri
Poa morissii
Poa siberiana
Themeda triandra

Lillies

Dianella admixta (syn. revoluta)
Dianella longifolia
Dianella tasmanica
Lomandra filiformis
Lomandra longifolia

Forbes

Atriplex semibacata
*Brachyscome multifida (*Greensborough*)*
Calocephalus citreus
Carex tereticaulis
Carpobrotus modestus
*Chrysocephalum apiculatum (*Strathnaver*)*
Chrysocephalum semipapposum
Einadia nutans
Enchylaena tomentosa
Hardenbergia violacea
Juncus sarophorus
Kennedia prostrata
Rhagodia parabolica

Planting Detail List 4.

MARSH

Ephemeral Marsh

(5cm to 20cm above high water line)

Bracteantha pallustris
Juncus amabilis
Juncus flavidus
Juncus pallidus
Juncus radula
Lythrum salicaria

Shallow Marsh

(10cm below to 5cm above high water line)

Carex fasicularis
Eleocharis acuta
Isolepis fluitans
Marsilia drummondii
Phylidrium lanuginosum
Villarsia exaltata
Villarsia reniformis

Marsh

(10 – 25cm below high water line.)

Baumea arthrophylla
Baumea tetragonia
Bolboschoenus medianus
Isolepis fluitans
Isolepis nodosa
Schoenoplectus pungens

Deep Marsh

(25 – 40cm below high water line.)

Baumea articulata
Baumea tetragonia
Cyperus lucidus
Eleocharis spachelata
Isolepis nodosa
Myriophyllum simulans
Ottelia ovalifolia
Schoenoplectus validus
Triglochin procera

Planting Detail List 5.

REMNANT REVEGETATION

Woody Dicots

Acacia melanoxylon
Acacia pycnantha
Bursaria spinosa
Cassina aculeata
Cassina arcuata
Eucalyptus camaldulensis
Eucalyptus melliodora
Eutaxia diffusa
Muellerina eucalyptoides
Pimelea glauca
Senecio quadridentatus

Herbaceous Dicots

Acaena echinata
Atriplex semibacata
Chrysocephalum apiculatum
Chrysocephalum semipapposum
Convolvulus remotus
Dichondra repens
Einadia nutans
Enchylaena tomentosa
Glycine tabacina
Kennedia prostrata
Marieana enchylaenoides
Oxalis exilis
Rumex brownii

Lilies

Arthropodum strictum
Dianella aff longifolia
Dianella revoluta
Tricoryne elatior

Grasses, Rushes, Sedges

Austrodanthonia caespitosa
Austrodanthonia geniculata
Austrodanthonia linkii
Austrodanthonia penicillata
Austrodanthonia racemosa
Austrodanthonia setacea
Austrodanthonia sp.
Austrostipa bigeniculata
Austrostipa densiflora
Austrostipa elegantissima
Austrostipa mollis
Austrostipa scabra subsp. *falcata*
Austrostipa semibarbata
Bothriochloa macra
Chloris truncata
Dicanthium sericeum
Elymus scabrus
Eragrostis brownii
Lomandra filiformis
Microlaena stipoides