city of salisbury landscape plan

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City of Salisbury City Landscape Plan
Prepared for City of Salisbury
June 2007

Acknowledgements
During the preparation of The City of Salisbury Landscape Plan, numerous groups and individuals contributed to the development of this project. The core project team has included Bob Green and Craig Johansen of the City of Salisbury, Daniel Bennett, Valdis Zvaigzne, Jamie Hosking, Hugh Fraser, Amy Reed and Lyn Taylor from HASSELL

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— The City of Salisbury Landscape Plan Reference Group.
— Staff of the City of Salisbury.
— Elected Members.
— Other members of the wider community who have been involved directly and indirectly in the delivery of this report.

The City Landscape Plan pays respect to the Kaurna people – Traditional Owners of the land. It acknowledges their ancestors and their sharing of their ancestral lands.

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contents

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1.0 introduction

"The future is not some place we are going to but one we are creating."

Dr. Peter Ellyard, Former Commissioner for the Future

revision	01	02	03	04	05	06	07

1.1 executive summary

The City of Salisbury is in a period of rapid economic growth and cultural change. The city is becoming recognised as a vibrant hub; home to a diverse and proud community. The city now seeks to build upon its distinctive landscapes and public open spaces. It has developed a robust and visionary set of policies and guidelines for the future development of new and existing public domain, landscape areas, road corridors, reserves, amenity landscapes, areas of cultural and environmental significance, industrial and residential developments. This has culminated in the development of *The City of Salisbury Landscape Plan*.

The Landscape Plan proposes a cohesive direction for existing and future development of the City of Salisbury's landscapes. The Landscape Plan will provide a clear set of guidelines to strengthen the unique physical characteristics of the City of Salisbury, underpinned by the key principles of promoting biodiversity, water sensitive urban design, crime prevention through environmental design, and quality landscape design.

The Landscape Plan has identified four main landscape character units through the analysis of soil data, physiography, and pre-European plant communities (Figure 2.1). These are identified as:

— the Coastal Plain;
— the Lower Alluvial Plain;
— the Upper Alluvial Plain; and
— Riparian Corridors.

These zones will help identify specific requirements for plant selection, strengthening biodiversity, promoting sustainability and providing the strategic direction for the "look" of the City. Plant selection for these character zones will be based on environmental parameters, soil conditions and pre-European plant associations. While it is anticipated that plant selection will be predominantly indigenous, exotic species will be used for accent planting in key areas to visually enhance particular areas and complement the indigenous plant selections where required.

The landscape function of public open spaces is the core parameter that directs the selection of public domain elements. Consideration is given to road hierarchies, reserve function, areas of cultural and historical significance, focal points and gateways. The Landscape Plan's guidelines for the public domain elements will set down a consistent palette of treatments which will create continuity and legibility throughout the City of Salisbury.

The City of Salisbury Landscape Plan is intended to be a dynamic and evolving document that is continuously reviewed, improved and updated to keep abreast of innovations in urban design, landscape architecture and civil engineering design, planning, and asset management.

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1.2 introduction

The Landscape Plan will provide a unique and sustainable identity for the city through its open space areas, with practical and functional recommendations for the implementation and maintenance of landscaped areas. The Landscape Plan will promote biodiversity though the use of indigenous plantings and the revegetation of natural areas. This plan promotes a landscape vision for the city that is visually appealing, economically viable, and promotes community pride and ownership.

The key objectives for *The City of Salisbury Landscape Plan* are:

— Public open spaces are categorised by function and environmental parameters.

— High profile sites and road corridors requiring a higher profile landscape treatment are defined.

— The landscape character and associated design principles for each landscape category are described.

— Appropriate plant lists for each landscape category, based on increasing biodiversity and sustainability, are provided. Planting plans will be developed to comply with Crime Prevention through Environmental Design (CPTED) principles.

— Advice on the selection and location of public domain landscape elements such as outdoor furniture and signage.

— The city's landscape requirements within each category to review.

— Maintenance outcomes appropriate for each landscape element are provided. This includes a maintenance hierarchy and key performance indicators.

— Cultural and heritage issues within each category are identified and considered.

— Current and future environmental factors or issues that may affect landscapes within the City of Salisbury are considered.

— The overall "city landscape policy" covering all categories and elements of the City of Salisbury's landscape requirements are described in detail.

1.3 landscape vision

The City of Salisbury strives to be a sustainable city, where people enjoy a quality of life built on equitable access to recreational opportunities, and builds supportive environments for its natural environment and community.

Principles that underpin the City of Salisbury's vision are:

- Environmental Sustainability: Enhance and conserve native flora and fauna, maintain natural ecological processes, sustain the city's resources and contribute to the community's appreciation of the city's natural assets.
- Quality and Function: Provide attractive and useable public open spaces that contribute positively to the identity of the city and the recreational needs of all residents.
- Innovation: Enhance opportunities for innovative service provision through collaboration, creative enthusiasm, and continuous improvement.
- Consultation: Engage the community in any process of change to ensure informed decision making that anticipates and embraces change.
- Integration: Contribute to a supportive working environment by achieving common goals with a focus on social, cultural, economic, and environmental sustainability indicators.
- Diversity and Equity of Access: Provide a diverse array of public open spaces that cater for current and future recreation, social, cultural, and environmental needs of the community.
- Quality: Recognise that a balance between community and economic benefit can be achieved. Provision of public open space should reflect quality of provision rather than quantity.

1.4 key objectives

Develop a categorisation for streetscapes and reserves by feature category.

- The classification of streetscapes and reserves will aid the City of Salisbury in the development of maintenance hierarchies and highlight key areas for upgrade. This will enable the City of Salisbury to develop a matrix outlining the processes needed, time line and associated costs of the maintenance and upgrade of its landscapes.

Describe in detail the overall city landscape policy that covers all categories and elements of the City of Salisbury's landscape requirements.

- The City of Salisbury is seeking an overriding statement to guide its development and maintenance of its landscape areas. This statement will provide the direction, objectives and future improvement of these areas. This statement will outline the City of Salisbury's expectations for developers and users of landscape areas.

Define high profile sites and vehicular corridors that require a higher profile landscape treatment.

- High profile sites define the entry points and character of the City of Salisbury. The treatment of these areas will provide visitors and residents with directional information, gathering spaces, public squares and boulevards. These landscapes provide the initial connection with the the city of Salisbury for visitors; they will need to reflect the City's corporate strategy and corporate branding, the importance the City of Salisbury places on sustainability and their intended use.

Describe the desired character and associated design principles for each landscape category.

- Each of the highlighted landscape categories has a unique character; the desired character will guide the City of Salisbury in the species selection and the requirements for biodiversity and sustainability.

Develop appropriate plant lists for each landscape category based around increasing biodiversity and sustainability as well as developing standard features, shade and screening vegetation that complies with CPTED principles.

- A unique plant list will define each landscape character zone; appropriate plantings will be recommended to increase biodiversity, visual amenity, revegetation, and longevity of the City's landscape.

Provide direction for the installation of furniture and hard elements.

- Public domain elements, such as outdoor furniture, paving, lighting and shelters, can provide the landscape with a sense of place and character that is instant and enduring. A clear direction on style and materiality that is to be used in different public open spaces will help guide future development.

Provide maintenance outcomes that are appropriate for each landscape element, including a maintenance hierarchy and performance indicators.

— A maintenance hierarchy that is interlinked with open space function and type will be a valuable tool for the management of the City's assets. This information will be closely related to the City of Salisbury's Maintenance Services Specifications, Reserve Directory and GIS system.

Review the City of Salisbury's landscape requirements within each category.

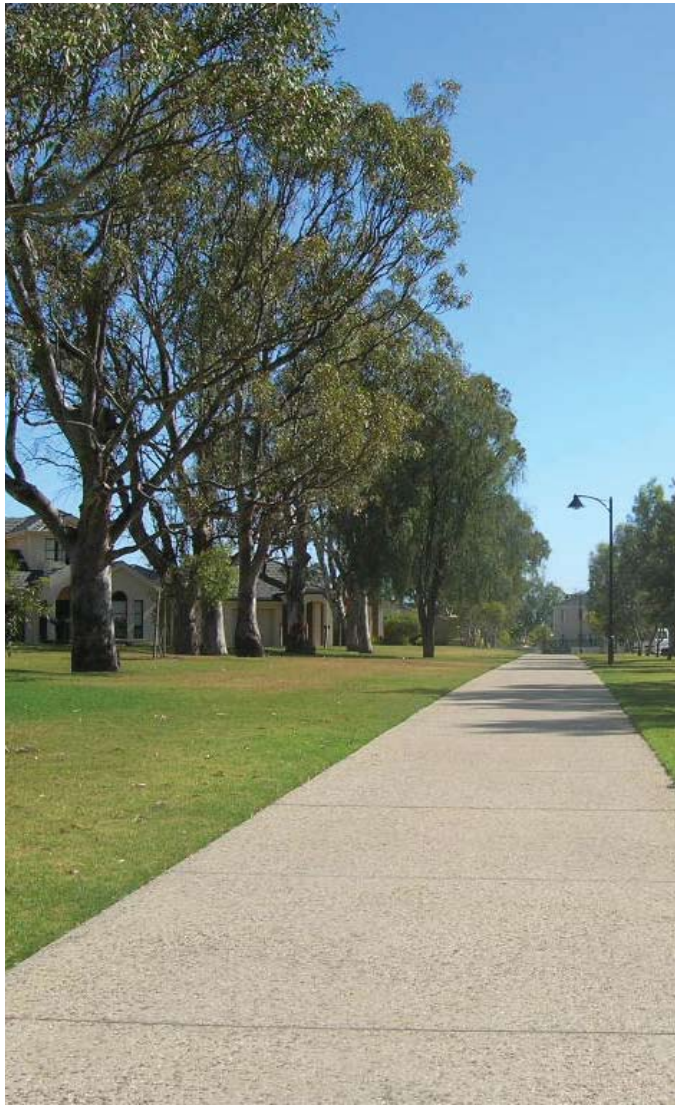
— By undertaking an analysis of existing and proposed landscape character zones, a revised landscape strategy will underpin future landscape designs within each category.

Consider historical and Aboriginal cultural and heritage issues within each category.

— Cultural and heritage issues can provide reason and context to public open spaces and urban realm projects. Whilst these issues are commonly dealt with at a detail design level, the importance of these issues needs to be highlighted.

Consider current and future environmental factors or issues that may affect landscapes within the City of Salisbury.

— Issues such as global warming and water restrictions are critical to how existing landscapes are preserved. The City of Salisbury needs to be innovative and mindful of these issues when developing future public open spaces.



1.5 methodology

The methodology adopted for preparing *The City of Salisbury Landscape Plan* was developed by closely following the City of Salisbury's brief in order to achieve a practical and functional outcome. Each phase of the process was critically reviewed and approved through a collaborative process by the Steering Group. This methodology sought feedback from the Steering Group at each key phase of the project, thus enhancing the quality and content of the final report.

The methodology incorporated the following stages:

Project Launch

Phase A: Background Research and Investigations

- Technical review of nominated reference documentation
- Review landscape policy
- Review by reference team

Phase B: Concept Design

- Prepare conceptual layout of the City Landscape Plan
- Review by reference team

Phase C: Priority 1 Works

- Prepare documentation for Priority 1 works
- Develop the City Image Landscape and Park categories
- Review by reference team

Phase D: Priority 2 Works

- Prepare documentation for Priority 2 works
- Develop a range of options per category to achieve the objectives and address the issues as described in the briefing document
- Review by reference team

Phase E: Priority 3 Works

- Prepare documentation for Priority 3 works
- Prepare concept documentation, illustrations and/or relevant photographs of the city's main arterial road landscape treatments with consideration that the landscape treatments complement any traffic management strategies
- Review by reference team

Phase F: Priority 4 Works

- Prepare documentation for Priority 4 works
- Prepare concept documentation, illustrations and/or relevant photographs of the city's new residential, commercial developments and feature landscape requirements
- Review by reference team

Phase G: Priority 5 Works

- Prepare documentation for Priority 5 works
- Prepare concept documentation, illustrations and/or relevant photographs of the city's community lands, parks and reserves
- Review by reference team

Phase H: Final Documentation

- Prepare final documentation

Phase I: Presentation to the City of Salisbury

- PowerPoint presentation to Senior Management and Elected Members
- Project completion and final sign off
- Final sign off and completion of project including all deliverables

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1.6 use of the landscape plan

The Landscape Plan will be used as a design tool by the City of Salisbury to guide the future development of its landscapes. Sections of this report may also be used by developers, landscape architects, designers and others, as a reference for the development of parks, reserves, streetscapes, public domain elements, and the vegetation within them.

The Landscape Plan is intended to be a dynamic document, to be updated and reviewed by the City of Salisbury at regular intervals. This will ensure its relevance for years to come. To keep track of revisions, and to ensure that information is up to date, a revision table (below) is located at the start of each section, to be filled out after any amendments have been made to that particular section.

revision	01 June 07	02	03	04	05	06	07

The Landscape Plan has been structured to provide readily accessible information regarding key landscape issues. The first section is an introduction to the City of Salisbury's corporate directions, describing a future landscape vision. The second section gives a detailed account of the City of Salisbury's physical characteristics, which underpin the landscape character zones that are referenced throughout the other sections.

Sections 4 to 7 of the Landscape Plan are devoted to individual topics which are a priority to the City of Salisbury's aims and objectives. These are:

— City Image
— Streetscapes
— New Private Developments
— Public Open Spaces

These sections provide design information for the development of the landscape in various locations. Each topic provides general design information that gives references to further, more detailed information in subsequent sections or in Appendices. This alleviates the need to duplicate information in each section.

The table below gives an indication as to how the Landscape Plan could be used, given the example of an existing coastal park that required upgrade including new plantings and furniture.

TASK	Existing coastal park for upgrade	Section within Landscape Plan
PROCESS ↓	Character Zone	**2.0** Landscape Analysis
	Hierarchy	**7.0** Public Open Space
	Plant Selection	**App A** Coastal Plant List
	Furniture selection	**8.0** Public Domain Elements

The quick reference table, shown below, is also used throughout the Landscape Plan to guide the user to associated topics and information.

REFER TO 2.0 Landscape Analysis

Terminology

The Landscape Plan may include some terminology that has been abbreviated. Some commonly used acronyms are as follows:

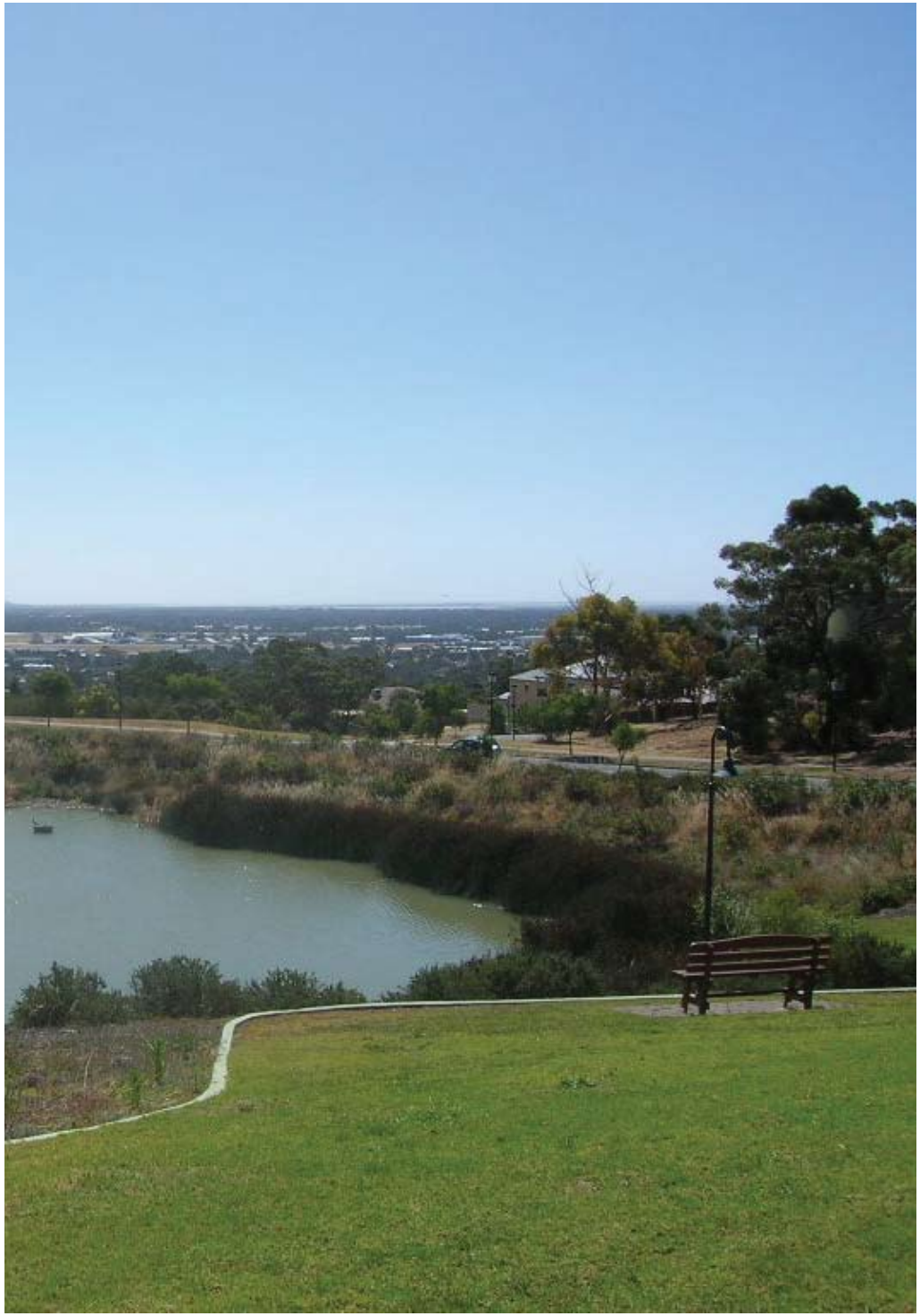
ASR	Aquifer Storage and Recovery
CPTED	Crime Prevention Through Environmental Design
ESD	Ecologically Sustainable Development
IPOS	(Irrigated) Public Open Space
WSUD	Water Sensitive Urban Design

2.0 landscape analysis

"In all things of nature there is something of the marvellous."

Aristotle

revision	01	02	03	04	05	06	07



2.1 context

2.1.1 History

The Kaurna people have a strong connection with the Salisbury area, settling in temporary summer camp sites along the coast and inland plains of the Adelaide region, making use of the abundant fishing, hunting and vegetation of the coastal areas. Migration occurred to the foothills during the winter period to take advantage of the shelter provided by the large trees. It is well acknowledged that “fire stick farming” altered the landscape of the Adelaide area; the resulting landscape character changed from a eucalypt scrubland to a eucalypt savannah. There are many Aboriginal sites located within the Salisbury area, particularly within the Greenfields area.

In 1839, three years after the founding of South Australia, a Scot named John Harvey migrated to South Australia. In 1847, he bought Section 2191 along the Little Para River and decided to develop a township there. The township allotments went for sale the following year. John chose to name the township 'Salisbury' as his wife came from near Salisbury (on-the-Plain) in England. Most of the early settlers were English, Irish, Scottish and Welsh. There were also German settlers and some French. The Salisbury area was originally a farming region catering for market gardens, vineyards, orchards and crops, most of which were associated with the Little Para River and constant water sources. Since World War Two, Salisbury had grown and changed dramatically, due to changes in transport, population growth, technology, immigration and its close proximity to the city of Adelaide. In 1933, the District Council of Salisbury's population was 2,385; in 1947 it was 6,160; in 1981 it was 88,100 and in 1996 112,842. The population make-up is now highly diverse, including a significant proportion of Aboriginal and Torres Strait Islander residents, people from Asia, Europe and South America, as well as those from Great Britain and Ireland.

The Salisbury North area remained farmland until 1949, when the South Australian Housing Trust embarked on a major residential development. This was to provide housing for newly arrived migrants from the United Kingdom and the workers of the Long Range Weapons Establishment and their families in nearby Penfield.

By the early 1950s, the Trust had constructed more than 1,000 attached houses in Salisbury North, prompting a population explosion which meant that by 1954, the number of residents in Salisbury North was higher than the remainder of the entire Salisbury district.

By the late 1990s, 37 per cent of homes in Salisbury North were owned by the South Australian Housing Trust, with a concentrated ownership of nearly 80 per cent in the suburb's south-east corner. The 1940s housing concept of small homes on large allotments no longer suited the modern lifestyle and household size, and many of the homes were in need of ongoing repair and maintenance.

A number of economic and social issues also had emerged. There was a need to promote healthy lifestyles through new and improved community facilities, as well as social justice programmes to encourage job creation and improve household incomes, increase the level of education and training opportunities for residents and create a safer community through a range of crime prevention strategies.

The need for such programmes, combined with a high concentration of ageing public housing, was contributing to a poor public perception of the area. Landscapes are able to have positive effects on the perception of an area by providing visually attractive areas, promoting community pride, providing recreation areas and creating safe and stimulating areas for community events and integration.

2.1.2 Existing Conditions

Located 25 km north of Adelaide, Salisbury contains a diversity of landscape characters including coastal flats, alluvial plains and escarpment areas.

The City of Salisbury occupies an area of 161 square kilometres extending from the shores of Gulf St Vincent to the Para Escarpment and the foothills of the Mount Lofty Ranges. The region enjoys a typical Mediterranean climate, having cool, wet winters and warm to hot, dry summers.

The City of Salisbury is a recognised national leader in a range of industries from defence, electronics and technology industries, as well as a centre for manufacturing plants, factories, distribution outlets and warehousing.

There is a wide range of recreation opportunities within the City of Salisbury including parks, reserves and wetlands; it is committed to the preservation of natural environment and promoting biodiversity.

2.1.3 Natural Areas

There are a number of natural areas of significance within the City of Salisbury including the Little Para River corridor, the Dry Creek corridor, the mangrove marshes and wetland area. These areas provide unique habitat for a select range of flora and fauna indigenous to the Salisbury area.

The marine waters and costal wetlands of Barker Inlet and the Port River Estuary, on the eastern side of Gulf St Vincent, comprise one of the South Australia's largest and most ecologically productive estuaries. The area plays a critical role in maintaining coastal and marine biological diversity, in maintaining the stability of Gulf St Vincent, and in maintaining economically important commercial and recreational fisheries. It is therefore of enormous ecological and economic significance.

2.2 biophysical analysis

2.2.1 Geological History and Physiographic Features

Late Cretaceous, approximately 65–70 million years ago

The break up of Gondwanaland begins and Australia begins to separate from Antarctica moving northward. Fifty million years ago, movement forces resulted in fault cracking and upheaval; these forces resulted in the formation of Gulf St Vincent and the Mount Lofty Ranges.

The Tertiary Period up to 1.6 million years ago

This movement of the fault lines formed the Adelaide Plains and began the weathering of the uplifted formations. Through the weathering of the uplifted forms, sedimentation began to be deposited on the Plains.

During this period, sea level rises resulted in depositions of marine silts, sands, mud and gravels onto the plain and resulted in the formation of older red dunal systems within the West Lakes area (much of which has been altered due to development along the coast). Weathering also continued on the uplifted faults and deposition of marine sands continued as sea levels fell.

The Quaternary Period up to 10,000 years ago

Sea level fluctuations continued within the Quaternary period, continuing the deposition and weather processes until approximately 7,000 years ago when the sea levels stabilised and the current white dune systems formed. Deposition continued within the outwash areas of each of the major rivers (Torrens, Little Para River and Dry Creek). This sedimentation continued as streams and rivers flowed from the faults onto the Plains resulting in the layered soil associations, high clay content, high fertility and neutral pH.

2.2.2 Physiography

There are six main physiographic zones within the Adelaide metropolitan area including:

— The Coastal Plain: Contains the current dunal formations, estuarine areas, mangrove swamps, samphire flats and the older dune formations.

— Lower Alluvial Plain: Contains the outwash fans of the River Torrens, Dry Creek and Little Para River which flow from the Para Block, and is characterised by deep fertile red brown earths.

— Upper Alluvial Plain: The upper alluvial plain comprises the small outwash fans of the feeder creeks and rivers that flow into the main rivers from the Burnside and Eden faults.

— Para Fault Block: Forms the small rise from the Plains extending north of the city from North Adelaide.

— Burnside Block: Small uplift between the Para and Burnside faults.

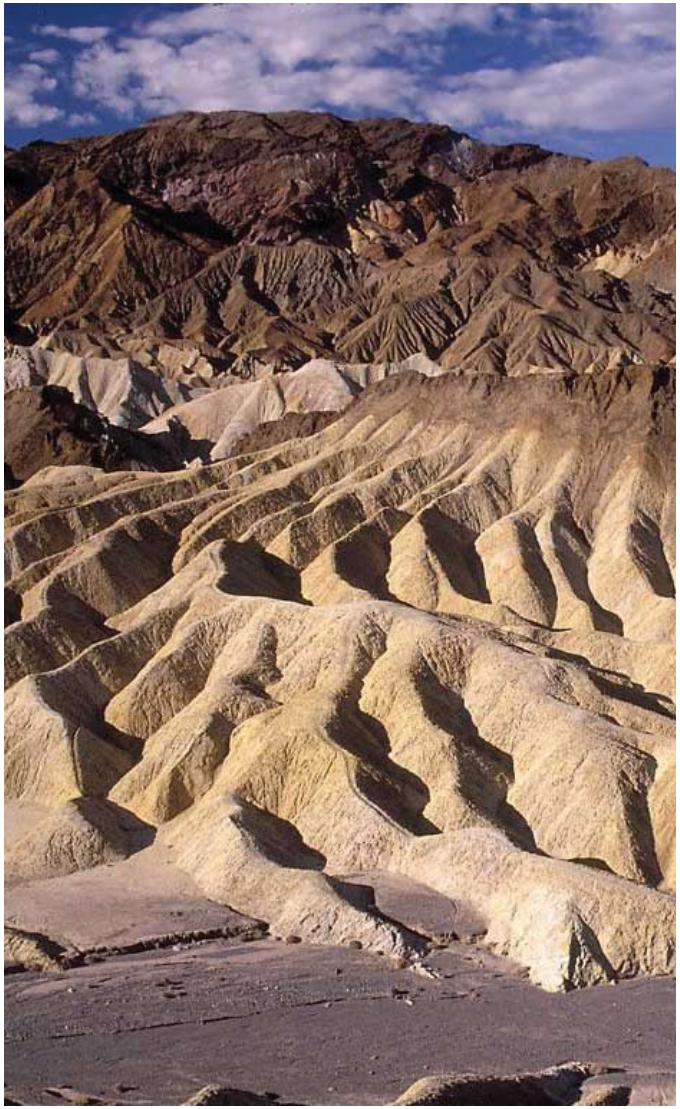
— Eden Block: Highest of the three blocks, the Eden Block contains features such as Norton Summit.

The City of Salisbury is located within the Coastal and Alluvial Plains. It is bounded by the Burnside Fault to the east and contains the Para Fault, Dry Creek and Little Para River as shown in Figure 2.1. These features form three distinct physiographic regions within the City of Salisbury:

— The Coast plain, with mangrove swamps, samphire flats and estuarine areas

— The Lower Alluvial Plain, which contains the outwash fans of Dry Creek and Little Para River.

— The Upper Alluvial Plain, which contains the upper outwash of Dry Creek and Little Para River as they flow from the Burnside Fault. These formations are usually very thin soils overlaying Adelaidean Bedrock.



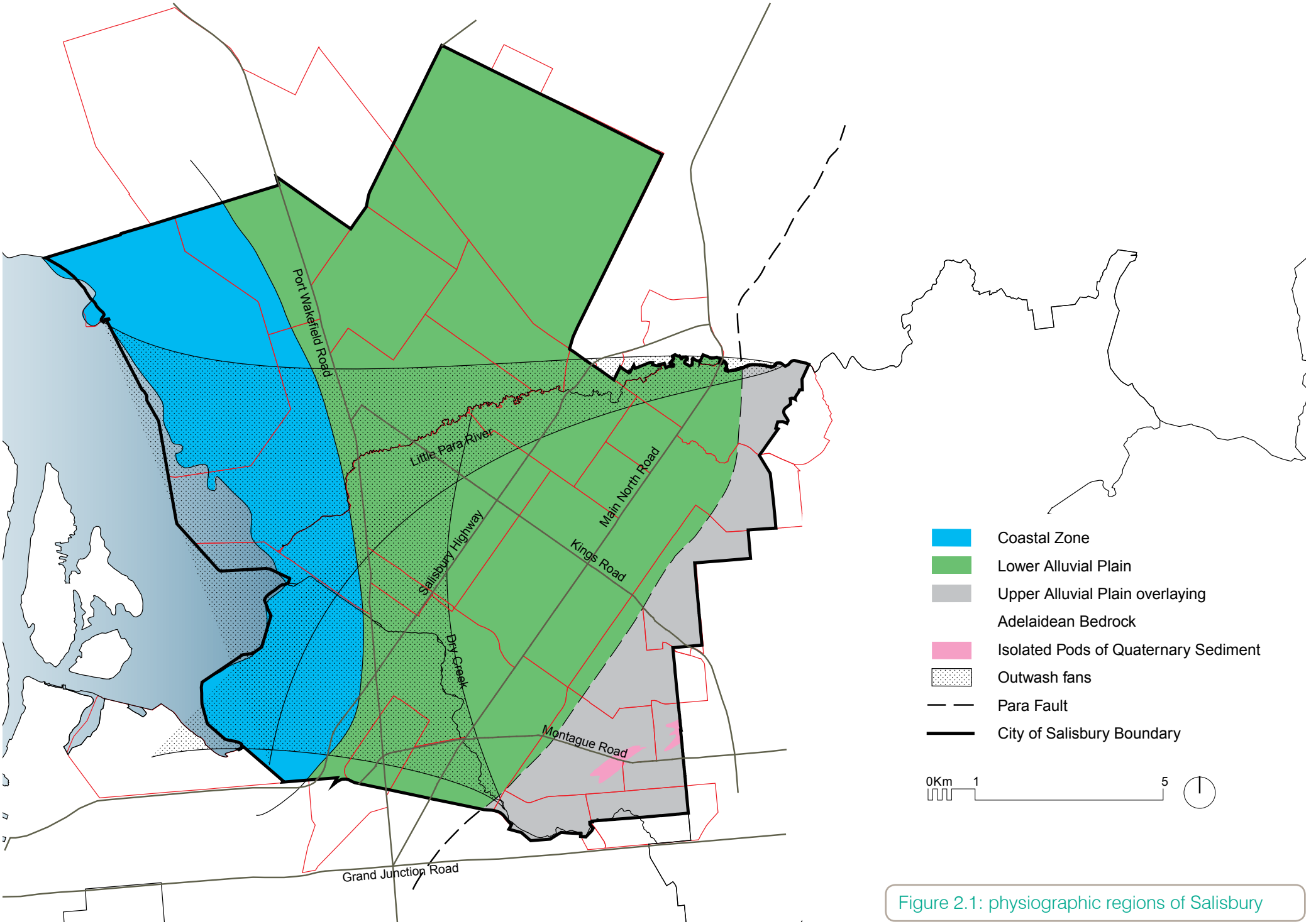


Figure 2.1: physiographic regions of Salisbury

2.2.3 Soils Associations

Urban development within Adelaide has altered much of the original soil horizon structure and has more than likely involved the incorporation of soil and fill from other areas. In most developments where cut and fill has occurred, the original soil profile has been completely removed and replaced with fill. The implications these changes have on plant choice are wide ranging. In some instances, the imported fill has improved the quality of the original soil. In most areas, however, the fill has a lower humus and nutrient content than the original soil and completely destroys the soil profile, within which many beneficial micro organisms live.

The three distinct physiographic regions within Salisbury area contain unique soil profiles and associations, as shown on Figure 2.2.

The Coastal Plain is characterised Estuarine Mud and Sand deposits (EMS). These deposits occur within a series of poorly drained channels and flood plains. These soils are of poor quality and have been drained and filled through development, either completely altering and or covering the original soil profile. The EMS soils support a limited variety of plant species. EMS deposits are formed from the deposition of both marine and river sediments and are dominated by grey to blue-grey sand. In some areas, black silts from the decomposition of organic matter are found; there are no discernible horizons, although the layering of material and organic matter can be mistaken for horizons. The water table within the estuarine deposits can be as high as 0.6 metres below the surface, resulting in high salinity levels within the soil. These soils are well drained but, due to the high water table, can be water logged. Their pH can be mildly acidic due to lack of oxygen and there is little nutrient value due to leaching of the ground water and high permeability of the soil. The estuarine deposits will not support a large variety of exotic species. There are, however, a number of indigenous species that will survive in these soils. Many of the EMS soils have been altered through development. Testing of soils within these areas should be undertaken for their suitability for planting and appropriate plants selected.

The Lower Alluvial Plain is characterised by Red-Brown Earths (RB) and Alluvial Deposits (AL), as shown in Figure 2.2. These soils are the most productive within the Adelaide Plains and will support a wide variety of plant species.

The Red-Brown Earths are the most extensive across the Plains and are the result of material transported into the outwash areas from the rivers and creeks. They occur most commonly in free draining areas and have a distinguishing feature of brown or grey-brown sandy or silty A Horizons overlaying strong red-brown to red clays of a B horizon which passes into a visibly calcareous C horizon. These soils are well drained, able to hold moisture, have high nutrient content and usually have a neutral pH. These are the most productive soils on the Plains and will support a wide variety of plant species. There are a number of variations of Red Brown Earths which are found within the Lower Alluvial Plain including RB3, RB6 and RB7.

The RB3 soils are the most widely developed showing distinct horizons. The soil profile comprises a sandy or silty grey to red-brown A horizon over a well developed red clay B horizon, with varying lime content into the C horizon. The RB3 soils are generally deeper and contain finer textured sediments than other RB soils.

The RB6 and RB7 classifications are considered juvenile formations of Red Brown Earths showing little variation between horizons. RB6 soils form towards the lower reaches of the outwash fans and are often affected by the high water tables and salinity levels. RB7 soils form closer to streams and creeks resulting in larger granular material within the A and B horizons.

AL: The alluvial deposits are characterised by the high level sedimentation which is washed along the creeks and streams. They are considered young soils with no real horizon development. The texture of the sediments varies from large rocks to fine silts; the alluvial deposits are well drained and fertile. These soils are confined to the bottom of the river valleys and expand onto the river embankments as they pass through the outwash areas.

The Upper Alluvial plain is characterised by a number of Red-Brown Earths (RB4 and RB8) as well as Alluvial Deposits (AL), Terra Rossa soils (TR), Black Earths (BE) and Brown Solonized soils (BS), as shown in Figure 2.2. All the soils of the Upper Alluvial Plain overlay Adelaidean Bedrock which is a mixture of varying rock formations usually calcareous with a high lime and highly reactive clays. Due to the thin profile and highly reactive clays in these soils, they are susceptible to soil movements, in particular the BE, BS and TR associations, and support a limited variety of plant species.

RB4 soils form on the slate and shale bedrock within the upper outwash fans on the Para block. These soils are characterised by a sandy to silty A horizon, with a sharp transition to the red clay B horizon which overlays lime rich lower horizons and unweathered bedrock.

RB8 soils are found in conjunction with Terra Rossa soils and often in close association with RB4 soils. RB8 soils show a sharp contrast between a thin grey-brown sandy A horizon and a red-brown B horizon. The lower profiles are high in lime and overlay older clay formations.

TR soils are formed on highly calcareous bedrock such as limestone or calcrete; they are characterised by a lack of horizon

development. Generally, the profile consists of a thin red-brown to brown sandy to clayey surface horizon over a strong red brown slightly more clay horizon. The underlying material is generally calcareous silts with lime content.

BE soils are characterised by generally black to dark grey-brown heavy rich clays within the A horizon which grades to a black olive grey heavy clay B horizon. The BE soils also contain high amounts of lime. These soils are some of the most reactive within Adelaide, forming large cracks and shrinkage when dry and swelling and plasticity when wet.

Typically, BS soil consists of a thin brown to grey-brown sand A horizon, a brown to reddish-brown clayey sand to sand clay B horizon of varying thickness. Each horizon contains calcrete which develops with depth to the underlying bedrock.

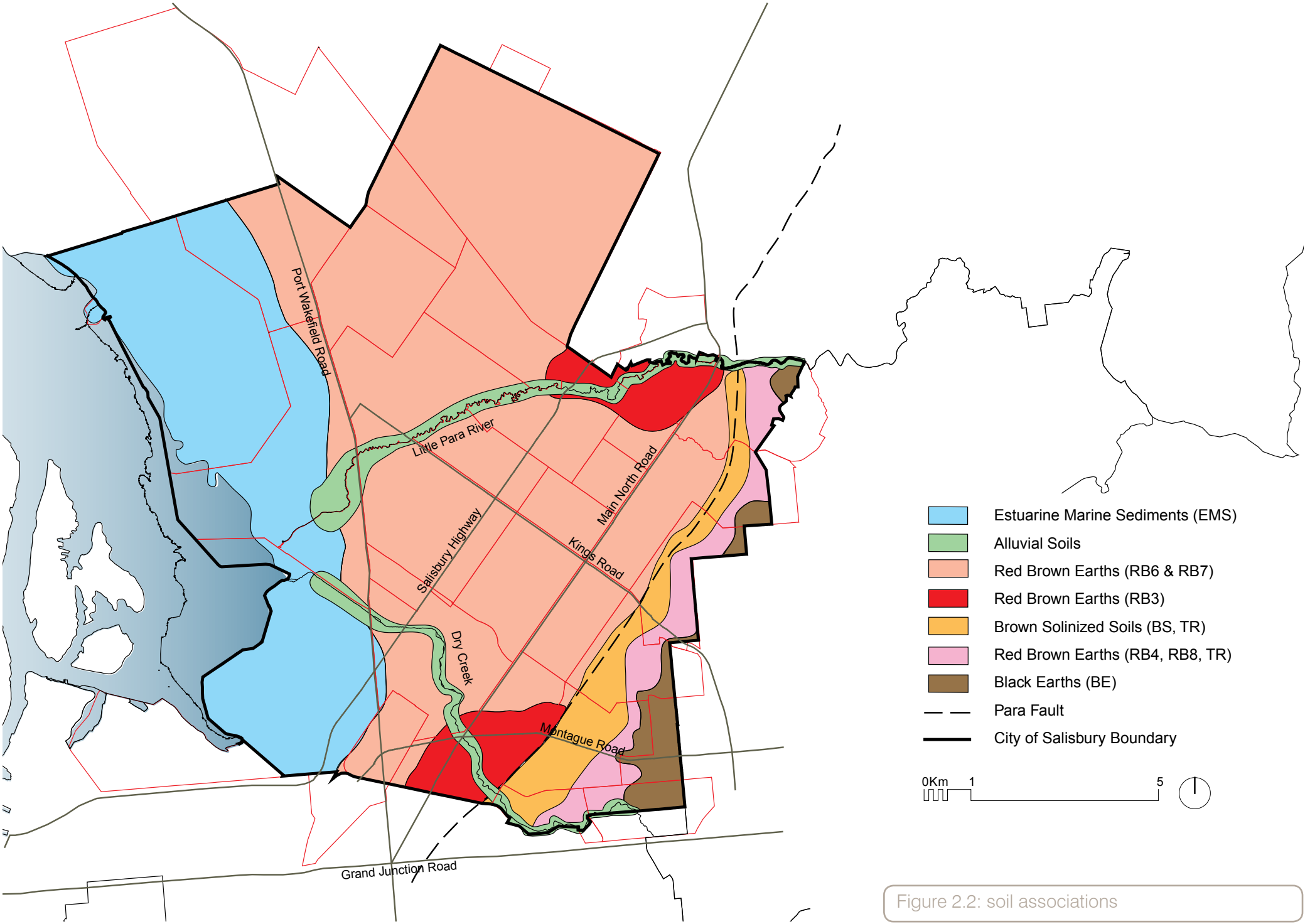


Figure 2.2: soil associations

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2.2.4 Weather, Climate and Soil Moisture Budgets

Adelaide is described as a Mediterranean climate with long, hot summers and short, wet winters. Temperatures, on average, within summer are approximately 30°C and approximately 14°C in winter. The Bureau of Meteorology Parafield Airport Weather Station provides climatic data for the Salisbury area:

Average 9.00 am temperature	16°C
Average 3.00 pm temperature	20.6°C
Annual precipitation	460.50 mm
Annual evaporation	2044 mm

While these are averages, temperatures often range into the mid 40s during summer and can go as low as 5°C during winter; rainfall may vary as much as 100 mm a year.

Rainfall varies significantly across the Salisbury area, decreasing significantly closer to the coast as shown in Figure 2.3. While the average annual precipitation for the Salisbury region is 460.50 mm, some areas of the upper alluvial plain will receive as much as 550 mm, while areas along the coast will receive much less. Yearly variances should also be considered. South Australia experiences droughts during which time average rainfall can be reduced significantly, and available rainfall and soil moisture become important factors in determining plant survival.

One important aspect of climate in determining plant selection and landscape management are soil moisture budgets, as shown in Figure 2.4. The budget for the Salisbury region shows a long period of deficit where evaporation exceeds precipitation, followed by a short period of recharge (where moisture is retained within the soil) during June and July. During this time, the soil does not become saturated (saturation point is the amount of water that the soil can hold before run-off begins). The use period (the period when the available soil moisture from the recharge period is being used through evaporation and transpiration) is very short, less than one month, before deficit begins again in early August.

This graph clearly displays conditions necessary for plant growth as well as indicating management techniques and sustainability issues. For much of the year, plants must survive drought conditions, interrupted by a brief period of rainfall. Emphasis must be placed on sustainable plantings and the use of indigenous or endemic plant species. The graph also gives an indication into plant watering regimes and establishment periods. Due to the long deficit period, plants need to be irrigated for all but two months of the year. Plant establishment should begin in late May, when temperatures are decreasing, the soil retains some heat to aid in root development, and some rainfall is available. Soil moisture can be maintained through structured watering. Plants are able to have reduced watering as soil moisture becomes available within the recharge and use periods. Watering needs to resume through the deficit period to ensure plant survival. The soil moisture budget highlights the need for sustainable practices and the development of water management and harvesting techniques to offset the long deficit period.

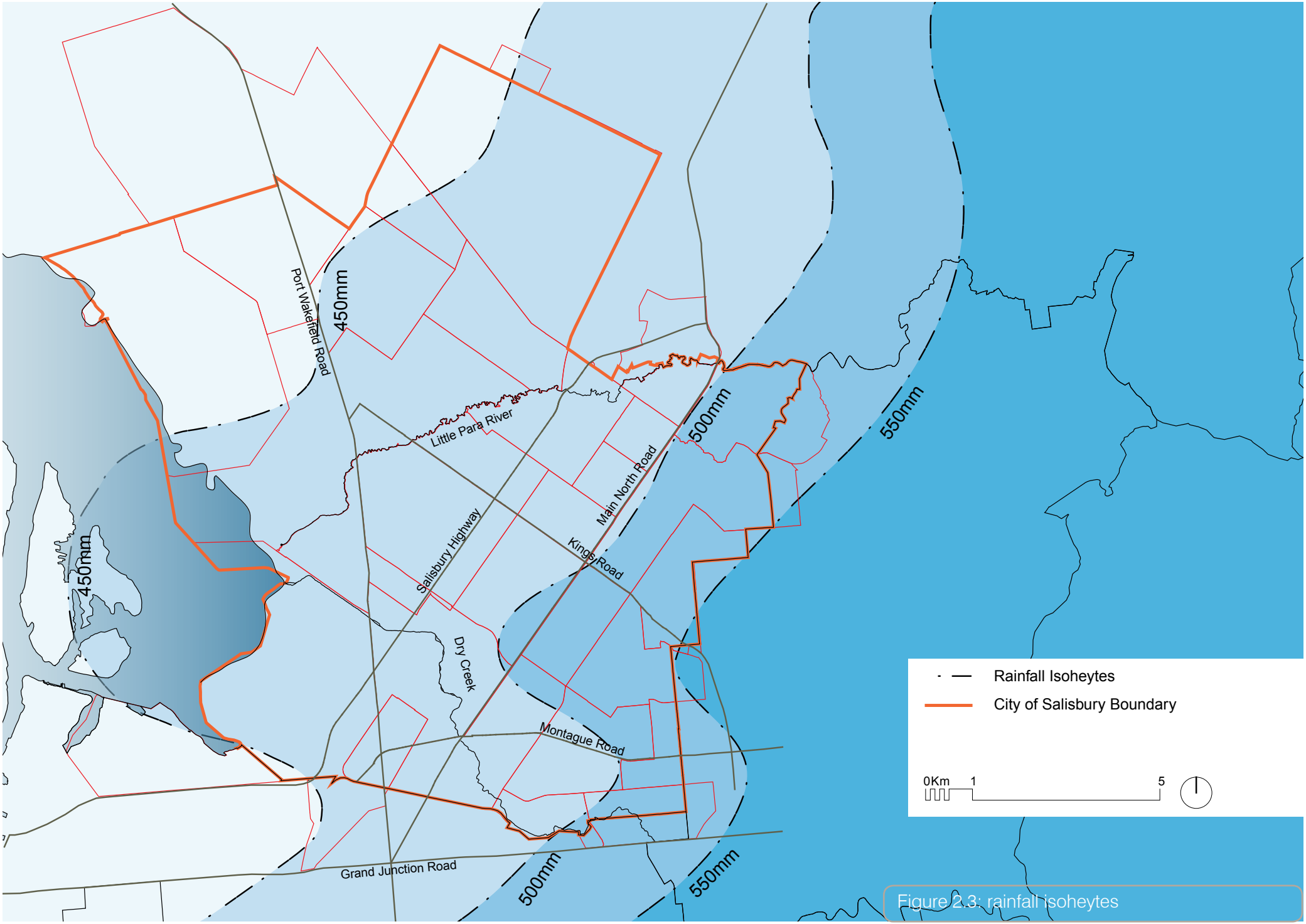

Figure 2.3: rainfall isoheytes

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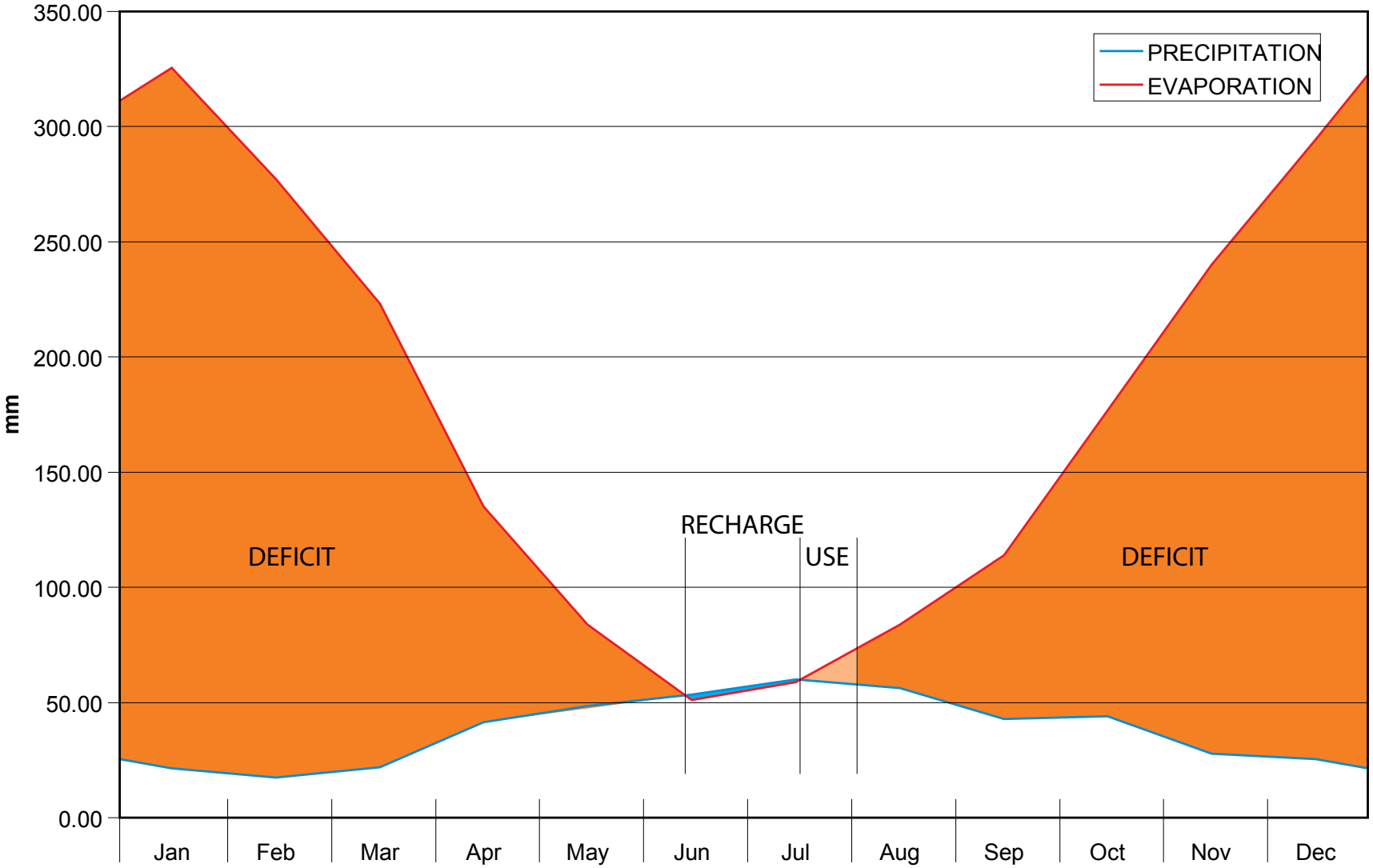


Figure 2.4: soil moisture budget

2.2.5 Wind Roses

Adelaide is characterised by strong south westerly winds during Spring, Summer and Autumn in the afternoons, as shown on Figure 2.5. The winds are salt laden, blowing in from the sea. Coastal plantings need to be wind hardy and tolerant of saline conditions. Winds at other times generally fluctuate (these roses are only averages) and it is not uncommon for strong, hot, northerly and north-westerly winds to arise in summer as high pressure systems move through the area. The intensity of hot northerly winds generally increases further north of Adelaide. The Salisbury area is impacted by hot, northerly winds which will increase the temperature and evaporation from the averages.

2.2.6 Climate Change

The CSIRO (2006) study into climate change has indicated that average temperatures for Adelaide will rise by between 0.3 and 1.3°C by 2030 and significantly increase by 2070. Inland, South Australia will see the temperature rise much higher than areas adjacent the coast. Rainfall within Adelaide is expected to decrease by 10% by 2030. These climate changes are considered a result of increased carbon dioxide gasses within the atmosphere and will vary depending on the stabilisation of the concentration of carbon dioxide in the atmosphere. The occurrence of greater climatic fluctuations is predicted; this will result in longer and hotter dry spells, and heavier and more frequent rain and storm events.

Annual climatic conditions will vary with hotter, drier summer months and a greater occurrence of storm events, with shorter and drier winters. As climatic conditions change, greater stress is placed on plants and landscape zones. Open spaces and landscapes must develop to cope with the fluctuations in climatic conditions. In comparing this information against the soil moisture budget, assumptions can be made about the effects of these climatic variations. It is expected that as temperatures increase, evaporation will also increase. The resulting effect is little or no moisture will be available for plants, and watering will need to be maintained throughout the year. The importance of plant selection, water harvesting and water management is therefore critical.

In addition to temperature increases and reduced rainfall, it is expected that sea levels will rise by 9-88 cm on 1990 sea levels. This has been attributed to increased carbon dioxide gasses within the atmosphere and the thermal expansion of oceans. Sea levels are expected to rise in ever increasing amounts over the next century.

Another factor of sea level rise that is unpredictable is the effect of glacial melt. NASA (National Aeronautics and Space Administration) has released new information about ‘glacier melt’ in Greenland and Antarctica. It anticipates glacial melt is occurring at an ever increasing rate and, at current melt rates, may see a sea level rise of up to 25 metres within the next 10 to 15 years (CSIRO, 2006).

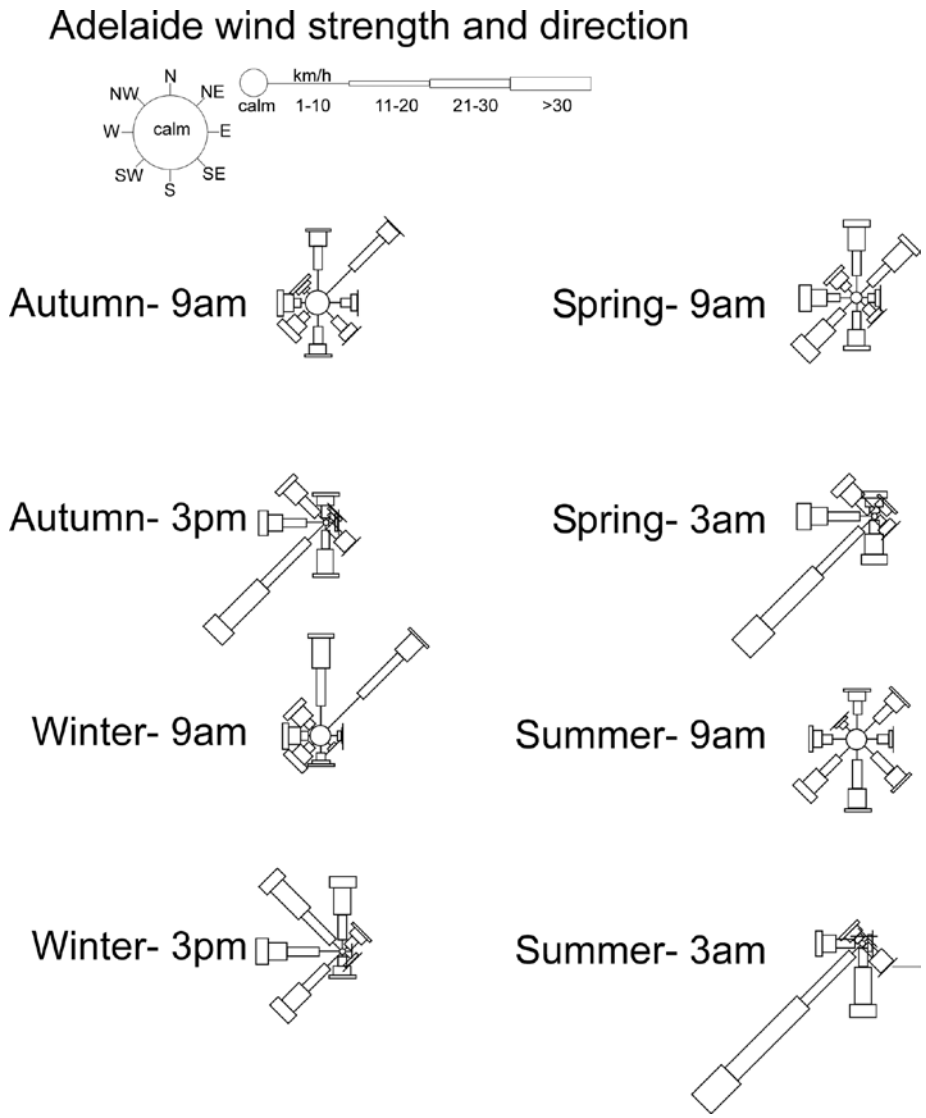


Figure 2.5: wind roses

2.3 pre-european plant communities

The SA Urban Forest Biodiversity programme (SAUFP; Department for Environment and Heritage) provides detailed information and mapping of the pre-European plant communities of the Adelaide Plains. The SAUFP identifies five broad associations within the City of Salisbury. Figure 2.6 shows the pre-European plant communities of Salisbury region.

Avicennia marina (Grey Mangrove) low woodland

The mangrove woodland is defined by the estuarine areas located along the coast. Mangroves are found on the estuarine mud and sands of the tidal areas, are susceptible to daily sea level fluctuations and are also being found in permanent sea water up to 1 metre in depth. The mangroves are an essential part of the marine ecosystem and maintain habitat for marine species and sea grass. The upper storey is dominated by mangrove trees, while the ground layer is dominated by samphire species. In the areas of permanent seawater, sea grasses and other marine species are evident.

Mixed Halosarcia sp. (Samphire), Sclerostegia sp. (Bindyi), Atriplex paludosa sp. (Marsh Saltbush), Sarcocornia sp. (Samphire) low shrubland

The samphire associations are characterised by saline environments and high water tables. These areas are susceptible to both high tides and inundation by flood events, and are found on the estuarine mud and sands of the tidal flats. The upper storey contains a scattering of the small salt tolerant *Melaleuca halmaturorum* and *Myoporum insulare*, whilst the ground layer is dominated by a mixture of low salt tolerant samphire species. These plants are characterised by silvery grey foliage and low compact forms.

Stipa sp. (Spear Grass), Danthonia sp. (Wallaby Grass) grassland.

The upper storey is a scattered mixture of *Eucalyptus camaldulensis* and *Acacia pycnantha* trees and tall shrubs. The middle storey is a mixture of small shrubs and saltbush species. The dominant species are the grasses, groundcovers and annual plants, and are characterised by large open areas on the Red-Brown Earth soil associations of the lower alluvial plain.

Eucalyptus camaldulensis (River Red Gum), Eucalyptus leucoxylon (SA Blue Gum) woodland

The River Red Gum association contains a wide variety of plants with a well defined vertical structure. It is found on the alluvial soils of the watercourses. The upper storey is dominated by *Eucalyptus camaldulensis* and *Eucalyptus leucoxylon* but also contains *Eucalyptus*, *Acacia* and a number of other tall tree species. The understorey is a mixture of *Dodonaea*, *Leptospermum*, *Acacia* and *Callistemon* species. The low shrub layer includes a number of *Correa*, *Atriplex*, *Pimelea*, *Goodenia* and a variety of other spreading shrubs. The low shrub layer also contains a number of grass and sedge species. The ground layer includes prostrate and climbing plants as well as a number of water species such as *Potamogeton*.

Eucalyptus porosa (Mallee Box) woodland

The Mallee Box community is found on the heavy Red-Brown Earth, Terra Rossa and Black Earth soils of the upper alluvial plain. It is characterised by a tall tree layer dominated by *Eucalyptus porosa* and a low shrub layer composed of *Acacia*, *Dianella*, *Myoporum* and *Scaevola*. The ground layer includes a number of grass and sedge species, as well as creeping and climbing plants.

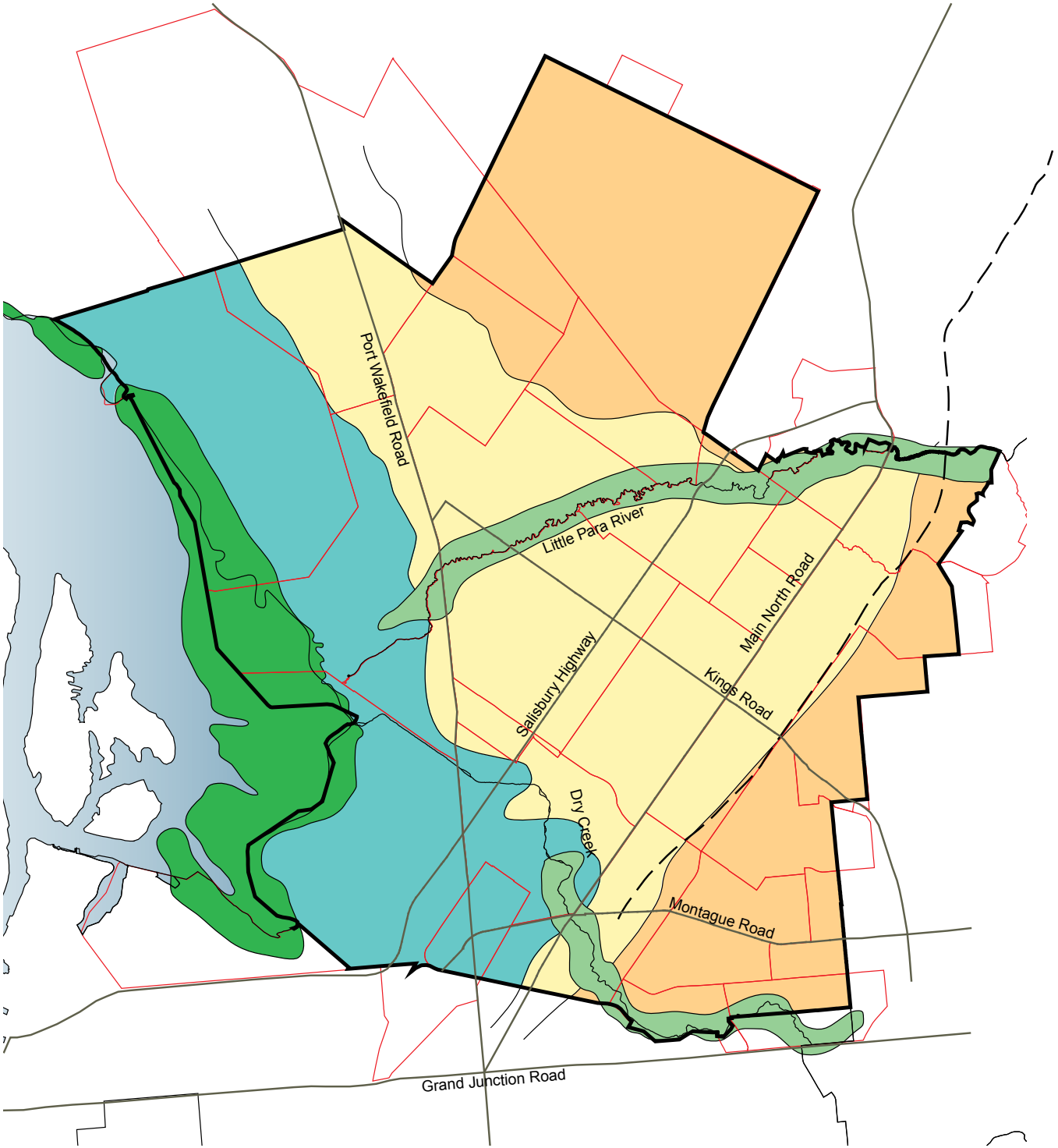
Urban Biodiversity and Open Space Benefits

There are numerous benefits to the development of urban biodiversity, including the:

— creation of habitat areas;
— preservation of natural environments;
— increase of species selection.

Urban biodiversity also provides benefits for the well being of the community through the provision of recreation areas and visual stimulation.

The planting of indigenous species alleviates and reduces the pressures of climate change. In addition to the environmental benefits, there are economic gains from lower watering regimes and reduced maintenance costs.



Low Woodland: *Avicennia marina* (Grey Mangrove)
Soil Description: Estuarine mud and sands
Landscape Description Tidal Flats

Low Shrubland: Mixed *Halosarcia* sp. (Samphire), *Sclerostegia* sp. (Bindyi), *Atriplex paludosa* sp. (Marsh Saltbush, *Sarcocornia* sp. (Samphire)
Soil Description: Estuarine mud and sands
Landscape description: Tidal flats

Grassland: *Stipa* sp. (Spear Grass), *Danthonia* sp. (Wallaby Grass)
Soil Description: Red brown earths
Landscape Description: Plains

Woodland: *Eucalyptus camaldulensis* (Rive Red Gum), *Eucalyptus leucoxylon* (SA Blue Gum)
Soil Description: Alluvial soils
Landscape Description: Plains

Woodland: *Eucalyptus porosa* (Mallee Box)
Soil Description: Brown solinized soil, terra rossa, black earths
Landscape Descrition: Plains

Para Fault

City of Salisbury Boundary

0Km 1 5

Figure 2.6: pre-european plant communities

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2.4 landscape character zones

2.4.1 Coastal Plain

The coastal plain covers much of the western area of Salisbury, incorporating features such as the St Kilda mangroves and the Torrens Island samphire flats. The coastal plain is formed behind the current white dune formations and is an area of inundation by both high sea levels and river floods. It is composed of a series of estuarine areas where river flows are slowed to form ponds, marshes, reed beds and salt flat areas. It is characterised by the Estuarine Marine Sands soil associations and the mangrove and samphire plant communities. The coastal plain within the Salisbury area is dominated by highly saline salt flats and samphire plant communities. Much of the original land form has been altered to allow for urban development. Through the draining and filling of these areas due to this, the natural soil profile and plant communities have been drastically altered.

Although the higher profiles of the soil have been altered, lower profiles still retain their natural profile. Plant selection will need to acknowledge these differences and be based on the natural soil profile. The coastal plain is a model area for the development of wetlands, as it is the natural area of outwash from storm events, can be easily manipulated, and many of the indigenous plant species are suitable for wetlands.

2.4.2 Lower Alluvial Plain

The lower alluvial plain covers a large portion of the Salisbury area extending from the Para Fault to the coastal plain, as shown in Figure 2.7. It incorporates a majority of the residential development within the Salisbury region including the town centre area. The lower alluvial plain is dominated by the Red-Brown Earth soil associations and grassland plant communities. The Red-Brown Earth soils are considered some of the most productive and fertile soils on the Plains, will support a wide variety of plant species, and have good moisture and nutrient holding capacity. Plant selection within the lower alluvial plain can be widened to include some exotic species, if renewable water resources are available. Preference should be given to natives and exotics which are better suited to withstand the temperature extremes. Water resources within the Salisbury region will become increasingly more important; there are opportunities within the lower alluvial plain to consider streetscape management of stormwater to allow penetration and infiltration of water into verge and median areas. This will enable the retarding and reduction of stormwater run-off and ensure more water is available for irrigation.

2.4.3 Upper Alluvial Plain

The upper alluvial plain covers a small area of Salisbury east of the Para Fault, as shown in Figure 2.7. It is dominated by heavy clay soils and the *Eucalyptus porosa* woodland plant community. It is characterised by shallow soil profiles over heavy reactive clays with high lime contents and calcareous formations. These soils will support a limited selection of plant species, due to the shallow profiles and high clay content. Many Western Australian plants will perform well in this area, having evolved in similar conditions.

2.4.4 River Corridors

The river corridors are confined to the banks of the Little Para River and Dry Creek, as shown in Figure 2.7. The river corridors extend from the upper alluvial plain across the Salisbury area; the abundance of water and fertile soils have led to the development of a diverse and highly structured plant community. These areas are currently affected by erosion, invasion by weed species, increased stormwater flows and clearing. As a result, the river corridors are severely degraded. Plant selection and management of these areas should be focused around the reinstatement of the River Red Gum plant communities and revegetation of the river banks. On this basis, the river corridors are important natural and recreation areas for the City of Salisbury.

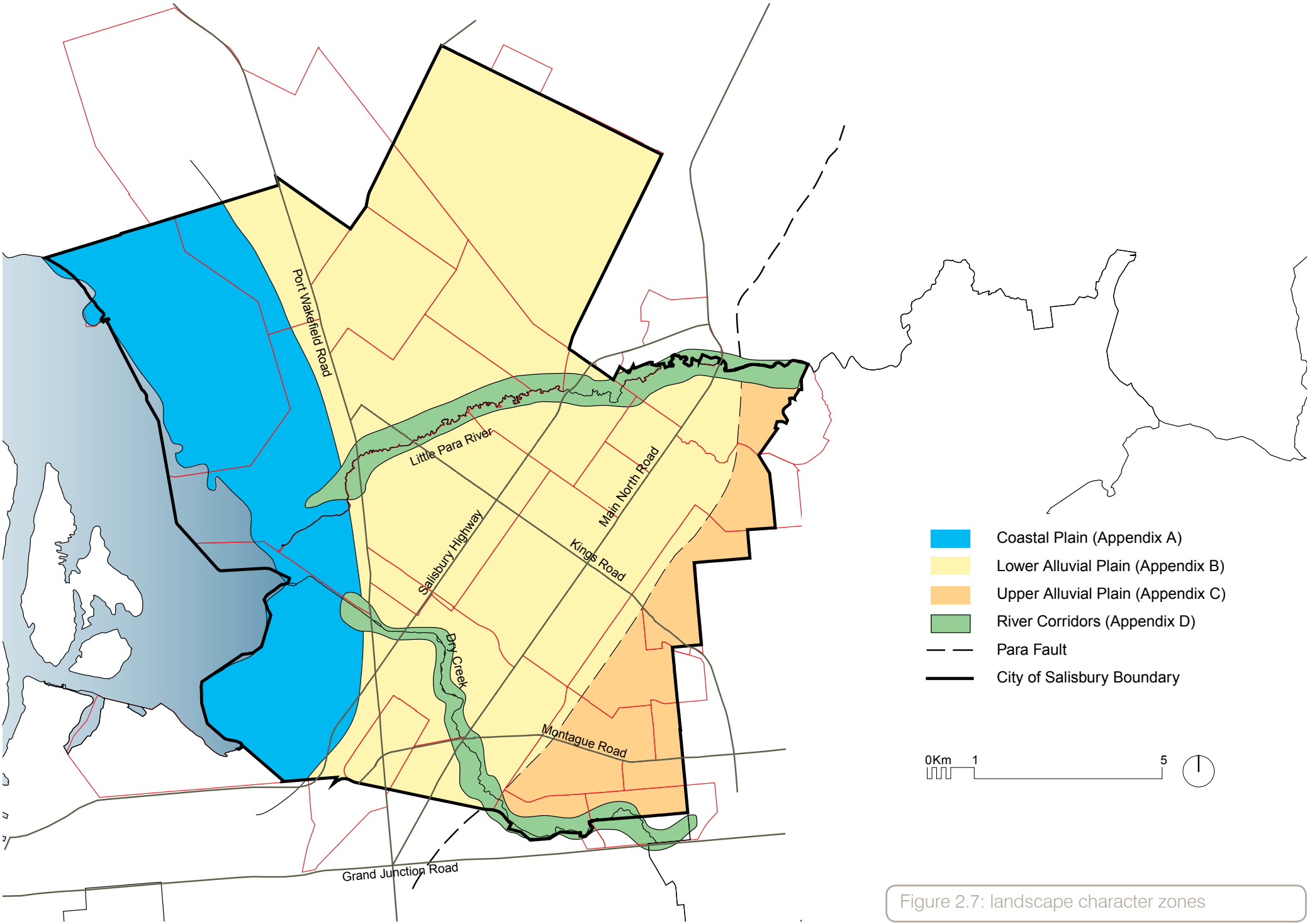

Figure 2.7: landscape character zones

3.0 relevant polices and strategies

"Knowledge is of two kinds; we know a subject ourselves, or we know where we can find information on it."

Samuel Johnson

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3.1 introduction

The landscape character and image of the City of Salisbury depend on the design, quality and consistency of its built and natural environment. The City of Salisbury's Corporate Plan and Strategies place considerable emphasis on the improvement and conservation of the environment.

The City is committed to achieving high standards in the design, construction and maintenance of its public open space areas, and encourages private development to follow suit. The following policies underpin this Landscape Plan and provide it with future direction and purpose.

3.2 landscape policy

The City of Salisbury takes pride in creating safe, visually appealing and sustainable environs.

In order to provide an environment consistent with the concept of a 'Liveable City', issues such as visual amenity, accessibility, cost and responsible use of resources are taken into account in developing any landscape.

3.2.1 Scope

This policy affects the City of Salisbury's streetscapes, reserves and natural areas, in both new developments and existing open space areas.

3.2.2 Policy Purpose/Objectives

The City of Salisbury's aim of developing a unique landscape character and sense of place includes the following key objectives:

— Creation of sustainable landscapes.

— Creation of a unique landscape character.

— Equitable distribution of assets and resources.

— Protection of ecological biodiversity and maintenance of essential ecological processes.

— Creation of a safe, functional, high quality landscape that has longevity.

— Provision of a consistent palette of landscape elements that reflects open space function.

— Implementation of directives from the City of Salisbury Strategic Plan.

— Provision for inter-generational equality.

3.2.3 Policy Statement

— Sustainability

- Create a landscape that does not require high resource input with regard to water, energy and personnel.
- Manage irrigation to limit excessive use of water, and respond to the function of public open space.
- Create a landscape which can survive periodic drought.
- Able to have longevity and regeneration characteristics, particularly in natural areas.
- Create an environment for the conservation and enhancement of existing natural areas.

— Creation of a unique landscape character

- Create a sense of place through the use of consistent landscape elements.
- Assist in distinguishing the City of Salisbury from other regions.
- Create a landscape that complements the built form.
- Create a theme which responds to natural landscape character zones throughout the city.
- Utilise water sensitive urban design wherever possible.
- Create landscapes that relate to public open space hierarchy, function and required maintenance levels.

— Equity

- Provide opportunities for all users to access a range of formal and informal recreation on an equitable basis.
- Provide landscape maintenance resources in an equitable manner across the city.

- Create a maintenance hierarchy that places resources where they are needed most, i.e. provide the highest level of maintenance to the areas that are used the most.

— Protection of ecological biodiversity and maintenance of essential ecological processes.
  - Provide landscape elements of a diverse nature which enhances habitat.
  - Maintain habitat to enhance biodiversity.
  - Conservation and restoration of remnant endemic flora and fauna.
  - Minimise the use of pesticides, herbicides and fertilisers.
  - Control influences which adversely affect habitat such as non-indigenous flora species, chemical and contamination of soils.
  - Design landscapes that use predominantly endemic vegetation that is suited to local conditions.

— Design a safe, functional and high quality landscape.
  - Use recycled water for irrigating landscapes wherever possible.
  - Design landscapes to reflect current maintenance practices and availability of resources.
  - Developed landscapes should be multi-functional, flexible, and have longevity.
  - Ensure private developments comply with this policy.
  - Create a landscape and style consistent with water management and verge development policy.
  - Design to create a safe environment.
  - Create an environment that minimises the risk of fire.
  - Introduce colour and diversity in planting in line with recommendations of the Strategic Plan.

— Consistency and cohesiveness of landscape elements.
  - Create a regular, unified landscape through consistent use of structural tree planting throughout the city.
  - Encourage the community to landscape private property, consistent with this policy.

— High profile landscape treatments.
  - Create landscapes in high profile areas that may require higher maintenance levels and water requirements.
  - Hard landscape elements to be of superior quality.
  - These sites may require major upgrades as plants mature past their prime.
  - The high profile landscape treatments are to be of a consistent theme that reflects the uniqueness of our city.

3.3 other relevant plans and policies

— The City of Salisbury Corporate Focus 2003-2006.

— The City of Salisbury 2000 and Beyond – Strategic Directions.

— City of Salisbury Programme Review - Irrigation Management Strategies May 2004.

— The Game Plan: Managing the Setting 2007 – Draft.

— Sport and Recreation Plan 2004 – Draft.

— Integrated Water Cycle Management Plan – 2004 – under development.

— Building our City Image – A Marketing & Communications Plan.

3.3.1 Legislation

Country Fires Act 1989

Electricity Act 1996

Fire and Emergency Services Act 2005

Sewerage Act 1929

Native Vegetation Act 1991

Significant Trees: Refer to sections 4, 23, 39, 54A and 54B of the Development Act 1993 and regulation 6A of the Development Regulations 1993

3.3.2 References

Road Traffic Guidelines – Department of Road Transport

Looking After Your Street – City of Salisbury publication

SA Water Sustainability Report - Government of South Australia

Trees and Powerlines - Government of South Australia

3.4 environmental strategy

The development of the Strategy for Sustainable Salisbury identified a number of key areas including biodiversity, climate change and the development of opportunities and strategies that promote the use of sustainable resources and water management. Landscape enhancement can provide benefits within these key areas; tree planting is being recognised as contributing to the reduction in CO_2 levels within the atmosphere, which is the greatest contributor to climate change. The planting of indigenous plant species provides habitat corridors and strengthens biodiversity, whilst the implementation of wetland systems, median and verge stormwater filtering, and aquifer storage and recovery programmes help reduce pressures on the environment and water resources.

Key Recommendations

— Provide street trees throughout the City of Salisbury.

— Promote the use of indigenous plant species based within the four character zones identified within the Landscape Plan.

— Retain and rehabilitate remnant endemic plant species within the City of Salisbury.

— Develop median and verge stormwater filtering/management (Water Sensitive Urban Design or WSUD).

— Use plants that are known to be drought hardy as identified by horticultural staff.

4.0 city image

“We shape our public spaces, thereafter our public spaces shape us.”

Winston Churchill

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4.1 introduction

The City of Salisbury has identified the importance of continually improving the image of the city. Feature landscape areas will directly complement the City of Salisbury's marketing vision, which aims to build on the positive mood occurring in the City of Salisbury, by celebrating community achievement and the people who strive to make the city a better place to live, work, learn and play.

It is proposed that by enhancing the landscape treatments in key feature areas, such as the city's landmark towers, it will be possible to promote the city's environmental, cultural and recreational features and market the City of Salisbury's positive character.

Feature landscape areas have been identified through the investigation of the City of Salisbury documents, and site visits. This section of the Landscape Plan considers the cultural issues, character or theme, design principles, appropriate plant selection, case studies of successful feature landscape areas, appropriate selection of hard landscape elements, and maintenance levels.

Feature landscape areas are defined as those which have one or more of the following attributes:

— Corridors; major roads such as Port Wakefield Road.

— Gateways on major traffic corridors, such as Main North Road at the city's boundaries.

— Feature gardens used as ceremonial grounds, such as the waterfall and rose garden at Pitman Park.

— Municipal Building Grounds, such as the Council Chambers, Community and Recreation Centres.

— Significant community congregation areas, such as Salisbury Civic Square, Mawson Lakes Promenade, John Street Mall.

— Public art installations, such as Art SA funded works in Salisbury North.

— Major roundabouts and associated road verges, such as Park Terrace/Cross Keys Road.

— Other areas that are part of, or complement, the City of Salisbury's City Image commitment.

4.2 critical overview

Whilst the City of Salisbury has been at the forefront of stormwater management and suburban reafforestation for the last 35 years, the city's public urban realm has not been afforded the same level of attention.

The City of Salisbury at present is undergoing a paradigm shift, with a recent focus on the quality of the built environment. Projects such as the Salisbury Civic Square, Mobara Park, and the urban regeneration of Salisbury North have put feature public open space areas into the spotlight. The definition of these spaces has widened from public squares containing a statue and fountain, to include roundabouts, leftover space around housing estates, car parks, reclaimed industrial sites and easements. Public space has evolved from areas of hard landscaping into active meeting and relaxing spaces for all to enjoy.

Everyone uses public space, be it the path outside their homes, squares, or parks. The public domain is one of the few services provided by Local Government that everyone benefits from, regardless of age, social position, race or health. However, surprisingly little attention has been devoted to the underlying quality of the landscape.

The creation of successful feature spaces is now a priority. However, achieving this can be difficult. A newly completed, well designed space may start to look tired if not maintained correctly. Similarly, a badly designed space may be impossible to keep well maintained. The challenge is to ensure that places are created and overseen by teams of people with a range of skills, and, as a community, enough resources are made available for the space to be well cared for. Allocating resources for the ongoing maintenance of feature landscapes can be difficult, however, high quality public spaces can provide measurable and immeasurable economic benefits.

There is no doubt that these projects can be inspirational in various ways; new feature landscapes can transform the most mundane public spaces, provided we think creatively and commit to delivering quality, and continue to develop, support and maintain them.

4.3 city image master plan

the City Image Master Plan (refer Figure 4.1) provides the basis for the location of future City Image projects.

City Image projects will include major gateways into and out of the City of Salisbury, high profile minor gateways where arterial roads intersect, traffic corridors that have a high level of usage, large roundabouts that receive high exposure, and important landmarks such as road/river intersections.

In general, the landscape character of these areas should be distinctive, bold and uncomplicated. Plant material selection should be predominantly clean trunked trees and two or three species of mass planted low shrubs. Low shrubs should be planted at spacings that will enable leaf canopies to join, forming a contiguous plant mass.

Species selection should be based on providing a complementary blend of colour, form and texture. Native or exotic plants that have distinctive flowers or leaf texture should be utilised as accent plantings to provide highlights and variety.

More information relating to developing landscape is given in Section 3.2 - Landscape Policy.

REFER TO 3.2 Landscape Policy

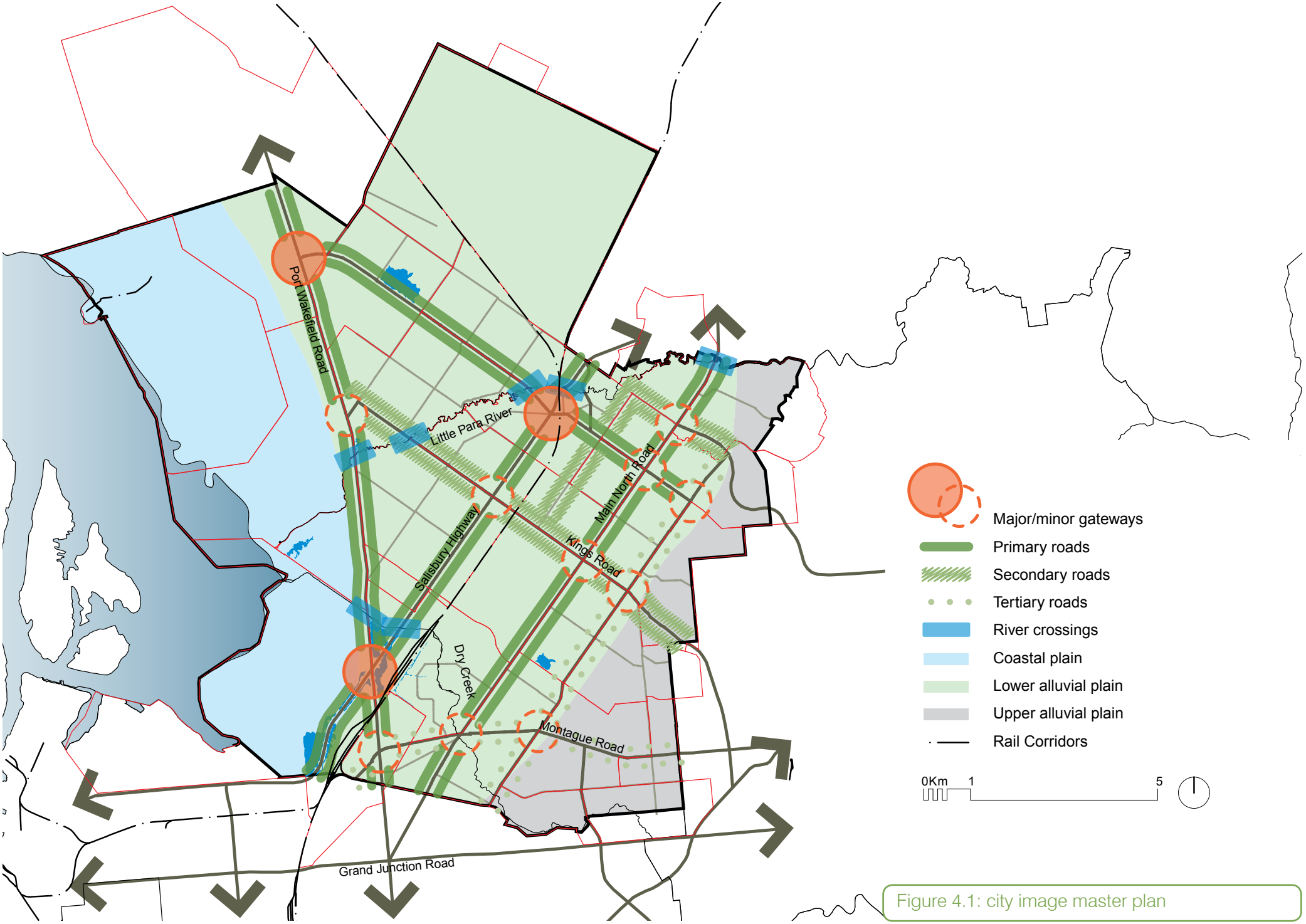

Figure 4.1: city image master plan

4.4 typology of feature areas

4.4.1 Gateways

Gateways are significant points or landmarks along major roads leading into the city that demarcate the Council's boundaries. Gateways can also be developed to call attention to the significance of a special area within the city, such as the central business district or sites of regional significance. Gateways do not necessarily mean a physical monument to establish the gateway; open space, feature lighting, private development projects, natural features, landmarks, and existing built form can serve as gateway indicators.

The City of Salisbury has three existing forms of gateway that call attention to key entry points leading into the city. The primary gateway element is the landmark tower that has been erected in various locations along Main North Road, Port Wakefield Road and Salisbury Highway. These steel towers are currently visually inconsistent and require updating to conform to the current 'City Image Strategy'.

The secondary gateway elements are low stone walls that incorporate 'City Image' signage at the city's boundaries on minor arterial and connector roads. Few of these gateways have been built so far.

The tertiary gateway elements are wayfinding sign posts that have been installed at the boundary of each suburb within the City of Salisbury. Currently, these signs are consistent with the 'City Image' framework and have been installed throughout the city.

4.4.2 Traffic Corridors

Corridors are major roads, arterial roads and connector roads that serve to link the community. These corridors play an important role in how residents and visitors perceive the city. They are often the first impression a visitor will have of the City of Salisbury, therefore, it is important to consider the aesthetic, as well as functional aspects of these thoroughfares. The aesthetic image conveyed from road design is strongly influenced by pavements, stormwater drainage, lighting, street furniture, built form, soft landscape and signage.

Currently, most major corridors display an inconsistent array of landscape elements which detract from their overall image. The most common and visually noticeable element throughout the City of Salisbury is the street tree. It is important to achieve a consistent street tree design in order to give traffic corridors a consistent theme and sense of place.

4.4.3 Major Roundabouts

Major roundabouts and associated road verges can contribute significantly to improving the appearance and image of the city. Strategically selected roundabouts, typically those on busy roads or intersections, can serve to enliven the streetscape by providing colour and movement to a static structure. Carefully landscaped roundabouts provide better legibility to drivers approaching traffic calming devices.

Poorly designed roundabout landscaping can obscure driver vision. Obscuring the line of sight across the central island can reduce the reaction time before a driver becomes aware of an approaching vehicle. The natural habit of many existing shrubs is such that they are naturally quite large, and continual pruning of them is not practical. Careful consideration must be given to landscaping roundabouts due to the risks involved, both to the community and to maintainers of the landscape. In all cases, roundabout designs should be approved by the City of Salisbury Traffic Engineer.

4.4.4 Feature Gardens

Feature gardens are high quality public parks designed to provide a range of functions and experiences. These reserves are generally maintained to a high standard and include high quality materials and finishes in order to convey a 'community on the rise' message to existing residents, prospective residents and businesses.

Whilst these landscapes need a good level of consistent maintenance, it need not be overly intensive or unsustainable. Elaborate urban design is not a prerequisite for these spaces, however, some physical improvements to the City of Salisbury's appearance will have a significant impact on the perception of its identity and image.

Feature gardens need to be strategically located in high profile areas which have a high level of visual exposure to the public, such as in town centres, primary gateways and public reserves that attract large numbers of visitors. In some cases, feature gardens can be made available for hire to the public for private functions such as weddings.

4.4.5 Civic Spaces

Civic spaces are significant community congregation areas, such as public squares, malls, plazas and promenades. Civic spaces are an extension of the community. When they function successfully, they serve as a stage for our public lives. If they function in their true civic role, they can be the settings where celebrations are held, where exchanges, both social and economic take place, where friends run into each other, and where cultures mix.

When cities and neighbourhoods have thriving civic spaces, residents have a strong sense of community; conversely, when such spaces are lacking, people may feel less connected to each other. They are recognised and valued in their cities and towns as places with their own special flavour that relate to and nurture the larger community, and bring the public together.

4.4.6 Municipal Building Grounds

The grounds of municipal buildings need to be well designed to reflect the City of Salisbury's positive image and identity. The gardens around public buildings and community halls should showcase how sustainable landscapes can be attractive, colourful and functional. Special attention should be given to paved surfaces, lighting and outdoor furniture, ensuring that the community has safe, accessible and comfortable environments provided for them.

4.5 design principles

In general, feature areas will conform to the following design principles:

- Highly resolved design with good detailing.
- Developed on prominent sites that have a high level of exposure and activity.
- High quality, durable finishes and materials.
- Well placed furniture for rest and people watching.
- High level of accessibility; for traversing by people with disabilities and people with prams.
- High level of legibility through the use of appropriate signage and aesthetically pleasing lighting to provide visual connectivity.
- Crime prevention through environmental design principles
- Utilise hierarchies for hard landscape (City Image signage, outdoor furniture, etc.) and landscape maintenance as recommended by the City of Salisbury Landscape Plan.

4.5.1 Corridors, Gateways and Major Roundabouts

The design of traffic corridors and gateways should aim to conform to the following design criteria:

- Utilise a consistent palette of hard and soft landscape elements that are used throughout the city, provide a sense of place, and a recognisable corporate image.
- Create street tree lined avenues that provide a visually consistent landscape character to the corridor.
- Create landscape buffers to mitigate noise and screen unattractive sightlines.
- Provide a simple and legible planting design.
- Create special landscape treatments at significant intersections and entry points.
- Ensure that the pedestrian network is accessible to all, is legible and provides for connectivity and rest points.
- Roundabouts should be ornamental, but should require less maintenance than other feature landscape areas.

The design of traffic corridors should be based on site specific parameters and the desired landscape character. Further information is provided in Section 5.0 - Streetscapes.

REFER TO 5.0 Streetscapes

4.5.2 Municipal Building Grounds and Feature Gardens

The design of municipal building grounds and feature gardens should aim to conform to the following design criteria:

- Provision of accessible paths and entry ways to buildings.
- Utilise a consistent plant and hard landscape palette for all Council buildings.
- Use of attractive ornamental planting that has low water requirements.
- Provision of seating and litter bins at main entry points to buildings.
- Provision of adequate parking spaces with shade trees.

4.5.3 Civic Spaces and Public Art

The design of civic spaces, including public artworks, should aim to conform to the following design criteria:

- Create a civic space that has a recognisable image and provides an identity to the city.
- Cultivate the feeling of ownership of civic spaces by stakeholders and the community.

— The peripheral areas or edges of civic spaces should be active and welcoming; which will contribute to the success of its internal areas.
— Contain a variety of smaller spaces within it that act as attractors and destinations, such as outdoor cafés, fountains, sculptures or event spaces.
— Need to be easily accessible, preferably by pedestrians and public transport.
— Will utilise a flexible design that can be adaptable to suit different functions during the course of a day, week and year.
— Provision of structures such as shelters or awnings for shade.
— Ensure correct levels of maintenance are employed to create a feeling of comfort and safety, so that people have visible signs that someone is in charge.

Public artworks shall conform to the following guidelines:

— Designed from materials that will have longevity and resilience.
— Should be safe and present no danger to the public.
— Public artworks present opportunities for interpretation on a wide range of issues, such as a particular site's historical, cultural and environmental significance.
— Public artworks can also be functional elements, such as children's playspaces or furniture.

4.6 plant selection

In general, feature areas will utilise the following plant material selection:

— Predominantly native trees, shrubs, and groundcovers; some exotic trees and shrubs can be used for accent planting and colour.
— Select plants that have the following qualities:
  - Are highly ornamental.
  - Do not present safety hazards to the public, e.g. trees that do not drop limbs, plants that do not have thorns or prickles or are poisonous.
  - Low level of impact on infrastructure, e.g. do not have aggressive root systems.
  - Low water requirement.
  - Contrasting foliage colours and textures.
  - Trees should be able to endure the harsh conditions of predominantly impermeable and compacted surface treatments.

Whilst plant selection should be based on parameters that are site specific and the desired landscape character, a plant selection matrix is provided in Appendices A-E as a guide to suitable species that fit the above criteria.

REFER TO Appendices A-E

4.7 public domain elements

Hard landscape elements include various pavements and street furniture such as seats, benches, planter boxes, bin enclosures, cigarette urns, lights and bicycle racks. They form a significant and visible component of the City of Salisbury's feature area public domain. The design, implementation and maintenance of these elements have a considerable effect on the experience of the pedestrian, cyclist and motorist.

The co-ordination and design of these elements is critical to the 'feel' of the city across all levels and a simple urban design approach to the development is proposed, with a clearly articulated suite of elements and materials.

The hard landscape elements for feature landscape areas represent higher quality components due to their high visibility and exposure. For example, hard wearing stone or high quality cementitious aggregate pavers would be preferred over masonry block or bituminous concrete pavements. Similarly, outdoor furniture with an urban character would be preferred over rustic style furniture that would be more suited to parkland situations such as the Dry Creek Trail. A full description of hard landscape elements suitable for feature landscape areas is given in Section 8.0 – Public Domain Elements.

REFER TO 8.0 Public Domain Elements

4.8 maintenance

Maintenance levels for feature landscape areas are typically on the high end of the spectrum, due to the high public exposure they will attract. This will include permanent irrigation, mowing and cultivation of lawns, pruning, replacement planting, cleaning of paved areas and graffiti, regular litter removal and the like. A full description of maintenance standards is provided in Section 10.0 – Maintenance. For more specific information, refer to the City of Salisbury Maintenance Services Specifications.

REFER TO 10.0 Maintenance

4.9 irrigation

Whilst every effort should be made to minimise water use, it is recognised that feature landscape areas are strategically important for the City Image initiative. Permanent irrigation systems will be utilised to keep the landscape healthy and growing at optimum levels. Wherever possible, non-potable water should be used to minimise the use of mains water. Subsurface irrigation should be used in preference to pop-up type sprinklers to minimise evaporation and lessen the community's perception that water is being wasted through over-spray. All irrigation systems shall be programmed to water at night to reduce evaporation. Other techniques such as draining stormwater into bio-retention swales should be utilised, if possible, to recharge soil moisture levels. A full description of irrigation standards is provided in Section 9.0 – Irrigation.

REFER TO 9.0 Irrigation

4.10 future directions

- Explore the utilisation of exotic xerophytic plants such as succulents (e.g. *Agave* and *Knifophia*) that add colour and have low water requirements.
- Utilise mass planting of new native hybrids such as *Lomandra* 'Tanika'and *Dianella* 'Utopia'.
- Use Water Sensitive Urban Design (WSUD) treatments at gateways to highlight water harvesting.
- Use inorganic mulches such as different colours and sizes of aggregate instead of organic mulches.
- Use high quality locally cut stone as feature paved surfaces.
- Create dynamic landscapes that change seasonally, including ephemeral water bodies.
- Utilise soil additives that improve plant establishment and minimises water requirements.

4.11 case studies

Figure 4.2: primary signage

Figure 4.3: secondary signage

Figure 4.4: tertiary signage

Figure 4.5: reserve signage

5.0 streetscapes

"I think that I shall never see a billboard as lovely as a tree. Perhaps unless the billboards fall, I'll never see a tree at all."

Ogden Nash

revision	01	02	03	04	05	06	07

5.1 introduction

The existing road network of the City of Salisbury possesses a variety of streetscapes indicative of the diverse land uses within the Council area. Streetscape typology is generally dictated by a hierarchy consisting of Major Roads, Arterial Roads, Connector Roads, and Local Roads, as shown in Figure 5.1.

Major roads represent the principal north-south connecting routes, such as Port Wakefield Road and Main North Road linking towns and regional centres. Arterial roads form a network of transport corridors facilitating movement through the suburbs, both north-south and east west, such as Kings Road, Bridge Road, Montague Road and Salisbury Highway. Connector roads form the larger thoroughfares through suburbs, such as Cross Keys Road, Spains Road and Martins Road. Local roads represent the finer weave of residential streets, lanes and culs-de-sac.

In recent years, the road networks throughout the City of Salisbury have been progressively upgraded to better manage traffic flows, reduce commuter times and develop safer road networks. With further major works being undertaken within the City of Salisbury, opportunities exist for the city to guide the development of new and existing streetscapes to promote healthier environments. This includes street tree planting of appropriate scale, provision of accessible footpaths and verge treatments, street furniture, and water sensitive urban design to manage stormwater.

5.2 critical overview

Streetscapes within urban environments can be an emotive and contentious issue, with conflict commonly occurring where landscape treatments, such as street trees, conflict with civil infrastructure. The City of Salisbury typically receives more enquiries regarding streetscape issues than any other; this includes kerb and gutter problems, road failures, footpath trip hazards, and by far the most common are requests for tree maintenance and removal.

Whilst the reafforestation of the City of Salisbury has improved the landscape character and local microclimate enormously, some problems have manifested themselves over time. These problems include inappropriate species selection, trees planted too close together, incorrect location of trees in relation to services, and damage to infrastructure.

The City of Salisbury produced an interim streetscape review in November 1998, where recommendations were given that would positively affect key result areas that included Public Safety (protecting the community), Streetscape Appearance (pleasing visual amenity), Serviceability (provision and maintenance of functional elements such as access and drainage), and Expenditure (provision of an economical and efficient streetscape service).

The recommendations were as follows:

— That a review be conducted of engineering and horticultural techniques required to maintain streetscape vegetation.

— Undertake a review of existing (and development of new) policies, procedures and practices linked to any relevant legislation/guidelines affecting streetscape.

— The development and implementation of a Quality Management System which incorporates a policy and associated operational procedures for the selection, propagation and planting of streetscape species.

— Undertake a review of the City of Salisbury's current procedures for establishing new subdivisions, with a view to developing a clearly defined process that takes into account all streetscape elements at the planning stage.

— Review of the existing methods for the provision, construction and maintenance of footpaths.

As a result of streetscape review, the City of Salisbury has clarified streetscape development for the community, Council staff and developers by:

— having clear guidelines on road verge treatments;

— providing Council staff and developers with appropriate guidelines for landscaping and tree selection;

— forward planning footpath locations;

— master planning streetscapes well in advance of construction;

— consulting with the local community.

5.3 road hierarchy

5.3.1 Major Roads (Class 5)

These roads provide regional and inter-regional traffic movement and carry large volumes of heavy traffic and goods. Some are strategic routes to other areas of the State and interstate, such as Port Wakefield Road and Main North Road. The road and the median are generally managed by the State Government; the road verges, however, are maintained by the City of Salisbury. Opportunities exist to influence the planting of the median and verge areas to reflect the preferred landscape character of the region, whilst promoting biodiversity and sustainability.

5.3.2 Arterial Roads (Class 6)

Class 6 roads form primary transport networks throughout the City of Salisbury. They form connecting routes to the major industrial, commercial and residential areas within the city and connect to Class 5 roads. These roads are managed by the City of Salisbury and are used for the quick transport of goods and services into each region of the Council. Arterial roads offer opportunities for the development of cohesive median and verge plantings, as well as the reinforcement of the verge area for pedestrian movement.

5.3.3 Connector Roads (Class 7)

Connector roads form the link between the arterial roads and the residential areas. The scale and traffic flows of these roads are generally lower, facilitating greater opportunities for the development of the landscape character, urban biodiversity, sustainability and pedestrian connectivity. The landscape guidelines view these roads as major pedestrian connections through the suburbs that link to key areas within the city. These roads also provide opportunities to create healthy environments and promote community pride in the City of Salisbury through the landscape treatment.

5.3.4 Local Roads (Class 8)

These roads form the basis of the connection through the residential areas; they are generally narrow and have low traffic volumes. Opportunities exist to develop these roads as major pedestrian corridors, linking different areas of suburbs. Within suitable areas, there are opportunities to develop water sensitive urban design (WSUD) solutions for stormwater management.

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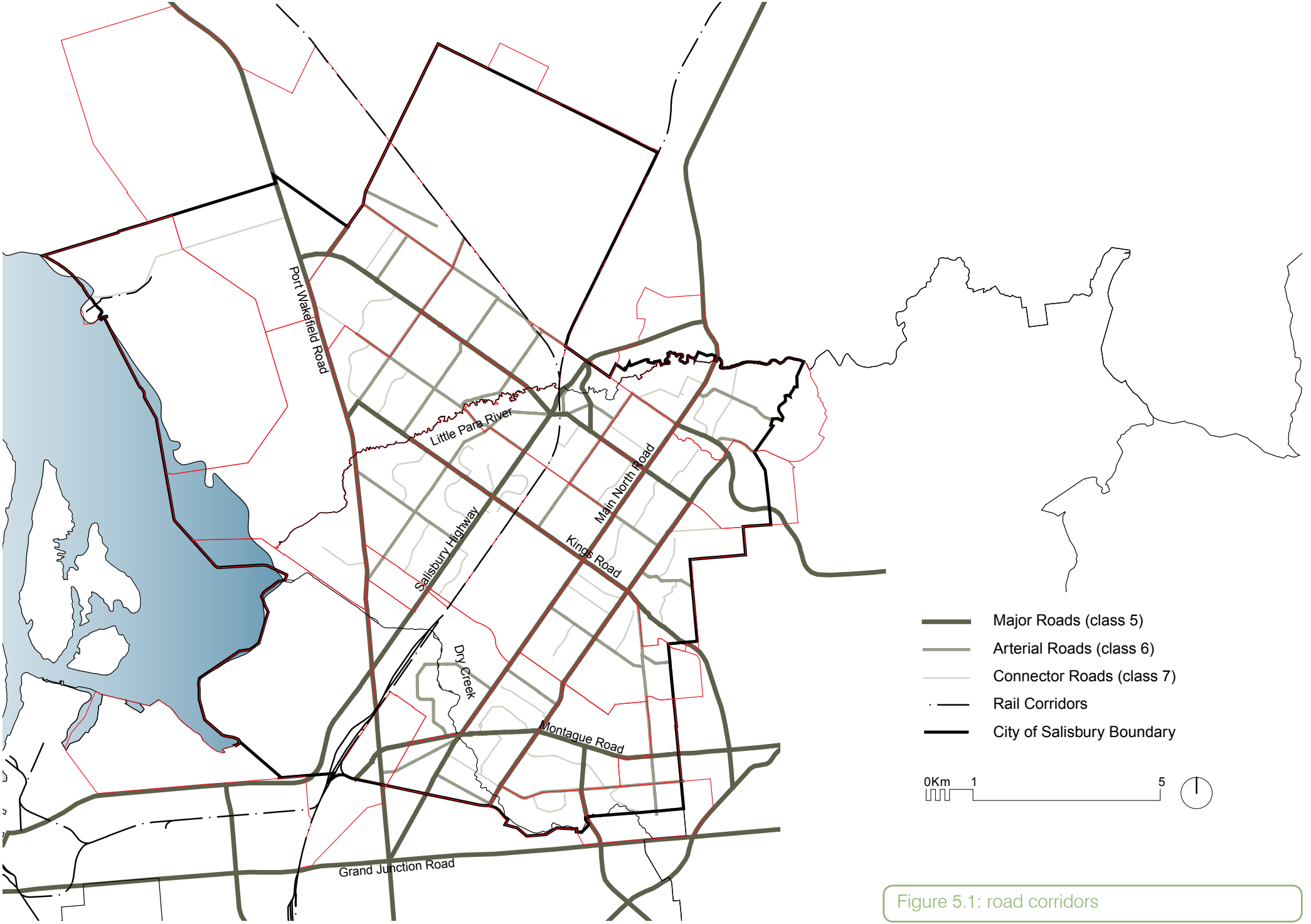


Figure 5.1: road corridors

AL0608: 30/05/07 : HASSELL

5.4 design considerations

5.4.1 Existing Streetscapes

Many streets within the City of Salisbury have street trees creating a distinct streetscape. Where streetscapes with street trees already exist, new trees planted in extensions to existing roads or to replace those that have died will match the others in the street design rationale of the existing streetscape. Street tree requests are assessed by the City of Salisbury to ensure that the tree is in keeping with the existing streetscape and will meet criteria for suitable street trees. The City of Salisbury has produced a brochure entitled “Looking After Your Street” to assist residents in carrying out landscaping and other improvement works to the nature strip adjoining their property.

5.4.2 Avenues

Street trees are typically planted in avenues at regular spacing on the verges and median strips.

5.4.3 Trees and Road Safety

Trees in the road reserve should be planted according to Department for Transport, Energy and Infrastructure guidelines.

Street trees can assist in road safety to calm traffic by creating a sense of enclosure or confinement. Enveloping the street with trees reduces motorists’ peripheral vision prompting reduced travel speeds.

5.4.4 Median, Verge and Roundabouts

Median, verge and roundabout plantings suffer from extra pressures other than natural environmental conditions. Plant selection should be based on known and tested plant species that are suitable for these environments.

Plants within the median, verge and roundabouts experience greater temperature fluctuations, excessive carbon dioxide levels, higher amounts of airborne particulate matter, soil compaction, less permeable soil area and constricted root zone area. Planted areas need to follow Department for Transport, Energy and Infrastructure guidelines for frangibility, and maintenance of sightlines/clear zones.

The clear zone relates to the estimated distance of vehicle deviations from the normal travel path, equating to 85% of the road width. This varies with road design speed. Department for Transport, Energy and Infrastructure dictates that trees should be spaced at a minimum of 10 metres on roads of 70 km/h or less to maintain visual sightlines and that foliage be maintained at specific heights (Figures 5.2 to 5.4). In addition to this, clear sight windows should be taken into consideration for the maintenance of views into verge areas and at pedestrian crossover points, as explained in Figures 5.5 and 5.6.

Verge treatments shall conform to the City of Salisbury’s Verge Policy, guidelines for hard landscape elements and the Department for Transport Energy and Infrastructure’s guidelines for minimum setback and foliage heights. Plantings should maintain safe sight distances and minimum recommended spacing. Verge treatments include paving signage, plantings, mulches and outdoor furniture. Verge treatments along residential roads should facilitate pedestrian movement, as well as consider biodiversity and sustainability issues. Surfaces alongside car parking areas should be stable and even to aid in the entering and exiting from cars.

— Plants should be chosen for frangibility inside the clear zone, with larger trees being located outside the clear zone.

— Species should be selected that do not easily lose limbs, have excessive leaf drop and minimal shedding.

— Extra large trees with a trunk diameter greater than 500 mm may require spacing greater than 10 metres to maintain sightlines.

— The use of inorganic pebble or gravel mulches should be given preference over organic mulches.

— Staggered planting restricts sightlines and should be avoided.

— Shadowing of illumination sources should not hinder adequacy of road lighting.

— The minimum distance for medians suitable for tree planting is 2 metres plus the diameter of the selected tree species. It is recommended that medians over 2.5 metres be used for the planting of trees. Medians under the minimum distance are suitable for low groundcovers and grasses that do not affect the clear sight window.

— Tree spacing within a median should be maintained at 10 metres with a 10 metre buffer at the start or end of a median and around pedestrian crossovers and other events.

— A 1.5 metre wide pedestrian path should be maintained within verges.

— Roundabouts should primarily be planted with low groundcovers.

5.4.5 Buffer/Screen Planting

Tree species that are suitable as part of noise attenuation and visual screening are identified as buffer species. They are typically located on the Major, Arterial and Collector road types and may be a backdrop for taller trees that are closer to the carriageway. Local plant species should be used whenever there is no specific purpose that excludes their use. Screening plantings are used to block undesirable views into industry as well as fence lines. They must conform to Crime Prevention Through Environmental Design (CPTED) principles, particularly where they are near pedestrian links.

5.4.6 Adjacent Reserves

Road reserves adjoining public open spaces, bushland sites and regional parks present opportunities to use species that would not normally be used as street trees, due to the relaxed spatial requirements. Road reserves adjoining public open space present the opportunity to plant larger trees, due to the increased amount of space and reduced risk of impact on surrounding buildings and public infrastructure.

In road reserves adjoining bushland sites and regional parks, any remnant trees should be conserved. Any additional street tree planting should also be locally native, to strengthen the presence of bushland in the City of Salisbury. New endemic trees planted adjacent bushland should be of local provenance, in order to preserve the gene pool.

5.4.7 Retail/Commercial Precincts

Trees in retail and commercial precincts assist in providing an attractive identity and act as a visual indication of a change in land use. These trees should be used to shade car parks and pedestrian thoroughfares. Deciduous trees can be used along north facing building facades and outdoor plazas where passive solar principles apply.

5.4.8 Passive Solar Design

The significance of trees in relation to microclimates and the thermal performance of buildings require the consideration of planting to aid thermal comfort through passive solar design. Medium to high density urban areas may benefit from the selection of deciduous trees to provide shade in summer, whilst allowing warmth and light to enter during winter, particularly if there are narrow local streets and laneways where the road reserve is 14 metres or less.

5.4.9 Landmark Trees

Landmark tree species are trees that are of significant stature and provide a major contribution to the legibility of the landscape in which they are located. The Red Gum and Norfolk Pine are examples of landmark trees, as they contribute to both the streetscape experienced by pedestrians and vehicles, as well as being prominent on the skyline as a significant addition to the landscape. The significance of landmark tree species requires that they are located carefully, with consideration to their impact on the overall landscape.

5.4.10 Feature Trees

Feature trees are often used to increase the legibility of the road network, by providing visual cues at the entry to new developments, commercial precincts, gateway intersections and significant roundabouts.

5.4.11 Water Sensitive Urban Design (WSUD)

Where stormwater is channelled into swales or detention basins alongside roads, tree selection is critical. Only species capable of surviving periodic inundation should be chosen. Where swales have a natural curvilinear form, tree spacing and location should also be random to recreate the natural environment.

DTEI recommendations

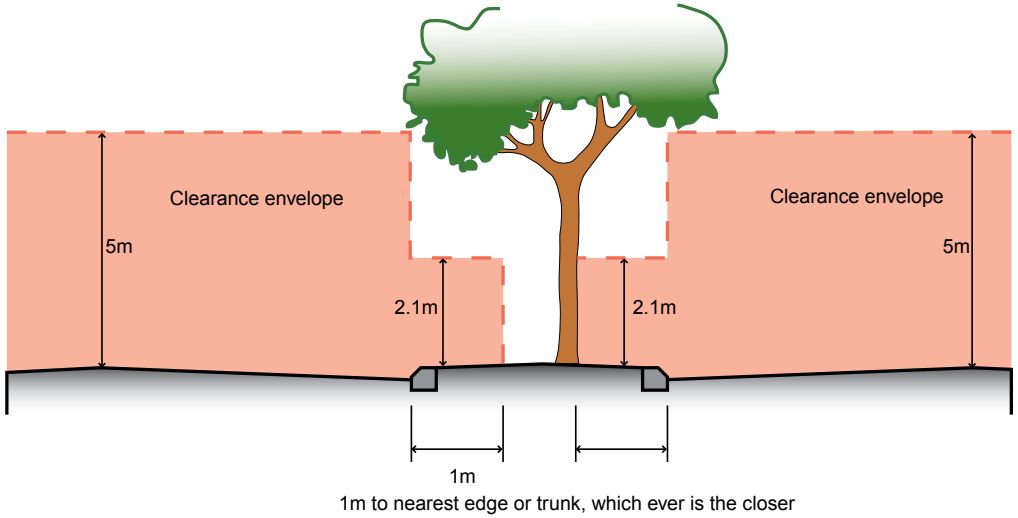


Figure 5.2 median clearance zone

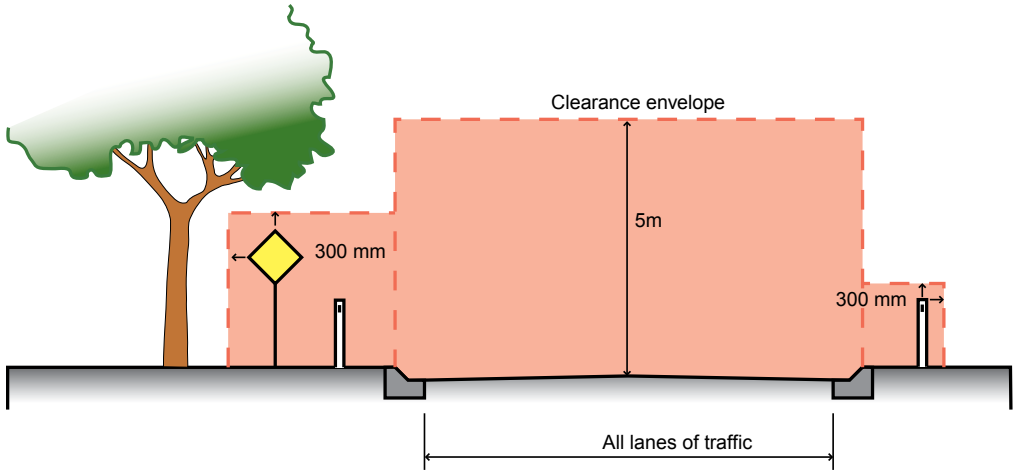


Figure 5.3: secondary clearance zone

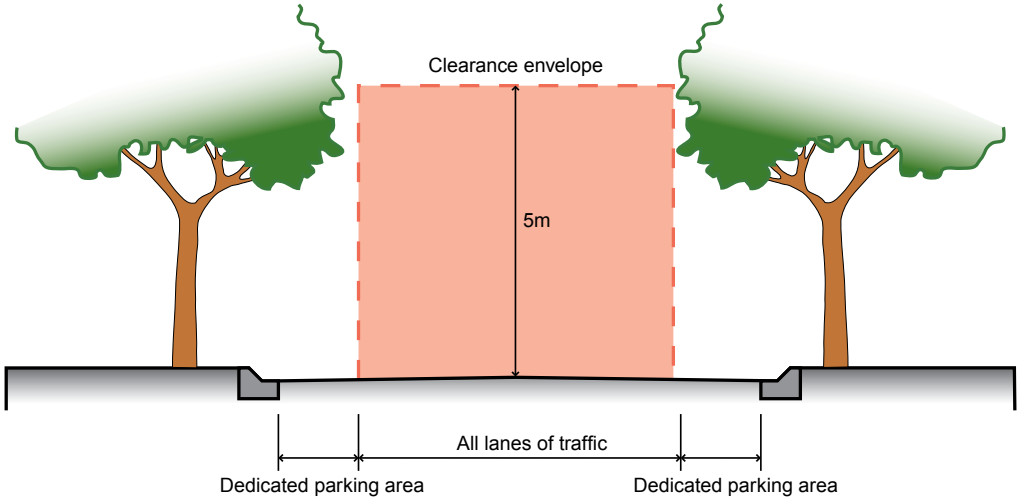


Figure 5.4: urban clearance zone

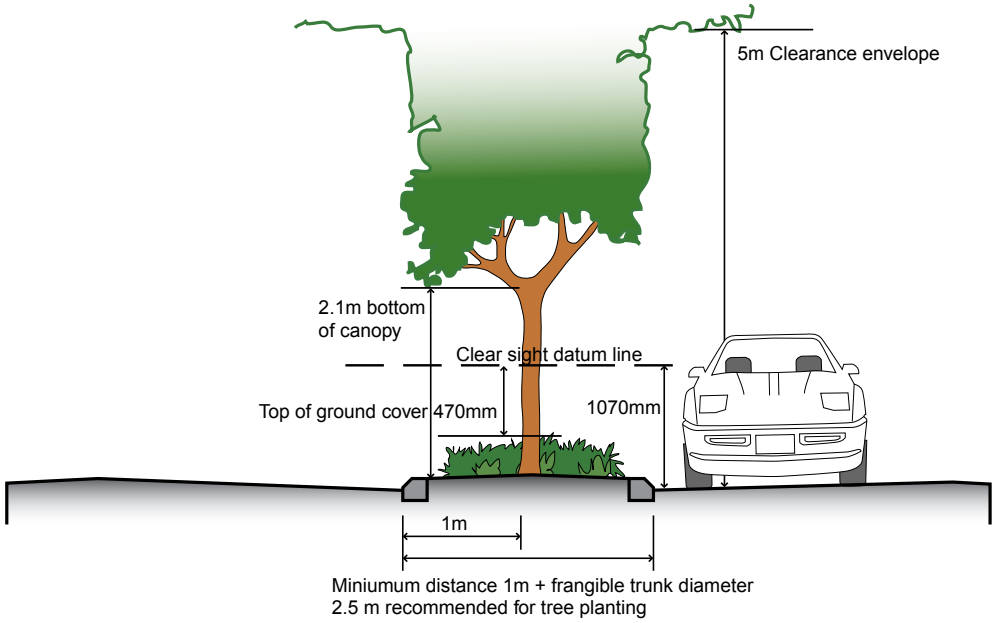


Figure 5.5: median clear sight window

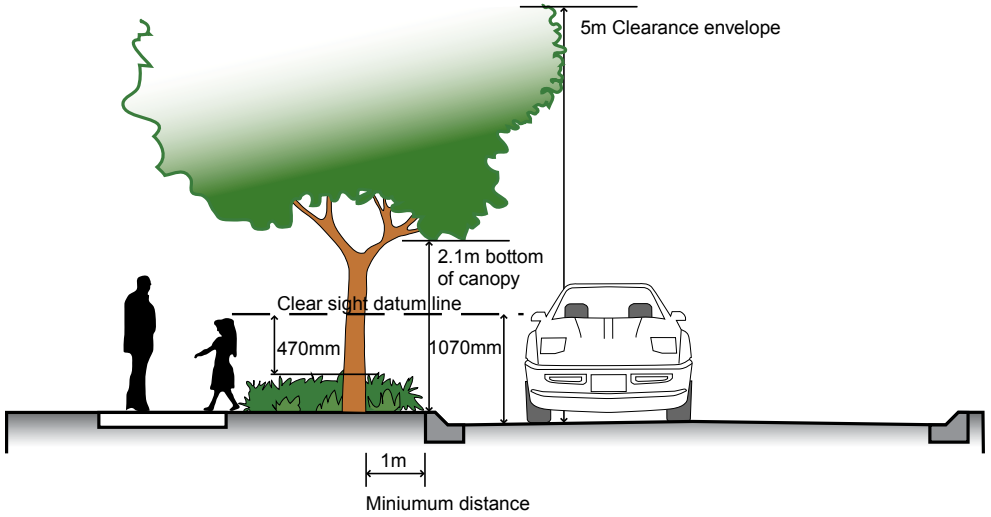


Figure 5.6: verge clear sight window


80

5.6 streetscape renewal

The City of Salisbury has for many years embarked on a reafforestation programme to transform what was a fairly barren landscape into the well-vegetated landscape that the community currently enjoys. Due to the harsh conditions experienced in road verges, street trees can become senescent, structurally unsound, and visually unappealing. The City of Salisbury has a general duty to take steps to eliminate the risk of damage from trees planted on the council's land which is reasonably foreseeable.

The City has undertaken comprehensive street tree audits which has resulted in a street tree data base. This data base is aimed at developing proactive maintenance and renewal programs for existing streetscapes. The data that is collected includes tree species, the tree's condition, whether the tree is significant and/or needs pruning, estimated age, need for further detailed inspection, missing trees, and non-compliant verge development. The street tree data is linked to GIS cadastral information including PMS ID, street name, NAASRA Class, and address.

In order to prioritise Council's streetscape renewal works, a system for rating streets is used where various factors are given scores and totalled to give a rating for each street segment. Factors such as inconsistent species mix, trees of poor health, and poor species selection (such as Eucalyptus spathulata and E. intertexta) are given an additional weighting to differentiate the quality of existing streetscapes

Health/Age Mix Weighting:

— Each tree on the street is given a weighting as shown in the table below:

Age/Health	Good	Fair	Poor	Dead
Young	0	5	10	20
Immature	0	5	10	20
Mature	0	5	10	20
Veteran	0	5	10	20

Varying Species Weighting:

— It was determined that streetscapes with more than 2 different species on a street negatively impacted on the desired consistent avenue effect. Streets with 1 to 2 species were not given a weighting whereas streets with three or more increased by a factor of 100.

No of Species	1	2	3	4	5	6	…
Weighting	0	0	300	400	500	600	…

Specific Species (Euc spathulata & Euc intertexta):

— Due to their undesirable characteristics (such as limb drop, susceptibility to insect attack) these species were given a weighting of 20 points for each tree on the street that was of these specific species.

Poor ETSA Pruning

— Each tree that was regarded as being poorly ETSA pruned was given a rating of 5.

Missing Tree

— Missing trees receive a score of five points.

Example:

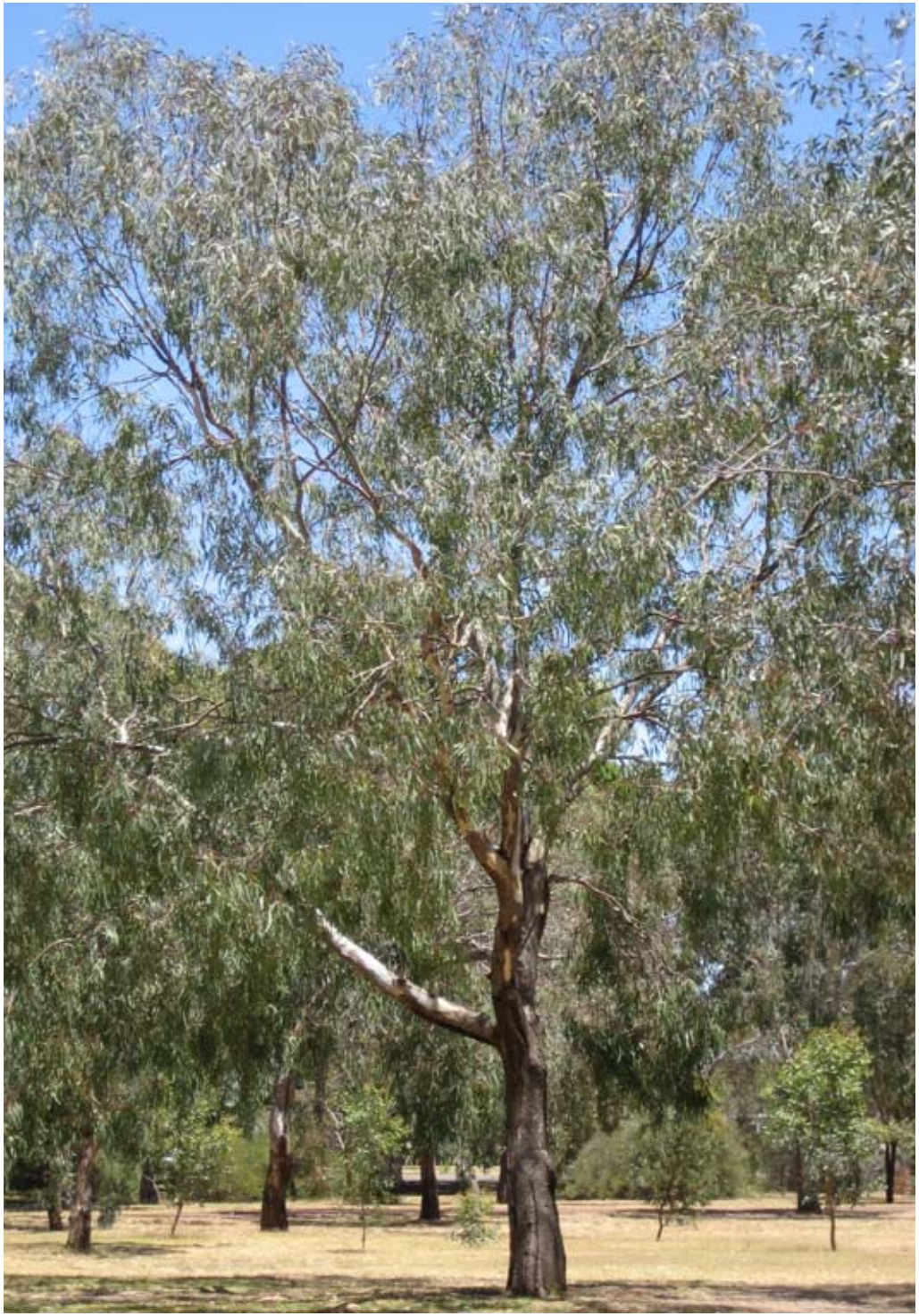
— A street that has the following attributes would receive a rating of 545 points.

6 fair trees	6 x 5	= 30
2 poor trees	2 x 10	= 20
1 dead tree	1 x 20	= 20
4 varying species	4 x 100	= 400
3 Eucalyptus spathulata or E. intertexta	3 x 20	= 60
3 poorly ETSA pruned trees	3 x 5	= 15
0 missing trees	0 x 5	= 0
	Total	= 545

Streets that have been analysed in this way are then prioritised for renewal. Before the streetscape renewal process proceeds, public consultation is undertaken. Residents with a property boundary adjacent to the street, are invited to attend a meeting with a representative from the Council and an external consultant horticulturalist.

With expert advice from the horticulturalist and Council representative, the residents assist in making a final decision on the retention or removal of existing trees and the choice of infill species (a selection of recommended tree species is provided during the consultation process). A maximum of two species per street is allowed with the opportunity to have a larger tree where no power lines are present.

Additional infrastructure issues including footpaths, roads, and kerb and gutter damage are also addressed at the time of the meeting and referred to the appropriate Council staff for action. The consultation meeting takes place around twelve months prior to the completion of planting, to enable appropriate tree stock to be grown. A three year maintenance and watering program follows in order to establish the trees. This process allows residents to have ownership of the decisions made regarding their street trees.



5.5 plant selection

5.5.1 Environmental Considerations

Street tree planting in the urban environment can provide numerous environmental benefits. Tree planting is becoming increasingly recognised for its contribution to the reduction of greenhouse gas levels. The use of locally native species can contribute to local biodiversity by providing wildlife corridors and enhancing native remnant bushland.

— Provide street trees on all streets throughout the city.

— Promote planting of locally native tree species, particularly adjoining existing bushland, wetlands and remnant vegetation sites.

— Use street trees that are drought tolerant. If exotic trees are used, they must originate from similar climates to the Salisbury region.

5.5.2 Context

When planning a streetscape, consideration shall be given to the aesthetic and cultural character of the area. Parameters that impact on the tree selection include the scale of the street, adjoining land uses, continuity with surroundings and recognition of features within the area, including parks or significant buildings.

— Consider the scale of the street – width of street and height of buildings on each side to determine the mature size of the tree.

— Consider the adjoining land uses (commercial, residential, retail, reserve), access requirements and the quantity of pedestrian and vehicular traffic.

— Provide continuity and consistency along a whole street. Each street should have a single landscape character along its whole length.

— Where streetscapes with street trees already exist, new trees planted in extensions to existing roads or to replace those that have died will match the others in the street design rationale of the existing streetscape.

— Use trees to complement the existing features of the streetscape.

5.5.3 Tree Spacing and Size at Planting

Tree spacing will be driven by the size of the selected tree, cost implications, as well as safety, visibility and vehicular thoroughfares, and the desired effect on the streetscape. If the tree spacing is close together, it gives an atmosphere of confinement that can aid in traffic calming measures. If they are far apart and evenly spread, they can convey the sense of an open boulevard with views to the spaces beyond. When setting tree spacing, the mature size of the trees, the proportion of the trunk and canopy, and how they will impact on each other, need to be taken into account. Large trees that work best on the larger road reserves do not require such dense spacing because the shading capacity is less important and they are usually experienced at greater speeds.

Size at planting needs to be considered in relation to other issues such as vandalism, location of services, watering methods and time of planting. In general, smaller stock will need less watering and will adapt with greater ease to local conditions than semi-advanced or mature trees. Trees should also be planted when natural soil moisture is at its most accessible, between May and June (refer Section 2.2.4 - Weather, Climate and Soil Moisture Budgets).

REFER TO 2.2.4 Weather, Climate and Soil Moisture Budgets

5.5.4 Preference for Native or Arid Zone Trees

The City of Salisbury has a preference for the use of locally native tree species as street trees. Native trees have many advantages that are consistent with the environmental focus of the City of Salisbury. However, we recognise that in certain situations (for example, where there are passive solar requirements) exotic trees, particularly deciduous trees, may be an appropriate selection.

The use of exotics in combination with natives within the road reserve, will be considered in a favourable manner by the City of Salisbury when assessing landscape plans for approval. Such consideration would need to be supported by appropriate justification, based on sound design principles and the mix of exotic and native species design in such a manner that the streetscape not only appeals from an aesthetic perspective, but also addresses traffic management (pedestrian, cyclist and vehicular movements) and associated road safety implications.

5.5.5 Trees as Weeds

Some trees, including Australian and local species, have the potential to become weeds if planted in inappropriate settings. Weeds can occur in a number of ways:

— Excessive growth, such as suckering.

— Growth in ecologically sensitive areas, competing with locally native plant species.

— Blocking of waterways and adverse effects on waterway margins.

Adverse effects from deciduous street tree species may also become evident a long way from the planting as the leaf drop of deciduous trees can contribute to excessive nutrient loading into waterways borne through artificial run-off systems as well as groundwater.

REFER TO Appendices A-E

5.6 public domain elements

Hard elements such as outdoor street furniture and structures can significantly enhance roadside environments. These elements include tree protection guards, seats and benches, litter bin enclosures, bus shelters and bicycle racks. For further information refer section 8.0 - Public Domain Elements.

REFER TO 8.0 Public Domain Elements

5.7 maintenance

5.7.1 Tree Protection

Work on public infrastructure and structures in proximity to street trees should be mindful of the adverse impacts of excavation and soil compaction on trees' root systems and take steps to avoid disturbing them. Since a majority of a tree's root system occurs in the top 500 mm of soil located beneath the drip line, excavation in this area should be avoided. Also, compaction of soil in the drip line due to vehicle traffic or heavy temporary structures can also adversely affect a tree's root system and should be avoided. Trees also need protection from wind damage when young, vehicle damage and vandalism.

- Use shelters to establish trees in coastal environments.
- Use bollards, tree stakes or tree guards to protect trees located in the median or next to car parking.
- Significant earthworks and level changes near mature street trees should consider the extent of a tree's root system.
- When trenching in a verge, consider directional boring under the tree, instead of alongside the tree to minimise root damage.

5.7.2 Growth and Maintenance

All trees have an expected growth habit dictated by their species type that is also affected by local environmental conditions and human interaction. All trees in the road reserve should be encouraged to attain their expected habit through correct pruning and maintenance techniques. This can be achieved primarily through good species selection, as well as consideration of the surrounding elements of the streetscape and the implementation of a maintenance routine that can minimise the adverse impact of street trees.

5.7.3 Tree Pruning

Tree pruning may occur for a number of reasons:

— Formative pruning during initial planting stages.

— Removal of limbs that constitute a physical or visual obstruction or pose a hazard if dead or dying.

— Removal of invasive or destructive roots.

All modifications to trees including root systems should be carried out by qualified tree surgeons to minimise the risk of disease entry and damage to adjacent property.

5.7.4 Tree Removal

The removal of trees may occur for a number of reasons:

— An obstruction to the safe functioning of a streetscape through physical or visual obstruction.

— Destruction of public infrastructure and structures by root systems and branches.

— Senescent trees that detract from the overall character of the streetscape.

— Trees that are disease affected and likely to die shortly or transmit infection.

— Trees that constitute an undue burden on the City of Salisbury Tree Maintenance Programme.

Tree removal will be carried out by Council staff or qualified tree surgeons using all of the necessary safety equipment to below ground level for safety and to minimise the possibility of re-growth. Tree surgeons should have adequate public liability insurance. Removal of street trees in the road reserve requires the permission from the City of Salisbury.

5.7.5 Tree Availability and Programme for Planting

The availability of trees from commercial growers varies, due to seasonal and species demand. Current industry practice indicates that if a substantial number of trees in avenue planting are proposed, it is recommended that they be selected at least a year in advance. Trees need to be a minimum of 2 metres high at the time of planting. Planting should occur in the wetter months in June/July for unirrigated trees. Planting of irrigated trees can occur throughout most of the cooler months, provided adequate watering is undertaken. At the time of planting, the trees should be tied and staked to the City of Salisbury standards.

5.7.6 Trees and Public Infrastructure

Plantings within verge and median areas generally exist in conjunction with public services. Suitable plant spacing and clearance distances, as listed below, are based on the 2004 Department for Transport, Energy and Infrastructure data. Plantings should also be assessed for the impact to infrastructure including the lifting of paving, kerbs and gutters, impact to stormwater flows and water utilities, reduction in the integrity of slip resistance of surfaces and the maintenance of sightlines and lighting.

— Preserve existing street trees of note or significance when installing or upgrading public infrastructure.

— Placement of trees should be determined in relation to underground and overhead services.

— Species should be selected to minimise root invasiveness.

— Size at maturity should be considered.

— Root barrier systems should be incorporated for urban tree plantings.

5.8 irrigation

— Trees should be located:

- more than 4 metres from electrical and telecommunications poles or pillars;
- more than 7.5 metres from streetlights;
- more than 4 metres radius from high voltage transmission lines;
- more than 2 metres from stormwater entry pits;
- a minimum of 3 metres from driveways;
- a minimum of 1.5 metres from domestic stormwater infrastructure;
- a minimum of 3 metres from sewer inspection points;
- a minimum of 1.5 metres from Telstra pits, inspection pits and services markers;
- a minimum of 5 metres from bus stops or so that adequate sightlines are maintained.

REFER TO 10.0 Maintenance

5.9 future directions

The City of Salisbury's aim is to minimise excessive water use; permanent irrigation systems should not be used unless the streetscape is part of a City Image initiative. In these cases, non-potable and sub-surface irrigation systems should be used in preference to pop-up or above ground sprinklers to minimise evaporation and lessen the community's perception that water is being wasted through over-spray. All irrigation systems shall be programmed to water at night to reduce evaporation.

Water sensitive urban design (WSUD) techniques such as harvesting stormwater into bio-retention swales should be utilised, if possible, to recharge soil moisture levels form natural rainfall. Montague Road, between Main North Road and Port Wakefield Road, is a good example of a system of swales that capture and detain water, thus reducing downstream flows (note that tree selection should be appropriate for this type of wetting and drying regime).

Small scale stormwater harvesting for the purpose of watering individual trees is also possible. This type of system is under trial (undertaken by Treenet) and may be appropriate in high profile areas that can include interpretive information on water recycling.

REFER TO 9.0 Irrigation

- Establish consistent avenues of structural tree planting along all Major, Arterial and Collector roads (refer to Details at the end of this section for typical examples).
- Minimise use of under-storey planting to only low shrubs (600 mm to 1000 mm high) with a selection of three drought tolerant species mass planted along road verges.
- Do not use groundcovers or very low plantings (below 500 mm height) on main roads. Groundcovers will allow weeds to penetrate foliage and require intensive maintenance to restore.
- In high profile areas utilise gravel mulch in place of groundcover to give a clean and tidy image.
- Use Water Sensitive Urban Design (WSUD) techniques to harvest stormwater for street tree irrigation.
- Utilise recycled water for irrigation.
- Utilise soil additives that improve plant establishment and minimise water requirements.

5.10 typical details

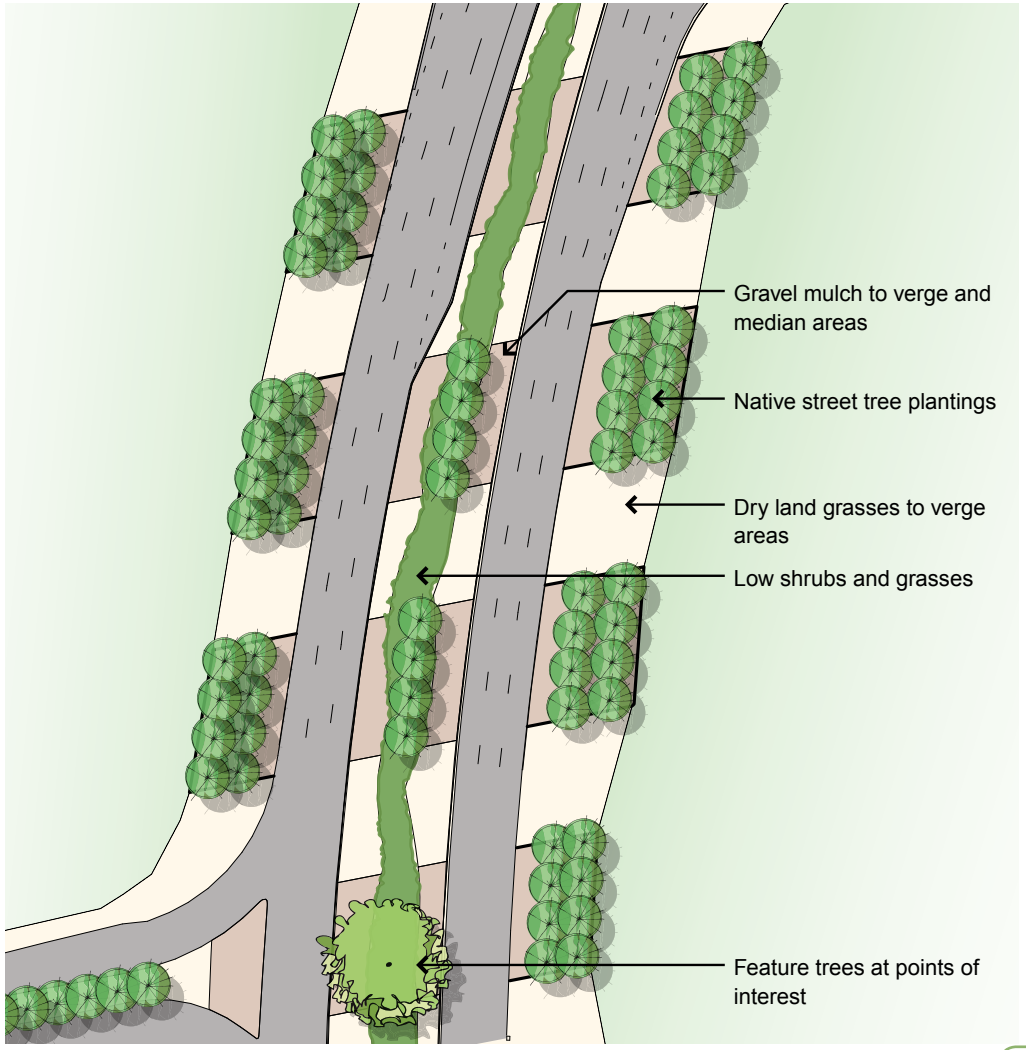


Figure 5.7: landscape treatment along major road

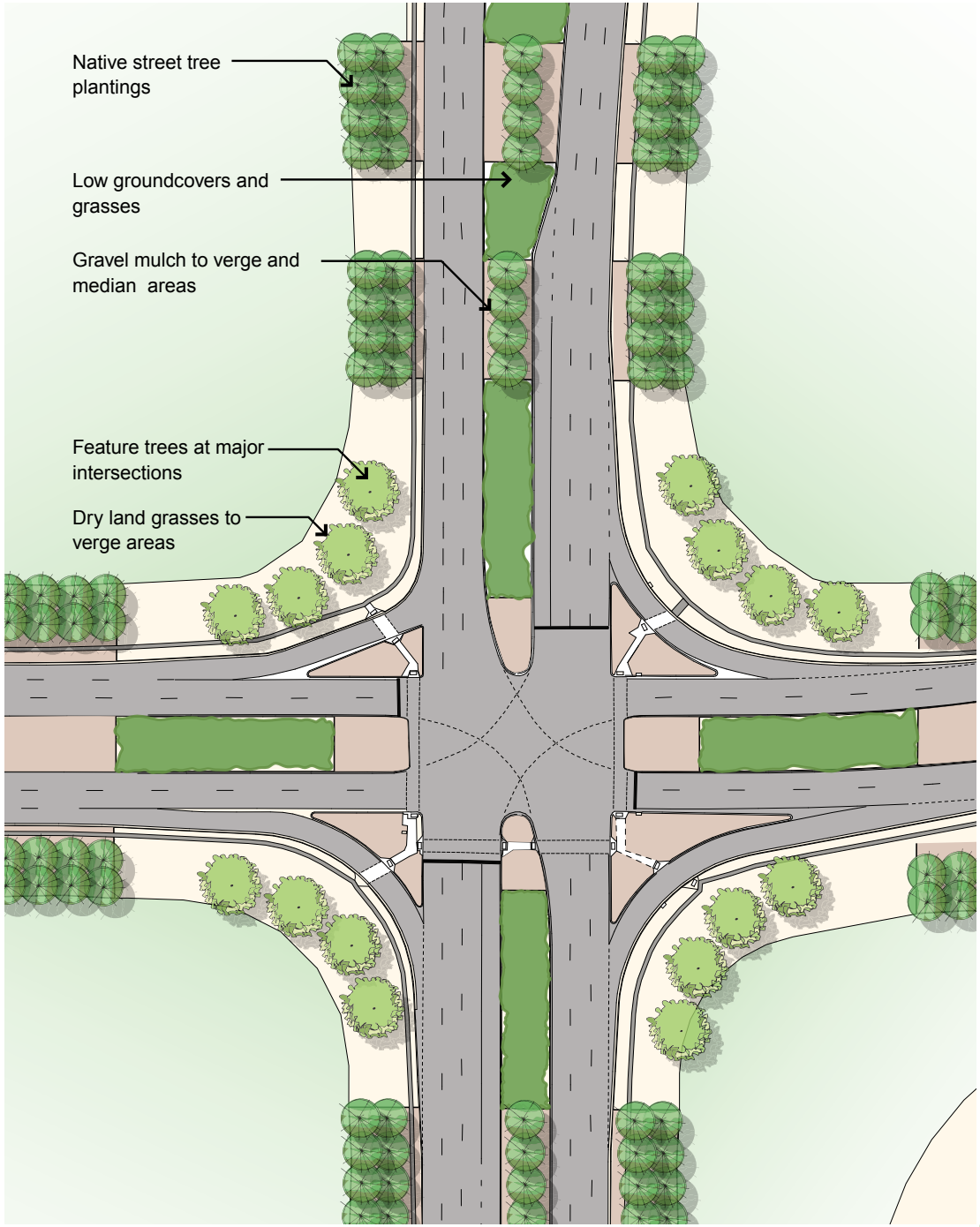


Figure 5.8: landscape treatment at major intersection

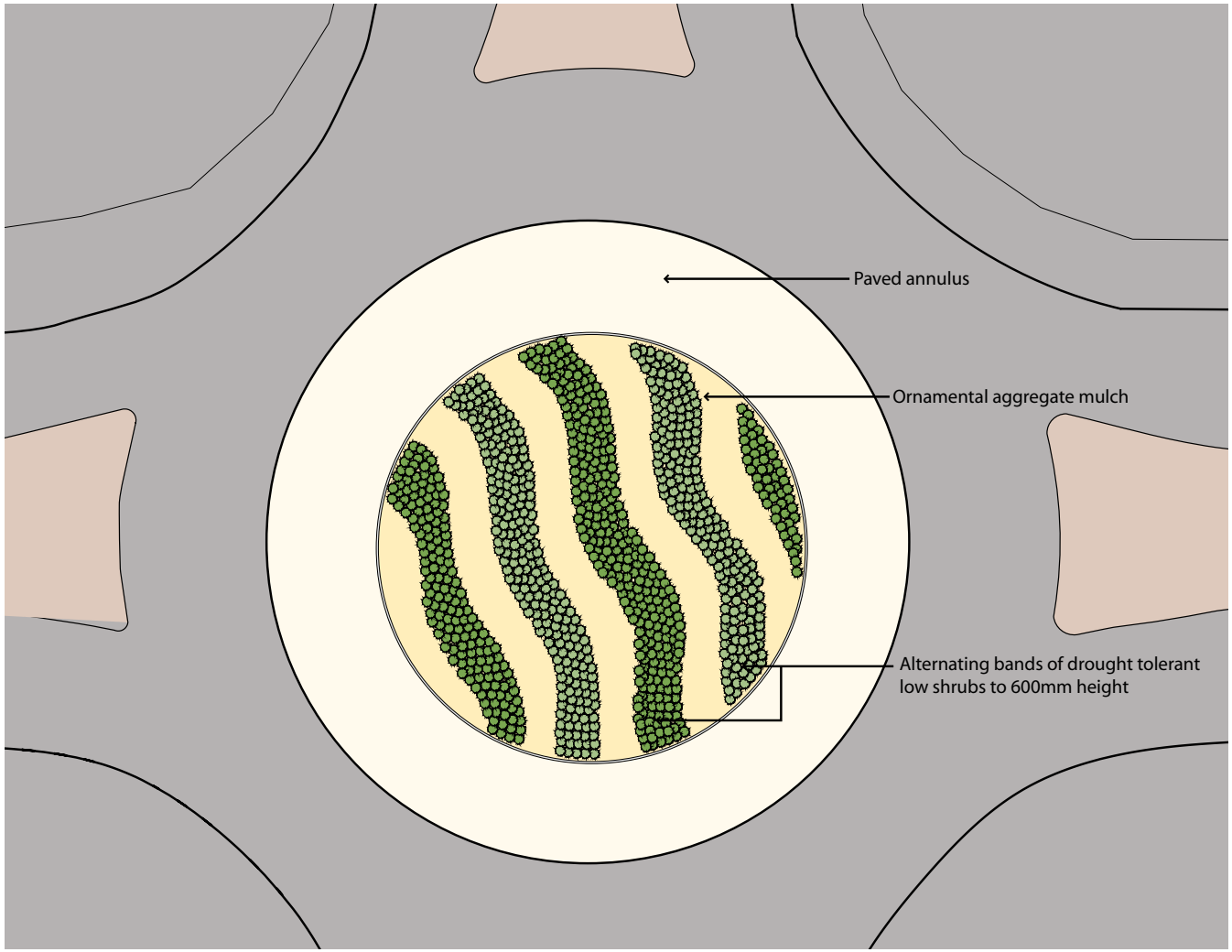


Figure 5.9: landscaped roundabout at major intersection

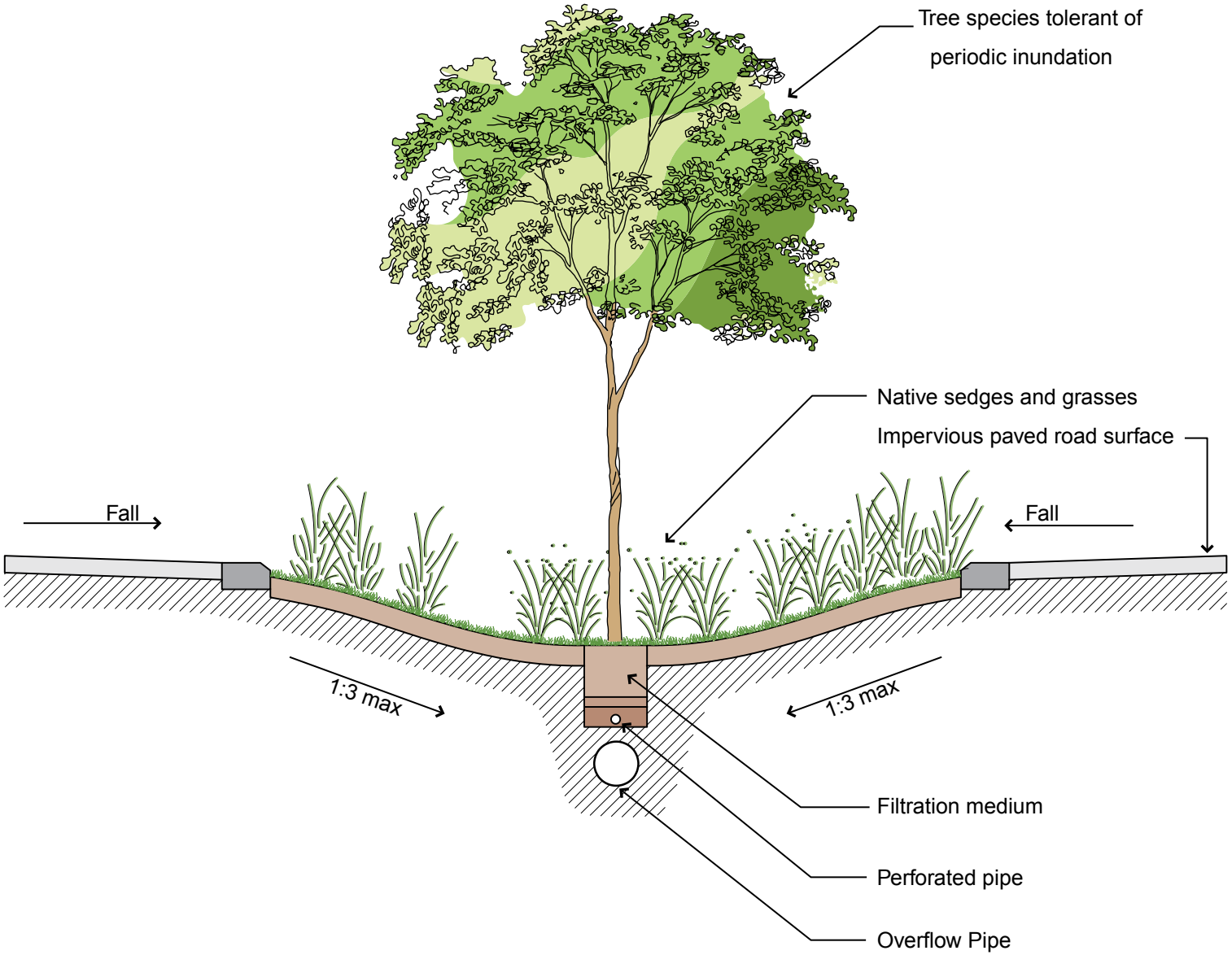


Figure 5.10: detention swale - median

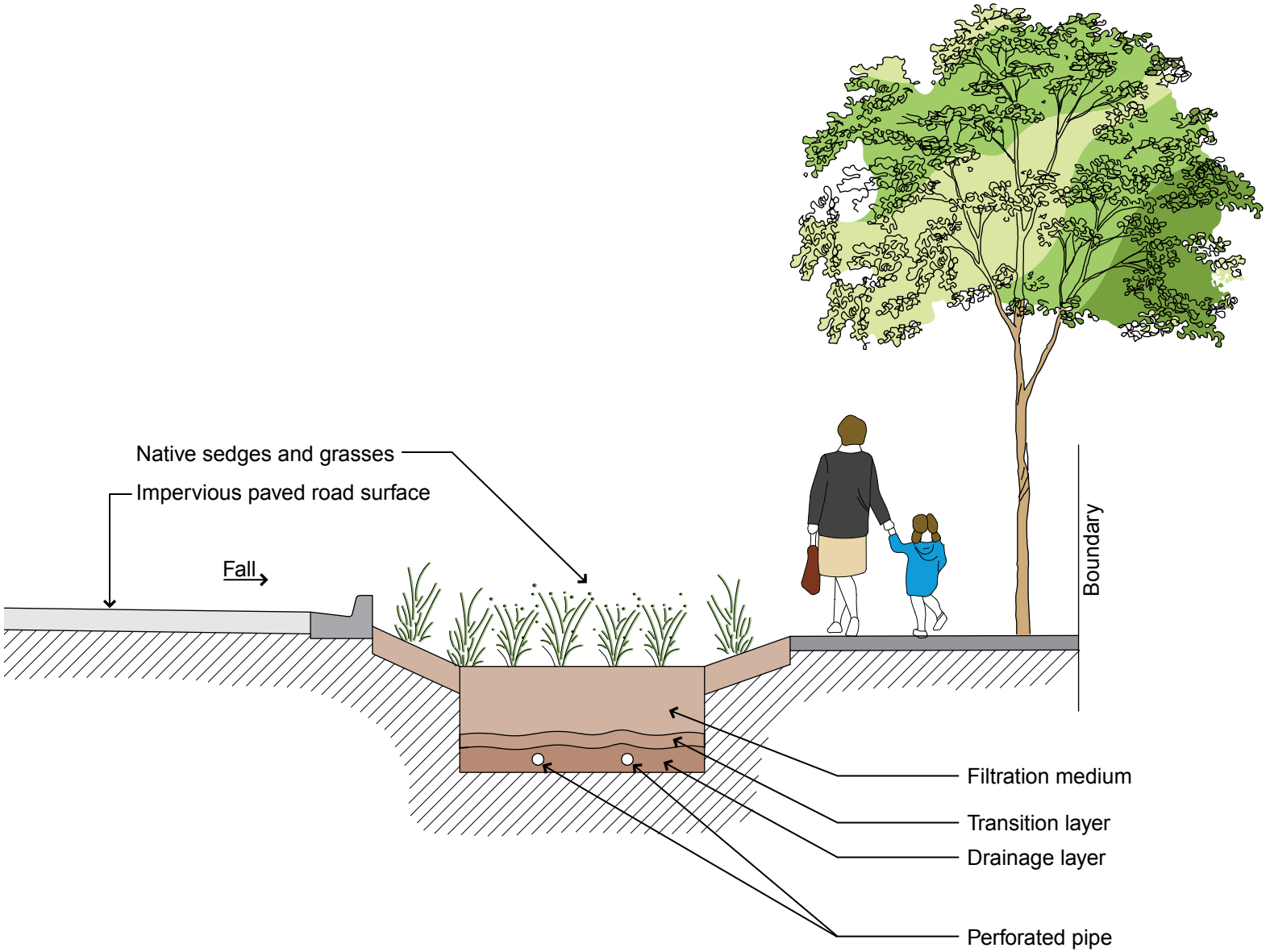


Figure 5.11: detention swale - local street section

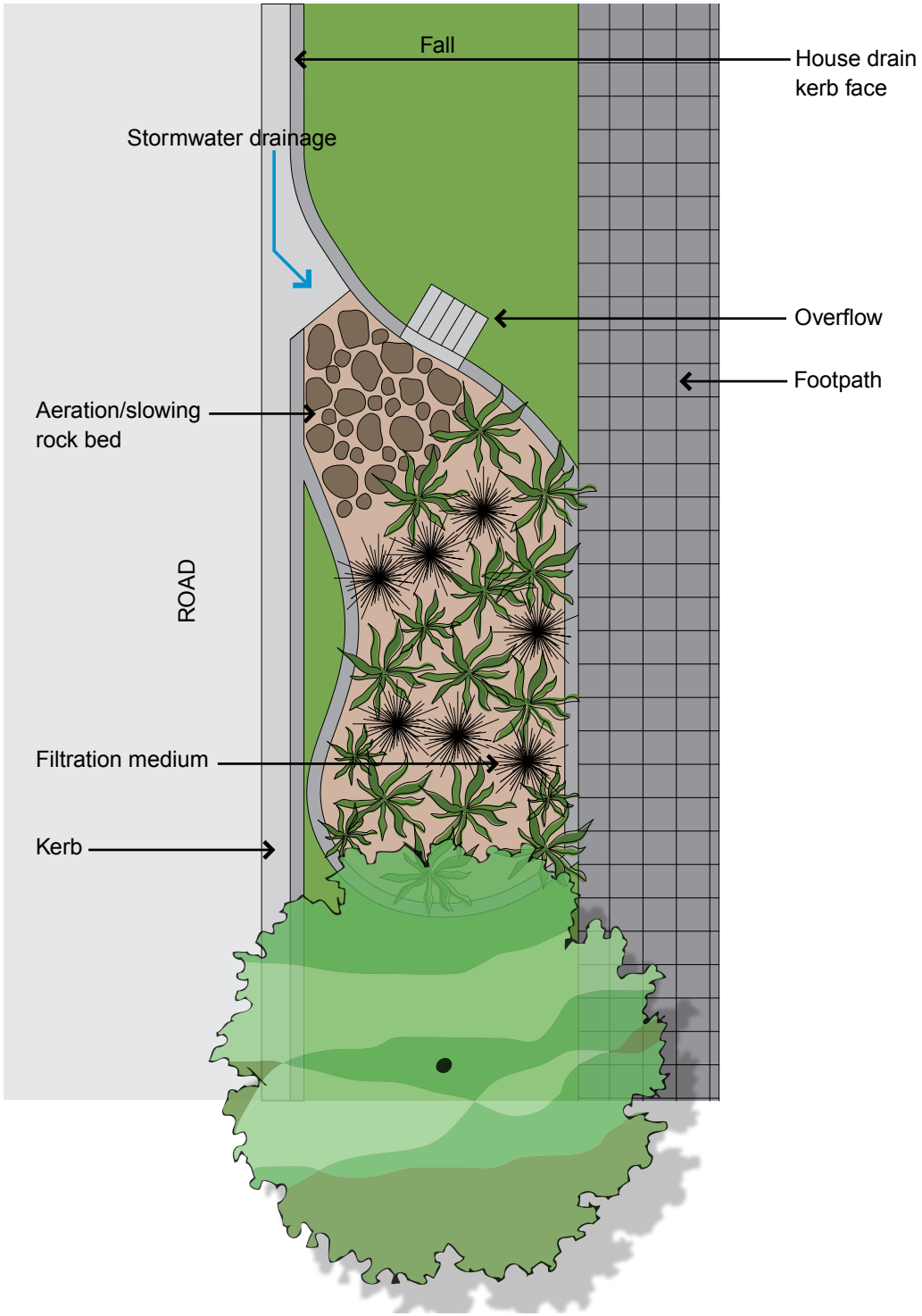


Figure 5.12: detention swale - local street plan 01

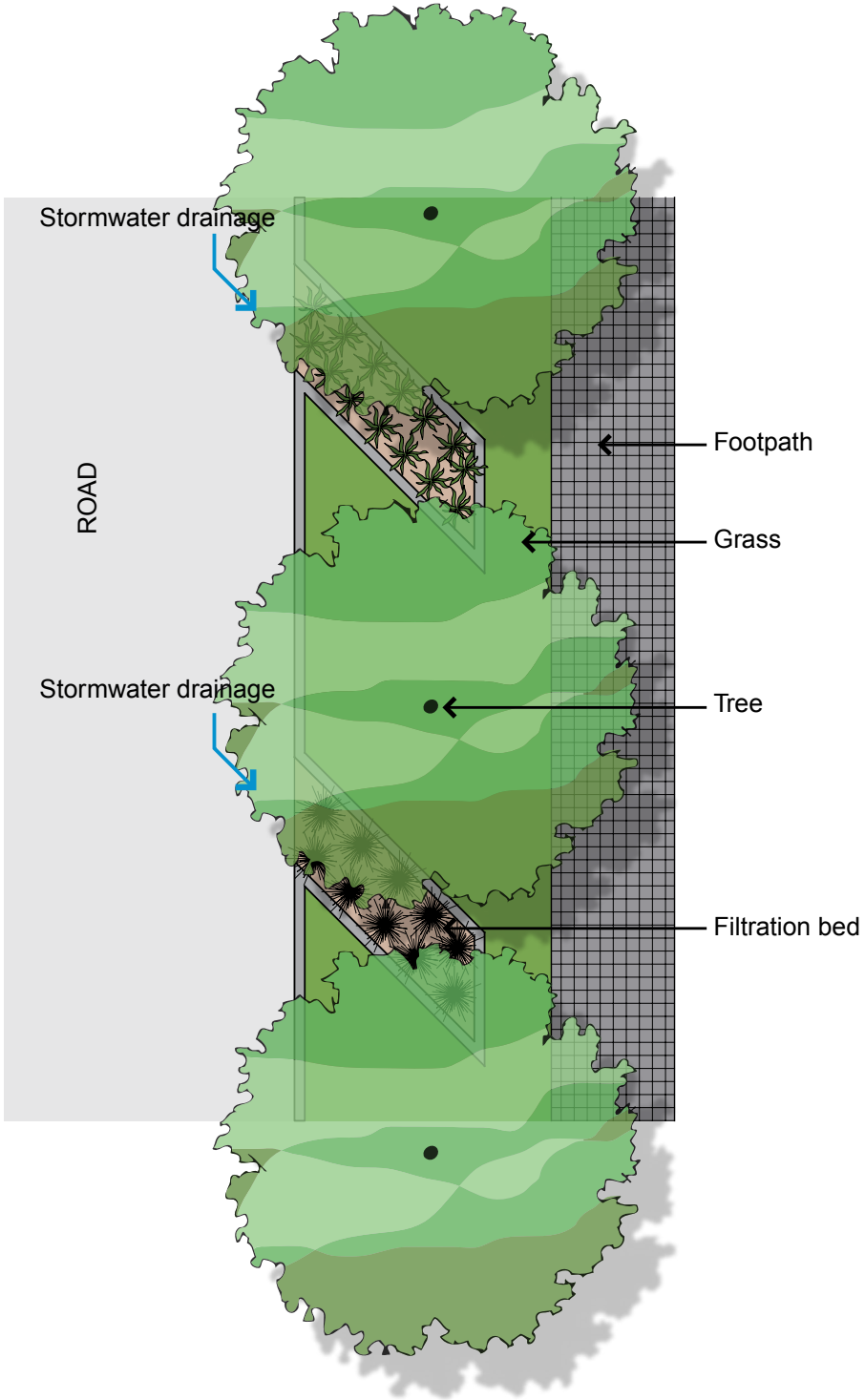


Figure 5.13: detention swale - local street plan 02

6.0 new private developments

"Suburbia is where the developer bulldozers out the trees, then names the streets after them."

Bill Vaughan

revision	01	02	03	04	05	06	07

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6.1 introduction

The City of Salisbury is a recognised leader in urban and community development, environmental innovation, and business and investment support. The City is firmly committed to the principles of sustainable development and strives to collaborate with developers, government agencies, community groups, and residents to pursue sustainable development principles, both in the construction and ongoing management of commercial developments.

Over the last 35 years, sustainable development has had many definitions. One of the most well known definitions, from the Brundtland Report 'Our Common Future', states: 'Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.

Australia's National Strategy for Ecologically Sustainable Development 1992 (NSESD) defines ecologically sustainable development (ESD) as: 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased'.

The City's key strategies in relation to new developments are to:

— enhance individual and community well-being by following a path of economic development that safeguards the welfare of future generations;

— provide for inter-generational equality;

— protect ecological biodiversity and maintain essential ecological processes and life support systems.

6.2 purpose

The purpose of this section is to assist developers in the preparation of suitable landscape plans and documents which will help them in meeting the City of Salisbury's requirements when preparing development applications.

The City's key objectives are as follows:

— Provide a high standard of landscape design, preferably by employing a suitably accredited Landscape Architect or Landscape Designer.

— Consider landscape design in liaison with building and land division design at an early stage in any development.

— Incorporate environmentally sustainable practices within the design.

— Provide a landscape that, as a whole, requires low maintenance.

— Protect existing natural systems such as waterways and remnant vegetation.

— Reduce delays in the development approval process.

6.3 critical overview

Private development has always been an important component of the City of Salisbury's urban fabric. Early developments paid little attention to landscape design and environmental management issues, developers being content to provide general civil infrastructure and undeveloped open space as a condition of development. Street trees were often planted by the City after the completion of a new development.

Growing environmental awareness and an improved understanding of urban planning and design has resulted in a better distribution of land use precincts. The importance of linear parks, especially along waterways, has been emphasised and has resulted in exceptional recreational facilities and opportunities that cannot be underestimated in its value to the community. Similarly, attitudes to the expeditious removal of stormwater from sites have changed to the point where most developers understand the benefits of water sensitive urban design (WSUD). Detention basins and wetlands have now replaced concrete lined channels and underground pipes as the preferred method for stormwater disposal.

With growing competition between developers, public areas such as parks and road reserves are now seen as components that can greatly enhance the marketability for a range of commercial developments. This has had both positive and negative effects on the City of Salisbury from an asset management perspective.

On the positive side, new developments have been handed over to the City of Salisbury, complete with established, hardy landscapes of a high quality, at little cost to the community. On the negative side, some landscapes are not designed in an environmentally sustainable manner. Over-use of irrigation, use of inferior materials, unsuitable site preparation, and plants that have little or no longevity, are just some of the problems encountered.

6.4 design guidelines

6.4.1 Residential Land Division

Landscape Plans are a requirement of the development approval process. Plans must be submitted for approval for residential land division applications.

The aim of the landscape design for residential land division shall be to:

— consider the unique built and environmental context of the site and surrounding areas;

— harness site specific environmental opportunities;

— provide a consistent landscape character and 'sense of place' within the development;

— improve the visual amenity and legibility, and ameliorate specific site conditions that may exist;

— enhance public safety and reduce anti-social behaviour.

Design Considerations

— Provide planting that is in scale with the built form.

— Consider the mature sizes of trees and shrubs in relation to buildings and other infrastructure.

— Maintain important vehicular sightlines and view corridors, both for safety and amenity.

— Provide screen or buffer planting to define and create spaces, and mitigate noise and visual disturbances.

— Create safe environments through the use of Crime Prevention Through Environmental Design (CPTED) principles.

— Protect biodiversity and maintain essential ecological processes.

— Utilise landscapes and planting that are suitable to the site's environmental conditions such as local soil conditions, hydrology and climate.

— Plant species selection that is suitable for the region.

— Responsible management of water use through Water Sensitive Urban Design (WSUD) and efficient irrigation systems.

— Create low maintenance and self regenerating landscapes.

— Use landscape materials that are renewable or recyclable, and landscape practices that have a low environmental impact.

6.4.2 Industrial Developments

Landscape Plans are a requirement of the development approval process. Plans must be submitted for approval for industrial development applications.

The aim of the landscape design for industrial developments shall be to:

— consider the unique built and environmental context of the site and surrounding areas;

— harness the environmental opportunities;

— integrate with the design of industrial buildings and enhance the overall streetscape;

— enhance public safety and reduce anti-social behaviour.

Design Considerations

— Consider the impact of the landscape on adjoining properties such as overshadowing, structural issues and negation of views through careful selection of trees and shrubs.

— Screen loading docks, service areas, waste collection areas, or any other visually unattractive views with appropriate planting or noise attenuation walls if required.

— Provide raised planting areas edged with solid concrete kerbs to delineate gardens from storage or parking areas.

— Integrate proposed landscape design with existing streetscape themes to establish a consistent landscape character.

— Provide suitable edging between turf, gardens and paved areas.

— Provide 75 mm depth of organic mulch throughout planted areas.

— Provide subsurface drip irrigation to garden beds.

— Trees should be between 1.5 and 2.0 metres tall at the time of planting.

— Car park areas shall have one tree per every eight car bays for the provision of shade and amenity.

6.4.3 Commercial Developments

Landscape Plans are a requirement of the development approval process. Plans must be submitted for approval for commercial development applications.

The aim of the landscape design for commercial developments shall be to:

— consider the unique built and environmental context of the site and surrounding areas;

— harness the environmental opportunities;

— integrate with the design of commercial buildings and enhance the overall streetscape;

— provide structural planting that is in scale and complements the built form;

— enhance public safety and reduce anti-social behaviour.

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Design Considerations

— Consider the impact of the landscape on adjoining properties such as overshadowing, structural issues and negation of views through careful selection of trees and shrubs.
— Screen loading docks, service areas, waste collection areas, or any other visually unattractive views with appropriate planting or noise attenuation walls, if required.
— Provide pedestrian paths and linkages to existing paths.
— Provide high quality landscape treatments to entrances and high use areas.
— Provide raised planting areas edged with solid concrete kerbs to delineate gardens from storage or parking areas.
— Integrate proposed landscape design with existing streetscape themes to establish a consistent landscape character.
— Provide suitable edging between turf, gardens and paved areas.
— Provide 75 mm depth of organic mulch throughout planted areas.
— Provide subsurface drip irrigation to garden beds.
— Trees should be between 1.5 and 2.0 metres tall at the time of planting.
— Car park areas shall have one tree per every eight car bays for the provision of shade and amenity.

6.5 information to be provided to council

For the successful establishment of future developments, the City of Salisbury has provided a list of items that must be provided by developers in order to obtain the necessary approvals prior to construction commencing. In all cases, the submitted plans must include the following:

— Applicant/consultant name, address, email and phone number.
— Site address and location map.
— Scale of plan.
— Date of drawing.
— North point.
— Plan reference number.
— Site boundaries.

6.5.1 Vegetation Survey

A vegetation survey will be required if remnant vegetation or significant trees are present on the site. The survey must be carried out by a qualified person, such as a horticulturist or arborist. The detail required shall include the following:

— List and location of species present on site.
— List and location of noxious weeds.
— Condition of vegetation.
— Record of significant trees' height and width, girth at 1 metre above ground level, health/condition, presence of nesting avi-fauna.

6.5.2 Site Analysis

A site analysis may be required by the City of Salisbury for specific complex developments. This may include sites that have very steep topography or may have other difficult constraints. The site analysis shall show the following details:

— Height of existing buildings on the site.
— Topography, slope and aspect.
— Views from and into site.
— Street character.
— Prevailing winds.
— Surface stormwater run-off.
— Spot levels, contours and location of services.
— Location of heritage or cultural items.
— Location of contaminated soils or fill.
— Vegetation survey.

6.5.3 Environmental Management Plans

Environmental management plans may be required for developments within environmentally sensitive areas. The City of Salisbury will inform the applicant with the scope of information that is required. This may include the following:

— Environmental management plan.
— Conservation report and/or heritage status.
— Soil analysis.
— Survey of endangered or vulnerable species or endangered ecological communities.
— Arborist's report.

6.5.4 Landscape Concept Plans

A concept plan is required when seeking Development Approval. The following details are required:

— Location of existing and proposed buildings.

— Location of all existing trees showing species, canopy spread, and height.
— Location of existing and proposed hard surfaces such as paths and roads, showing proposed materials and finishes.
— Existing and proposed ground levels, i.e. spot levels and/or contours.
— Location and height of retaining walls.
— Schematic planting plan showing proposed species and locations.
— Other supporting information as necessary.

6.5.5 Final Design Documentation

Fully documented landscape plans and specifications will be required for Construction Approval. The following details will be required:

— Location of all services.
— Location of existing and proposed buildings.
— Location of all existing trees showing species, canopy spread and height.
— Location of existing and proposed hard surfaces such as paths and roads, showing proposed materials and finishes.
— Existing and proposed ground levels i.e. spot levels and/or contours.
— Location and height of retaining walls.
— Irrigation plans and details.
— Planting plans showing plant location and size when mature.
— Plant schedule including plant symbol used on plans, botanical and common names, proposed spacing for mass planting, proposed pot sizes and total numbers of each plant.
— Landscape and irrigation specification.
— Details describing site preparation, soil cultivation methods, fertilisation schedule, imported topsoil, mulches, edge treatments.
— Construction details certified by a qualified Structural Engineer.
— Proposed maintenance schedule.

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6.6 other issues

6.6.1 Street Trees

Street trees shall be provided by the developer wherever existing street trees have been removed or new road infrastructure has been built. Street tree planting will be carried out as follows:

— Trees shall be selected from the plant lists provided in Appendices A, B, C, D and E.

— Street trees shall be installed at a minimum size of 1.5 metres tall or a pot size of 45 litres volume.

— Soil used for backfill will include 200 grams 'Terracottem' incorporated as per manufacturer's recommendations.

— Refer to Section 5.0 Streetscapes for further information.

6.6.2 Existing Trees and Remnant Vegetation

Existing trees and remnant vegetation must be protected before the commencement of any construction works.

To ensure protection of trees to be retained, the following measures must be undertaken:

— A tree protection zone must be established and should be the width of the tree canopy or half the tree height, whichever is greater.

— The Tree Protection Zone is to be fenced and clearly marked at all times in accordance with the following specifications. The fence should be a minimum of 1.5-1.8 metres of chain mesh fence with 1.8 metre star pickets every 3-4 metres and a top line of high visibility plastic hazard tape. The area inside this Tree Protection Zone should be mulched with a covering of approximately 100 mm of woodchip mulch or like material. If temporary access is required through a Tree Protection Zone, this may be carried out using sheets of structural plywood but should not be considered for long term requirements.

— No people, vehicles or machinery are to enter the Tree Protection Zone. No fuel, oil dumps, chemicals, materials, equipment or temporary buildings shall be allowed in or stored on the Tree Protection Zone. The servicing and refuelling of equipment and vehicles should be carried out away from the root zones. Under no circumstances should anything be attached to a tree including temporary services wires or any other fixings.

— Supplementary watering should be provided to all trees through any dry periods during and after the construction process.

— If pruning is required, it must be carried out by a qualified arborist. Pruning is to comply with the Australian Standard – AS 4373–1996 Pruning of Amenity Trees.

— If root excavation is required, it must be carried out by hand digging or by 'Air-Excavation' techniques. Root cutting must be undertaken by saw cutting, not with a backhoe or blunt instrument.

— If underground services must traverse the tree protection zone, they shall be installed through directional boring that passes beneath the tree's root plate.

6.6.3 Crime Prevention Through Environmental Design (CPTED)

The South Australian Development Act (1993) provides for local Development Plans that form the basis for the preparation and assessment of specific development proposals. They cover a range of land use, transport, infrastructure and environmental matters related to the intended future development of the area. Development Plans are statutory documents and therefore legally enforceable.

The Development Plan can contribute towards achieving the community's CPTED objectives by seeking best practice outcomes from the development process. Development Plans now address a wide range of contemporary development or related issues, for example the incorporation of bushfire, stormwater, energy efficiency principles, in response to community demands that these issues should be considered and addressed as part of responsible new development.

REFER TO 5.0 Streetscapes

6.7 plant selection

The City of Salisbury is committed to strengthening the existing landscape character zones (refer Section 2.4 Landscape Character Zones) by primarily planting local indigenous vegetation that is extremely well adapted to surviving in the local environment. Private developers are encouraged to select local indigenous species as the predominant vegetation in their landscape designs. Exceptions of non-local or exotic species may be considered in feature areas. These species should be generally hardy plants from arid climates similar to the northern Adelaide Plains.

Species selection and planting patterns should follow local growing conditions relating to soil conditions and other environmental factors. Selected plants must also relate to the scale and proportion of the built environment such as roads and buildings.

REFER TO 2.4 Landscape Character Zones

REFER TO Appendices A-E

6.8 public domain elements

Hard landscape elements that are installed by a developer in public land must comply with the City of Salisbury Standards for Public Domain Elements. A range of approved elements are listed in Section 8.0 - Public Domain Elements.

REFER TO 8.0 Public Domain Elements

6.9 irrigation

Irrigation systems should be utilised to help establish new landscapes. Drip irrigation should be used in garden beds. High water demanding landscapes such as turf with pop-up sprinklers should be minimised to small focal areas. Subsurface irrigation may be used where site conditions are appropriate.

Large residential developments where public open space is to be developed must have irrigation systems designed to the City of Salisbury Irrigation Standards. This is critical for the successful handover of assets from the developer to the City.

Refer Section 9.0 - Irrigation for a full description of the City of Salisbury's Irrigation Standards and Policies.

REFER TO 9.0 Irrigation

6.10 landscape establishment and maintenance

6.10.1 Maintenance Standards

A suggested guide for the standard of open space is provided in Section 7.8 Public Open Space Maintenance. These standards show the specific requirements for maintenance including the selection of areas for high, moderate and low maintenance levels. Specific standards for the maintenance of landscapes are provided in Section 10.0 Maintenance.

6.10.2 Establishment and Maintenance Period

Public open space is often developed by private companies to increase the visual amenity of the local environs. Reserves that are developed in this manner must be established and maintained for a minimum of two summers prior to handover to the City of Salisbury.

6.10.3 Practical Completion and Final Completion Inspections

The City of Salisbury landscape and irrigation staff must be involved in the Practical Completion inspection at the conclusion of construction works, and at the Final Completion inspection at the completion of the maintenance period. The City of Salisbury must receive notification two weeks prior to any inspections. Any defects that are apparent must be rectified and inspected again prior to handover being accepted.

REFER TO 7.8 Public Open Space Maintenance

REFER TO 10.0 Maintenance

6.10.4 Landscape Handover

Once defects have been rectified and the City of Salisbury has accepted the handover of public open space, the developer shall provide the City of Salisbury with “as built” construction plans and details for both landscape and irrigation works within one month of handover. These shall be in an approved format.

6.11 future directions

- Encourage the use of Water Sensitive Urban Design (WSUD) techniques within new developments to minimise use of mains water for irrigation.
- Encourage the use of soil additives that improve plant establishment and minimises water requirements.
- Ensure that new developments comply with the Crime Prevention Through Environmental Design (CPTED) principles.
- Encourage discussions between the City of Salisbury’s staff (landscape design and recreation planning) and developers (or their consultants) during the early phases of preliminary design.
- Develop a management system to track the progress of design, construction, contract administration, and maintenance phases for each development. This will ensure close involvement of the City of Salisbury staff at every stage of private development.
- New developments be encouraged to use recycled water wherever possible.

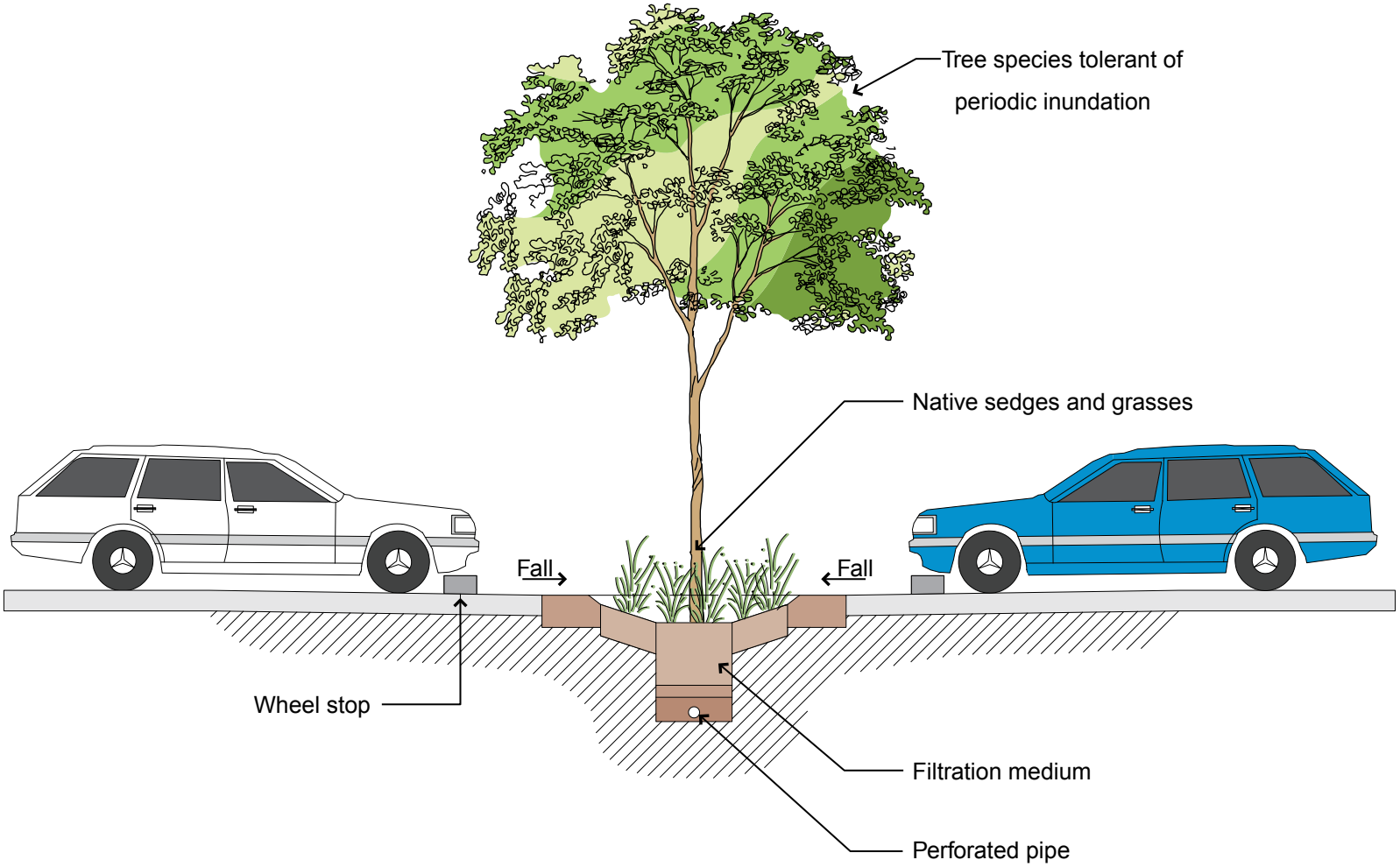

Figure 6.1: detention swale - car park section

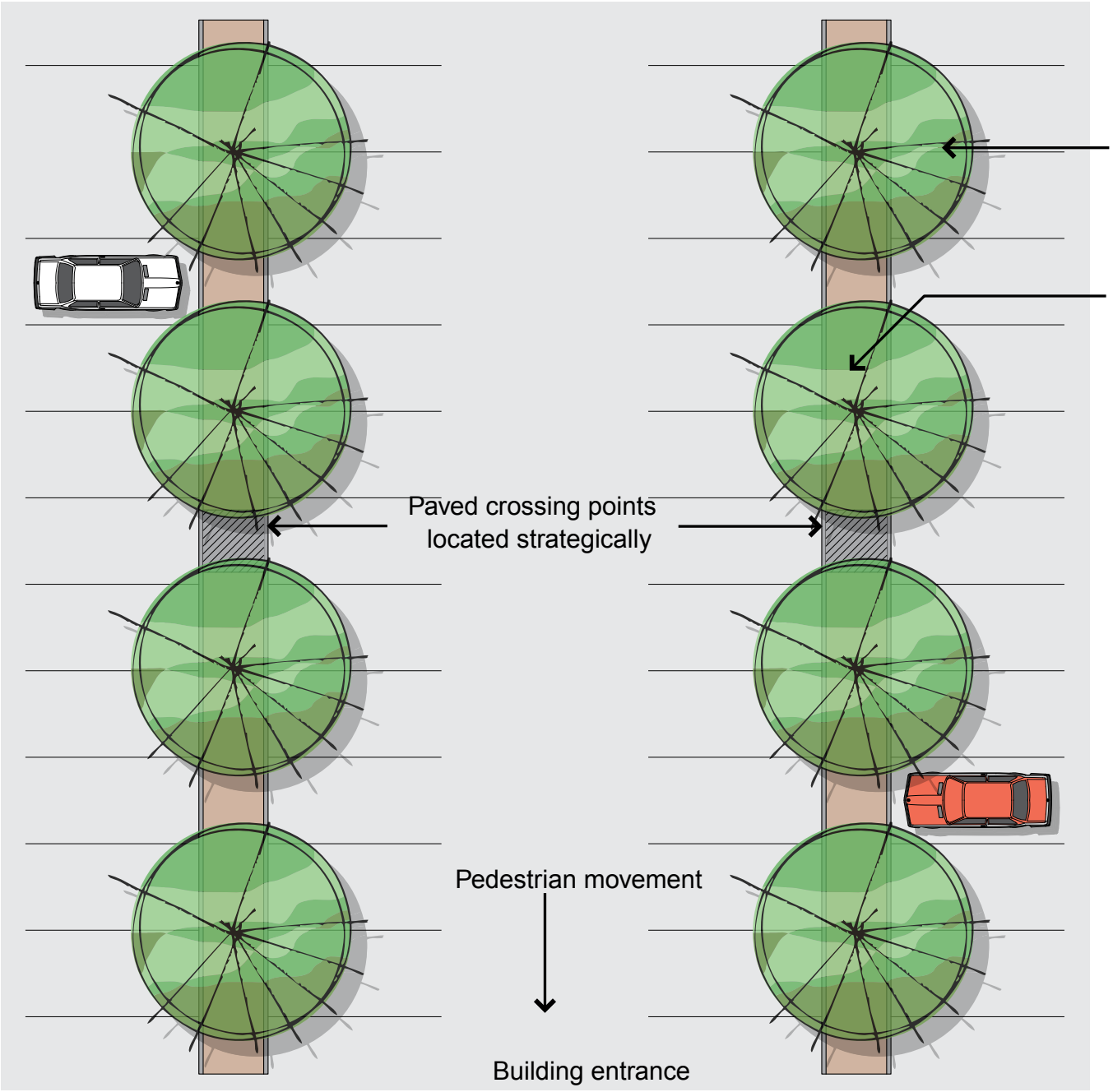

Figure 6.2: detention swale car park plan 01

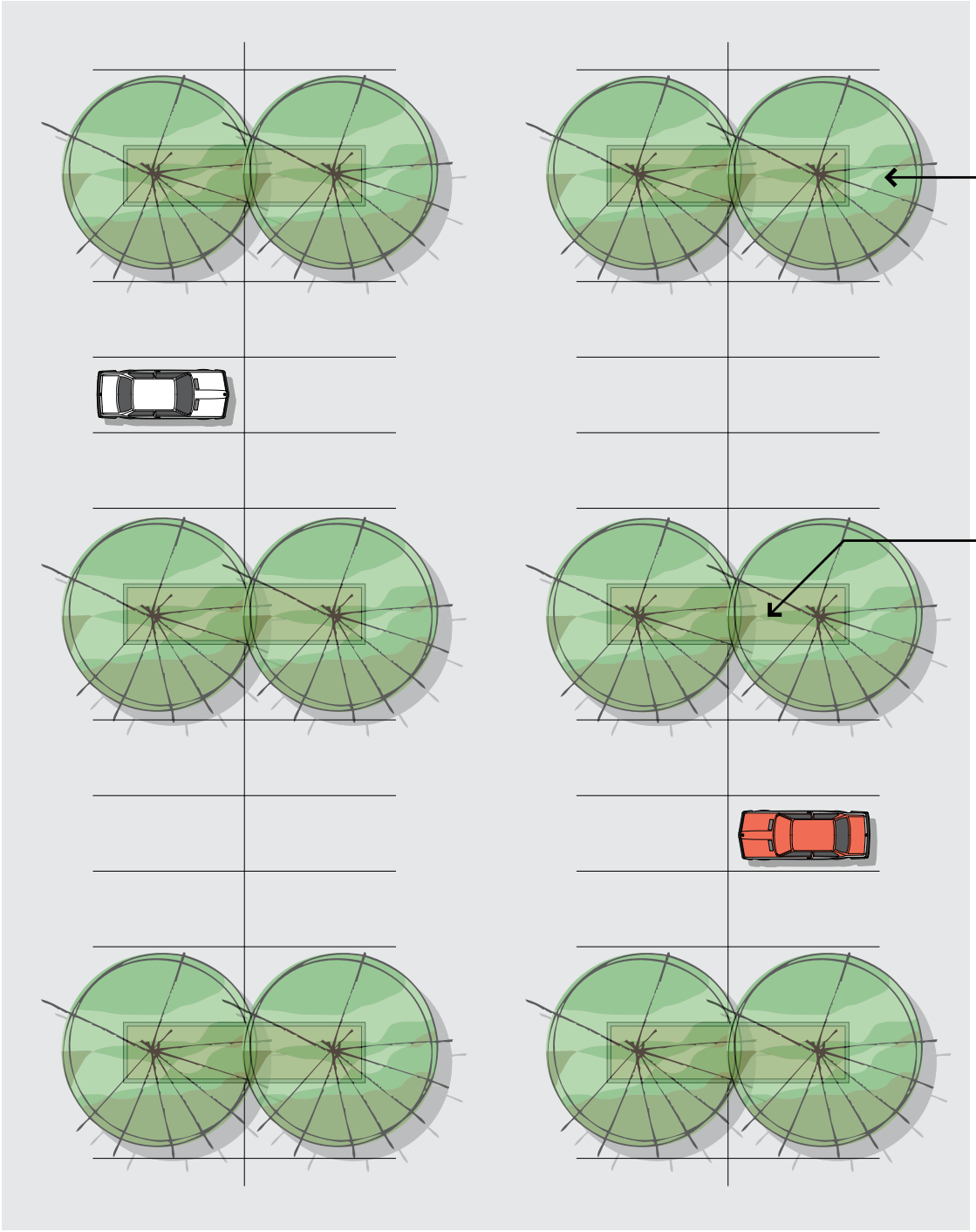

Figure 6.3: detention swale car park plan 02

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7.0 public open space

"Today we interpret the use of public space in a new way and are able to focus on places that had no value twenty years ago."

Kathryn Gustafson

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7.1 introduction

Open space remains one of the single most important City managed assets. It provides opportunities for communities and visitors to participate in a range of social and recreation activities. It also provides habitats and environmental improvements, and creates links and connections for pedestrians and cyclists. In many respects, the health of the city and its residents is reflected in the quality of its open space.

The City of Salisbury has a diverse range of open space including sportsgrounds, parks, wetlands, linear parks, mangroves and coastline, drainage reserves, screening reserves and road reserves. The open spaces in the City of Salisbury have the potential to provide current and future residents and visitors with a wide and varying range of sporting and recreation spaces, creating high levels of visual amenity, biodiversity, and strengthening links and corridors within the city and across Local Government boundaries.

The development of landscape guidelines for open space is closely aligned with reserve typologies and hierarchy. This will ensure that maintenance and the development of parks and reserves occurs in a structured manner and reflects the importance of each reserve.

7.1.1 Definitions

— Open space is defined as land that is available or potentially available to the public for recreation or sport, or has a conservation, aesthetic or buffer purpose. Public open space includes reserves, parks, beaches, trails, sportsgrounds, civic areas, play spaces, creek corridors and areas of undeveloped land owned by Local, State or Federal Government which is publicly accessible. Open space can also be private land such as a private golf course or civic space linked to commercial development.

— Recreation can be defined as positive and legal activities undertaken in time not dedicated to work or domestic duties that offers enjoyment, satisfaction and benefits a person's physical and mental well-being. Recreation activities are generally non-competitive or non-membership based. This could include activities such as walking, cycling, boating and/or organised recreation activities such as school group participation.

— Sport refers to activities that are of a competitive, membership and organised nature, e.g. a team game of sport such as cricket or an individual pursuit such as golf.

— Active refers to sport and recreation that involves physical activity, e.g. a game of sport, walking for fitness, cycling and skateboarding. Active open space could include (but is not limited to) the following: oval, stadium, clubrooms, playing surfaces, lighting, tracks, paths, skate or BMX facilities, and support infrastructure such as landscaping, seating, car parking and fencing.

— Passive refers to non-organised activities that involve a relatively low level of physical activity, such as picnics, play, sitting and relaxing. Passive open space could include (but is not limited to) the following: grassed areas, shade/shelter, play equipment, barbecue, seating, drinking fountain, paths, landscaping, car parking and fencing.

— Playgrounds refer to a specific area designed for the purpose of play through formal activities or the creation of play value. The definition describes the landscape, facilities and equipment.

— Play equipment refers to the items within a playground that provide play activity, opportunity or provision.

7.2 open space management strategy

With increasing demands being placed on open space and a need to maintain quality and quantity, a robust strategy is required that is able to match the future demands and trends of the community.

The Open Space Management Strategy will assist the City of Salisbury to resolve issues, address gaps in provision and to meet future needs. In particular, it determines the priorities and directions for open space improvements and guide the future design and function of open space.

With a strong commitment to the development of the Open Space Strategy, significant benefits can be delivered to current and future communities, as well as visitors to the Salisbury area, in terms of the enjoyment and provision of open space.

Key Directions of the Open Space Strategy are:

1. Quality and Functional Environments: Planning and managing open space provision to ensure the community has equitable access to useable open space.
2. Inter-generational Planning: Conserve and increase the city's natural resources for the benefit of the current and future community.
3. Community Landscape Character and Amenity: Celebrate the City of Salisbury's sense of identity and create a sense of place through landscape character and amenity.
4. Enhanced Recreation Experiences: Plan open space to meet the social and passive recreation needs of the community.
5. Active Reserves: Efficient and effective use of open space in the provision of active sports fields that minimises impact on natural resources and the surrounding community.
6. A Linked and Continuous Open Space Network: Plan open space to provide safe, continuous, uninhibited movement and recreational experiences.

7.3 public open space hierarchy

7.3.1 Regional

Open space that has the capacity to service or attract people from across the entire the City of Salisbury area due to its location, size, uniqueness, quality or focus of the activity and beyond, whether adjoining council areas or beyond (e.g. The Paddocks).

7.3.2 District

Open space that draws people from one or more (adjoining) Planning Precincts due to its larger size, higher quality or uniqueness to the district.

7.3.3 Neighbourhood

Neighbourhood open space appeals to a community catchment bounded by main roads. These reserves contain facilities for passive recreation and space for unstructured activities, which may include hard surface courts. Neighbourhood open space is developed to be visually appealing to encourage greater use, and should be within easy access by non-motorised transport. Open space within education institutions such as schools, TAFE and universities can also perform a neighbourhood reserve function.

7.3.4 Local

These reserves do not have the function, useability or facility provision of a neighbourhood reserve and primarily provide undeveloped paths between private properties, small buffers to main roads and may include minimal water detention or overland flood mitigation. Examples of local open space include road plantations, road blocks/closures, entry statements, buffers and walkways.

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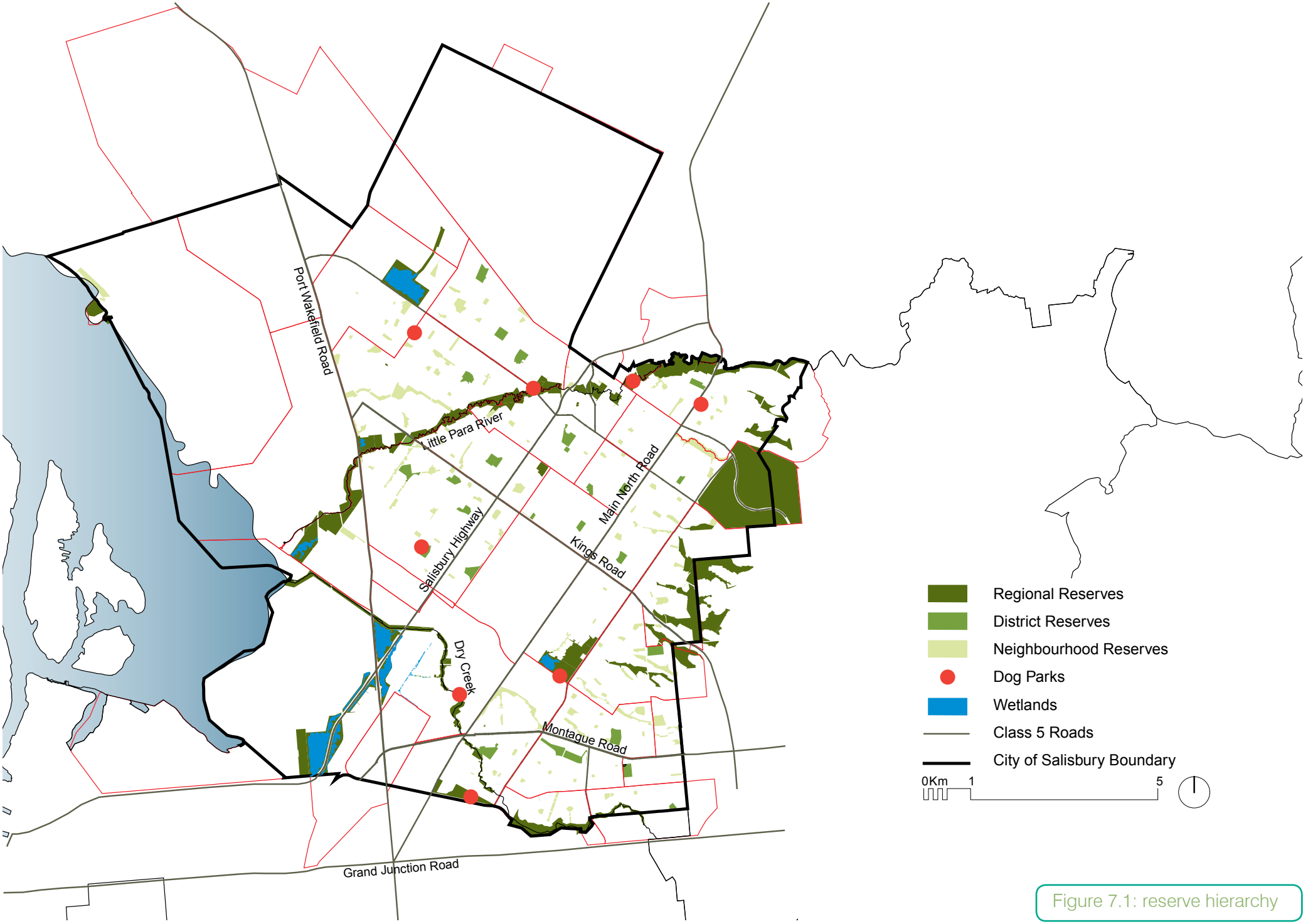


Figure 7.1: reserve hierarchy

7.4 typologies of public open space

The types of open space in the city of Salisbury that are guided by the public open space hierarchy include the following:

7.4.1 Sportsgrounds

— Regional

— District

A sportsground is an area of open space that primarily caters for sport through playing fields and other structures, e.g. cricket pitch, softball or baseball diamond, hockey field, tennis or netball courts. A sportsground could also be linked to a recreation park or include features that cater for recreation such as a playground.

7.4.2 Parks

— Regional

— District

— Neighbourhood

— Local

A park is an area of open space that primarily caters for recreation through grassed areas, playgrounds, seating, pathways, picnic facilities and other activity areas. A park could be linked to another type of open space, e.g. a sportsground or natural area.

7.4.3 Natural Areas

— Bushland

— Watercourse

— Wetland

Natural areas refer to open space that is dominated by natural vegetation and habitats with the main objective to protect, enhance or recreate the natural environment. Generally, protecting the environment includes maintaining the land in a natural state and the careful management of activities. Sport will usually not be appropriate in natural areas and recreation should be consistent with the setting and the environmental objectives. In addition:

— bushland will incorporate native trees and vegetation and is likely to be relatively undeveloped;

— wetland or watercourse will incorporate aquatic systems and vegetation, e.g. a creekline, lake, pond or low lying wetland area.

7.4.4 Foreshore

Foreshore refers to the open space along the edge of the coastline, including coastal vegetation. Sections of foreshore open space can be developed to support recreation, e.g. St. Kilda Adventure Park and the Mangrove Trail.

7.4.5 Linear Parks and Corridors

A linear park or corridor refers to a continuous length of land that provides a connection or supports movement between open space or other features and facilities. A linear park or corridor could be designed as a park setting with grassed areas, trees, pathways and seating or include substantial vegetation and provide a movement corridor for birds and fauna.

The main linear parks are the Little Para Linear Trail and Dry Creek Linear Park.

7.5 open space design

The following guidelines aim to guide the development of open spaces including new open space in development areas. The guidelines provide a framework for upgrade and development of existing and new open space.

Open space is defined as land that is available or potentially available to the public for recreation or sport, or has a conservation, aesthetic or buffer purpose. Public open space includes reserves, parks, trails, sportsgrounds, civic areas, play spaces, creek corridors and areas of undeveloped land. Open space can also be private land such as a private golf course or civic space linked to commercial development.

7.5.1 Design Principles

Develop consistent assessment criteria for the master planning and upgrade of open space. Ensure that issues for different reserves are considered within the context of the strategic directions for open space. Consider in terms of:

— Access and Movement: Provide an accessible environment for all users, including disabled access.

— Function: Location and suitability of facilities and equipment, creation of a supportive environment with facilities to increase recreation value, stormwater provision and habitat. Open space that responds to community needs.

— Amenity: The selection of plants that respond to the context, ornamental and urban landscape character.

— Habitat: Function in relation to habitat creation and biodiversity corridors.

— Users: Assess the requirements of users in terms of activities, younger and older age groups.

— Safety and Security: Application of Crime Prevention Through Environmental Design (CPTED) principles.

— Water Management: Consideration of stormwater requirements, Water Sensitive Urban Design (WSUD) and conservation principles. Development of sustainable landscape.

— Maintenance and Management: Reduction of maintenance and management requirements through appropriate plant and material selection and appropriate maintenance procedures.

— Establish open space that responds to regional, district, neighbourhood and local needs and open space hierarchy.

— In accordance with the Open Space Hierarchy, open space should be designed and developed to 'fit the purpose' of the reserve. For example, The Paddocks caters for top local league soccer players and needs to be high standard in design and quality compared with a local ground.

— Provide open space that is consistent with the Planning Precincts.

— Develop master plans for open space with reference to appropriate levels of community consultation (public consultation policy).

— Expand and modify existing open space to increase function and amenity and support additional open space provision, where required.

— Develop linear open space to link or connect existing recreation areas and to reinforce open space networks.

— Establish opportunities in regeneration and redevelopment projects that provide open space in terms of the following priorities:

  • Requirements for provision (hierarchy and priority).
  • Access (within suburb and to adjoining open space).
  • Playground and recreation provision.
  • Stormwater management.
  • Habitat connections.

— Design and locate stormwater areas to provide adequate useable open space as part of an integrated development.

— Reinforce the role of drainage reserves and other linear infrastructure (rail corridors and roads) as links, corridors and linear park connections to open space. Consider the provision of:

  • foot and bike paths (accessibility);
  • landscape treatments (trees, shade);
  • seating (rest).

— Do not accept contaminated land as open space unless the land is appropriately remediated prior to development.

— Locate open space so that it is easily accessible, has an appropriate profile for the intended hierarchy level and use, and provides a safe and appealing community area.

— Design open space to include shade, grassed areas, amenities and facilities in accordance with community needs and the relevant hierarchy level.

7.5.2 Accessibility

— Provide highly connected links and routes for all users with appropriate access, lighting, seating, shade and shelter, set within a landscape that supports and engages the community.

— Footpaths and public access points should be of a sufficient width to allow equitable access by wheelchairs and push chairs, in accordance with the Disability Discrimination Act 1992.

— Footpaths should provide pram/ramp access at suitable locations to ensure easy and safe crossing points, in accordance with AS1428 design for access and mobility.

— Footpath widths to be a minimum of 1.2 metres, with 1.6 metres the preferred width, generally responding to context and pedestrian movement.

— Cycle paths to be a minimum width of 2.0 metres with a desirable width of 2.5 metres. Shared cycle/pedestrian paths to be a minimum of 2.5 metres with a desired width of 3.0 metres.

— Provide legible footpath networks with visual connections between open space and urban areas.

— Design footpaths and other paved areas in accordance with AS1428.1/2/3/4, Design for Access and Mobility.

— Signage should be consistent, legible, with pictograms which clearly articulate the intent and ensure the correct delivery of information.

— The design of open spaces should express the principal requirements of the Disability Discrimination Act 1992 (DDA). These include the consideration of:

  • unjustifiable hardship;
  • equivalent access.

7.5.3 Level of Development

A guide for the future development of open space is provided below. Not all facilities need to be provided; the provision of facilities needs to be based on demand.

Sportsgrounds

Open Space Type	Potential Development*
Regional Sportsground	High standard ovals/fields (mown regularly and quality surface).
	Irrigation and drainage.
	All weather playing surfaces, e.g. synthetic turf field, acrylic courts.
	Regional, national or international standard sporting facilities, e.g.
	• water based synthetic hockey field;
	• softball complex;
	• baseball complex;
	• regional netball complex;
	• regional tennis complex;
	• regional athletics facility (synthetic track);
	• regional equestrian complex.
	Toilet facilities (including those for larger spectator numbers).
	Change rooms.
	Club room and/or function facilities.
	Spectator seating (including grandstand seating depending on demand).
	Permanent or temporary fencing around the ground (for spectator control or applying entrance fee).
	Support structures relating to the sport, e.g. cricket nets or training fields.
	Field lighting.
	Security lighting.
	Landscaping and shade.
	Pathways to and around the ground (including links to public transport).
	Signage.
	On-site car parking (including disability car parking).

*Could include a number of the items, but unlikely to include all items

Open Space Type	Potential Development*
District Sportsground	Good standard ovals/fields (mown regularly and good surface).
	Irrigation and drainage.
	All weather playing surfaces, e.g. synthetic turf cricket wicket, acrylic or bitumen courts.
	Dedicated sporting facilities (not of a regional, national or international level) e.g.
	• hockey field;
	• softball diamond;
	• baseball diamond;
	• netball courts;
	• tennis courts;
	• bowling or croquet green.
	Support structures relating to the sport, e.g. cricket nets or training fields.
	Toilet facilities.
	Change rooms linked to club facility.
	Field lighting.
	Seating.
	Landscaping and shade.
	Playgrounds (for sport participants and wider community).
	Pathways to and around the ground.
	Signage.
	On-site car parking (including disability car parking).

*Could include a number of the items, but unlikely to include all items

The difference between a regional or district sportsground is likely to relate more to the size, quality or uniqueness of development than the facilities provided, e.g. a grandstand versus bench seating or a function area versus a clubroom.

Recreation Open Space

Open Space Type	Potential Development*
Regional Park	Trees and landscaping (possibly including more formal gardens).
	Irrigated grassed areas (this could be sections of the park strategically irrigated).
	Picnic areas (possibly with barbecue facilities).
	Seating and tables.
	Shelters.
	Public toilet facilities.
	Walking tracks/pathways.
	Cycle tracks.
	High standard or unique playground (including potential to cater for children and carers with a disability and the visually impaired – appreciation gardens).
	Outdoor court(s).
	Youth activity areas (skate parks, BMX).
	Water or natural features.
	Drinking fountains.
	Lighting (including security).
	Signage and interpretation.
	Pathways to the park.
	On-site car parking (including disability car parking).
	Links to other community facilities.

*Could include a number of the items, but unlikely to include all items

Open Space Type	Potential Development*
District Park	Trees and landscaping (possibly including more formal gardens).
	Irrigated grassed areas (this could be sections of the park strategically irrigated).
	Picnic areas (possibly with barbecue facilities).
	Seating (possibly with tables and shelters).
	Public toilet facilities.
	Walking tracks/pathways.
	Cycle tracks.
	Playground.
	Outdoor court(s).
	Youth activity areas (e.g. skate, BMX, half court).
	Water or natural features.
	Drinking fountains.
	Lighting (including security).
	Signage and interpretation.
	Pathways to the park.
	On-site and/or street car parking (including disability car parking).
	Links to other community facilities.

*Could include a number of the items, but unlikely to include all items

The difference between a regional or district open space is likely to relate more to the size, quality or uniqueness of development than the facilities provided, e.g. a larger shelter or regional level playground in a regional open space.

Open Space Type	Potential Development*
Neighbourhood Park	Trees and landscaping.
	Irrigated grassed areas (this could be sections of the park strategically irrigated).
	Seating.
	Walking tracks/pathways.
	Playground.
	Youth activity areas (e.g. half court).
	Drinking fountains.
	Security lighting.
	Signage.
	Pathways to the park.
Local Park	Trees and landscaping.
	Some irrigated grassed areas (may only be part of the park and may not be for all local parks).
	Seating.
	Walking tracks/pathways.
	Drinking fountain.
	Could have security lighting, particularly if part of walking network.
	Signage.
	Pathways to the park.

*Could include a number of the items, but unlikely to include all items

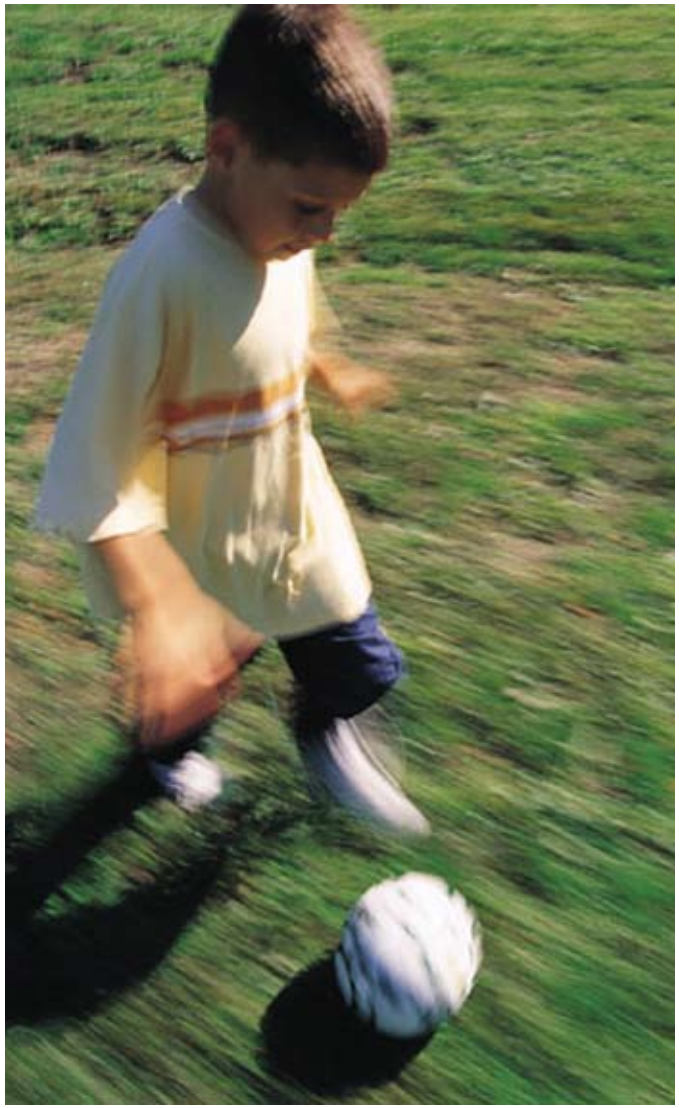
Foreshore

Open Space Type	Potential Development*
Foreshore (Mangroves)	Trees and landscaping.
	Irrigated grassed areas.
	Coastal vegetation.
	Beach areas.
	Walking tracks/pathways.
	Playground.
	Seating and tables.
	Shelter.
	Drinking fountains.
	Security lighting.
	Signage and interpretation.
	Connecting pathways to the foreshore.

Natural Areas

Open Space Type	Potential Development*
Natural Area Bushland	Native trees and vegetation.
	Walking track/pathway.
	Seating.
	Shelter.
	Signage and interpretation.
Natural Area Wetland/ Watercourse	Native trees and vegetation.
	Natural or constructed water feature, e.g. creek or wetland.
	Walking track/pathway.
	Seating.
	Shelter.
	Signage and interpretation.
Corridor/Linear Reserve	Trees and landscaping.
	Walking track/pathway.
	Cycle track.
	Seating.
	Shelter.
	Playground (possibly as part of a local or neighbourhood park linked to the corridor/linear park).
	Lighting.
	Signage and interpretation.
	Links to other open space or community facilities.

*Could include a number of the items, but unlikely to include all items



7.5.4 Connectivity and Linkages

The provision of a path network that gives access to car parks, public transport, and connects to other trails or parks is a key consideration for the design of open space areas. The continuity of a path network enhances the quality of linear parks and increases recreation opportunities, as well as providing a transport corridor for cyclists who are travelling to reach a destination.

Path networks should endeavour to link key nodes of activity, such as youth recreation areas, playspaces, kiosks, sports facilities and the like. Paths from open space areas should always link back into the street verge path network in order to provide the community with access to these amenities.

Vehicular access is also important for larger reserves. For example, regional sportsgrounds may have several facilities spread far apart that need individual car parks. Car parks should always have provision for disabled parking and pram ramps linked to paths that are accessible.

Connectivity of linear parks also plays an important role in biodiversity by providing protection and habitat for avifauna, and can help improve water quality by providing well vegetated drainage easements for natural waterways.

The interrelationship between connectivity and linkages, and access and destination, should play a major consideration in the design of all open space areas.

7.5.5 Crime Prevention Through Environmental Design

The basis of Crime Prevention Through Environmental Design (CPTED) is that good design and use of the built environment can reduce crime and improve City Image. This, in turn, leads to civic pride and improvements in the quality of life. CPTED practice is to promote high quality and visually pleasing solutions, which will welcome legitimate users to a public space. This is in contrast to the more traditional approach to resolving crime concerns by implementing visually confronting security or measures such as locks, hard barriers and security gates. This can inadvertently reinforce perceptions of the space being unsafe and further discourage the communities use of public facilities.

It should be emphasised that CPTED is one facet of crime prevention strategies, suggesting that a commonsense approach to the design of the built environment will assist in preventing crime and making people feel safe. CPTED principles need not interfere with the normal use of public open space.

The three basic elements of CPTED are:

— Natural surveillance;

— Natural access control;

— Territorial reinforcement.

Natural Surveillance

The primary aim of surveillance is not to keep intruders out, but rather to keep outsiders under observation.

Natural surveillance can be achieved by a number of design techniques:

— The flow of activity can be channelled to put more people (observers) near a potential crime area.

— Windows, lighting and the removal of obstructions can be placed to improve sight lines from within buildings.

— A casual observation capacity can be created by neighbours or people passing by and installing windows along the street side, enclosing staircases with glass, or using single-loaded corridors.

The natural surveillance capability of legitimate street users such as parking lot attendants, hotel desk clerks and taxis on ranks should be maximised. Barriers, such as bushes, sheds, or shadows, make it difficult to observe activity and so landscaping and lighting needs to be carefully considered at the design stage.

Natural Access Control

Access control relies on gates, shrubs, fences and other physical elements to keep unauthorised persons out of a particular place if they do not have a legitimate reason for being there. In public open spaces, the application of access control needs more care. Properly located entrances, exits, fencing, landscaping, and lighting can subtly direct both pedestrian and vehicular traffic in ways that decrease anti-social activities. Strategies include closing streets to through-traffic or introducing neighbourhood-based parking permits. Access control is more difficult on streets and areas that are entirely open to public use however, there are other techniques for controlling access in these circumstances. Non-physical or 'psychological' barriers can also achieve access control. These barriers may appear in the form of signs, paving textures, nature strips or anything that announces the integrity and uniqueness of an area (territory). The idea behind a psychological barrier is that if a target seems strange, or difficult, it may also be unattractive to the potential criminal. Because any strategy that fosters access control is also likely to impact on movement, careful consideration should be given to access control strategies. Such strategies may not only limit the criminal, but also hinder the mobility of the potential victims.

Territorial Reinforcement

People naturally protect territory they feel is their own and have a certain respect for the territory of others. Clear boundaries between public and private areas by using physical elements such as fences, pavement treatments, art, signs, good maintenance and landscaping are ways to express ownership. Identifying intruders is much easier in a well-defined space. Territorial reinforcement can be seen to work when a space, by its clear legibility, transparency and directness, discourages the potential offender because of users' familiarity with each other and the surroundings.

7.5.6 Water Management

The integration of the urban water cycle with planning and design is known as 'Water Sensitive Urban Design' or WSUD. WSUD has multiple environmental benefits including improving the urban landscape, providing interpretation opportunities, increasing water quality, retarding stormwater flows, replenishing groundwater, and reducing irrigation requirements.

Innovative integration of urban water management technologies into the urban environment is a relatively recent practice. The design of such dynamic systems needs to include sound environmental, landscape, and engineering design and construction. The convergence of engineering and landscape architecture is not only a science but a skilled design activity which results in a multi-functional, attractive and effective stormwater management in our public open spaces.

The City of Salisbury places a high level of importance on WSUD elements within public open spaces. Projects that incorporate WSUD technology must confirm the feasibility of proposals before progressing to detail design.

7.6 plant selection

The City of Salisbury is committed to strengthening the existing landscape character zones (refer Section 2.4 Landscape Character Zones) by primarily planting local indigenous vegetation that is extremely well adapted to surviving in the local environment.

— Consider the selection of trees and shrubs in relation to the underlying soil types, rainfall and evaporation rates in terms of the existing landscape character zones:

— Coastal Plain: Defined by underlying sands, the soil types are described as poor.

— Lower Alluvial Plains: Red-brown Earth soil associations, with good fertility and moisture holding capacity.

— Upper Alluvial Plain: Heavy clay soils with high lime contents and calcareous formations.

— River Corridors: Fertile soils with available seasonal water.

— Trees and shrubs have the ability to significantly alter open space environments providing shade and shelter, as well as visual enjoyment and a reference to nature. The selection of plants should consider these provisions, with the selection of evergreen or deciduous trees being made on the basis of shade and access to winter sun, and shelter from prevailing winds. Visual amenity should be considered in terms of the wider urban landscape and the extent of vegetation within the area.

— The selection of plants should be considered in terms of reintroducing and restoring habitats throughout metropolitan Adelaide. The selection of endemic or native species should be made in terms of:

- Association of similar habitats or adjacent habitat corridors.
- Select plants based on suitability and sustainability, with reference to existing conditions.
- Ensure that native plant selection provides other benefits such as colour, form or scale.

— Ensure that the plant selection complies with relevant legislation and policy in terms of protecting public assets, avoiding impact on infrastructure and removing social or public liability issues. Reference should be made to State Government requirements, detailing recommendations and other requirements specified by service providers such as AGL, Origin, Telstra and SA Water.

— The selection of tree species for specific locations should be considered in terms of the following:

- Context within the City.
- Orientation and micro-climate.
- Form and function of the tree.
- Proximity to buildings and urban features.
- Adjacent tree planting.

— Trees should not be used in situations where:

- views are screened;
- there is inadequate space to allow the tree to mature.

REFER TO Appendices A-E

REFER TO 2.4 Landscape Character Zones

7.7 public domain elements

Hard landscape elements that are installed in public open space must comply with the City of Salisbury standards for public domain elements. A range of approved elements are listed in Section 8.0 - Public Domain Elements.

7.7.1 Furniture and Structures

— Structures, equipment, street furniture and paving should deliver a 20-30 year asset lifespan.

— Review the location and intent of street furniture in terms of aspect and function.

— Provide furniture that is accessible with defined surveillance.

— Ensure suitable levels of shade and shelter are provided.

— Reduce potential conflicts with other users and traffic.

— Locate street furniture and equipment that encourages congregation and provides meeting points that respond to and provide for social interaction.

— Timber selection to be from recycled or approved non-rainforest plantation sources.

— Drinking fountains shall be considered in association with play spaces and shelters to encourage congregation and use.

— Street and park furniture will be set in an area of hard standing to facilitate maintenance operations.

— Barbecues shall have stainless steel covers and be located as single units in association with shelters or community focused areas within open space.

— The position of street and park furniture should be used to define space within the urban realm, as well as guide pedestrian movement.

— Street and park furniture should be placed with care, in order to retain the urban character of the streets and open spaces, and at the same time avoid excessive clutter and potential conflict.

REFER TO 8.0 Public Domain Elements

— Street and park furniture should be carefully located and designed to avoid conflict with pedestrian desire lines.

— Locate structures and equipment with reference to the natural and urban landscape context.

— Use materials, colours and designs that respond to the open space.

— Use the location and orientation of structures and equipment to enhance landscape character, and capitalise on views and aspect. Increase the function and legibility of the open space.

— All shelters should be protected from corrosion in a coastal environment.

— Structures and equipment should be located in association with path networks, nodes or areas of community activity. The location of equipment should not be isolated and its position should be clearly visual to allow opportunities for passive surveillance.

7.7.2 Lighting

— Ensure that lighting levels are consistent, even and that the level of illumination provided reflects the use and function of the space. Streets, public spaces, open space and play spaces should, where appropriate, be lit in accordance with AS1158.3.1, Public Lighting Code and ETSA P4 Category.

— All lighting should ensure optimal energy efficiency. Proposals for lighting shall detail anticipated energy consumption.

— Fixtures should be well designed and responsive to the context and location.

— Light pollution should be minimised, where possible.

7.7.3 Fencing

— Consider the design and placement of fences to ensure that pedestrian access is maintained and vehicles are confined to clearly defined areas. This will also allow recreation use outside of event times.

— Assess requirements for fencing of sportsgrounds. Explore opportunities for integrated facilities which allow pedestrian access and increase recreation opportunities.

— The use of multiple fencing styles and materials is to be avoided.

— Fencing of play spaces and reserves is to be in accordance with the Strategic Action and Guidelines. Fencing selection should allow surveillance as part of the Crime Prevention Through Environmental Design (CPTED) principles.

— No brush fencing or timber products shall be used for boundary fencing to play spaces, reserves or road reserves. The use of timber shall be restricted to natural areas (coastal, wetlands and river corridors).

7.7.4 Public Amenities

— Establish and maintain toilets as part of regional and district open space and in conjunction with community facilities such as playgrounds and barbecues. Focus provision of toilets within higher order open space.

— Review the long-term upkeep of toilets within neighbourhood and local open space. Develop a programme of review, renewal or removal as part of an Asset Management Plan.

— New toilets to be located within Regional or District open space. Toilets to be located within 100 to 200 metres of high use areas (car parks, barbecues and playgrounds).

— New toilets should be well designed to meet the needs of open space. Consideration should be given to automated or self cleaning toilets.

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7.8 public open space maintenance

A suggested guide for the standard of open space is provided below for each of the main types of open space in the City of Salisbury. This standard guide relates to private development and Council open space.

The following definitions describe the terms that have been used in the following table.

High Quality

The open space and related facilities are of superior quality and provide a high level of service to users. Some examples could be:

— quality function area and amenities;

— regularly irrigated grassed areas or fields;

— quality structures, e.g. synthetic versus grassed surface, quality shelters and seating;

— protection of the natural environment (flora and fauna);

— the settings and facilities should be safe and have a high level of appeal.

Good Quality

The open space and related facilities are of a good quality and provide an appropriate level of service. Some examples could be:

— well maintained clubroom and amenities;

— regularly mown fields and maintained garden beds;

— the settings and facilities should be safe and appealing.

Safe and Appealing Quality

The open space and related facilities are of sound quality and are safe to use. In particular, the open space and facilities should:

— have appeal from a visual and user perspective, i.e. people will appreciate and, where appropriate, use the reserve or feature within a reserve;

— meet statutory and/or City of Salisbury health, safety and risk management requirements.

7.8.1 Maintenance Standards

Open Space Type	Suggested Standard of Maintenance
Regional Sportsground	High quality, with the capacity to support higher level competitions and events, and cater for spectators.
District Sportsground	Good quality, with the capacity to support higher level competitions.
Neighbourhood Sportsground	Safe and appealing quality.
Regional Park	High quality, with the capacity to cater for large numbers of users.
District Park	Good quality.
Neighbourhood Park	Safe and appealing quality.
Local Park	Safe and appealing quality.
Natural Area Bushland	Good quality.
Natural Area Wetland/ Watercourse	Generally good quality although some settings and locations could justify higher quality.
Foreshore	Good quality.
Linear Parks and Corridors	Quality will vary depending on the topography, location and related facilities and open space.

REFER TO 10.0 Maintenance

7.9 irrigation

Irrigation of reserves and parks should be a reflection of the City of Salisbury's Open Space Management Strategy and is closely aligned with reserve typologies and hierarchy.

The irrigation of open space constitutes a significant financial and resource commitment by the City of Salisbury. The continued presence of water restrictions and the development of the 'Waterproofing Adelaide Strategy 2005-2025', means that guidelines need to be developed in relation to irrigation and water management. The following guidelines are based on Code of Practice – Irrigated Public Open Space (IPOS) prepared by the City of Salisbury (2005).

— Investigate, where available, alternative water supplies for irrigation purposes. Consider bore water as part of an aquifer storage and recovery (ASR) system, effluent water and stormwater re-use in order to meet irrigation targets, as well as satisfy sustainability principles.

— Provide irrigated turf areas based on a functional assessment. Achieve the 'desired function' based on the amenity objectives and in relation to the surrounding landscape context.

— Cool season grasses (Fescues, Ryes, etc.) use 30%-50% more water than the warmer season grasses (Kikuyu or Couch). The drought tolerance of the warmer season grasses is also significantly higher than the cooler season grasses. On this basis, warmer season grasses (Kikuyu and Couch) should be used in the development of turf grass areas for irrigated open spaces.

— The primary principle of developing irrigated turf areas is the classification of 'fit-for-use' turf quality. Open space management should clearly express the intent for grassed open space to ensure that the turf quality matches the functional objectives (for example, passive irrigated areas can be maintained using up to 50% less water than higher profile sportsgrounds).

— Annual turf management programmes should be developed for individual locations, as part of the City of Salisbury's Maintenance Schedules. These programmes should aim to improve the soil condition and structure, maintain appropriate nutrient levels and encourage root growth to establish turf which is safe and fit-for-purpose.

— Mowing heights, decompaction and topdressing, as well as ongoing water requirements should all be considered on a regular basis, as part of a structured management approach to irrigated turf.

— Establish an optimum level of water to maintain the establishment of the turf grass. Introduce responsive irrigation management systems including on-site weather stations and soil moisture sensors which enable a more responsive irrigation schedule to be applied (consider as part of infrastructure upgrade).

— Mulch landscape areas in order to conserve water by decreasing the loss of moisture due to evaporation and reducing soil temperature. Appropriate depth of the mulch is 75 mm for trees and shrubs.

— Consider the development of irrigation zones as part of open space management. Develop a hierarchy of irrigation:

- Very Low Water Zones are typically farthest from a source of water. Plants in these areas must be chosen carefully, requiring little or no supplemental irrigation.
- Low Water Zones will require more water than that which is available naturally. During severe drought, supplementing the water supply will become necessary.
- Moderate Water Zones will use the greatest ratio of water to landscape.

REFER TO 9.0 Irrigation

8.0 public domain elements

"Because inclusion is the name of the game, because health and safety hold such sway, because we live in a contentious society and, as the Japanese say, 'they hammer down the nail that sticks out', it is bloody hard to realize anything of quality in the public realm. This is bad for the public."

Charles Jencks

revision	01	02	03	04	05	06	07

AL0608: 30/05/07 : HASSELL

8.1 introduction

The public domain makes a strong statement about a community and makes an enormous contribution to a city's function, feeling, expression and dynamism. The City of Salisbury has developed an effective and strong approach to the city's image and this document seeks to build upon the City Image policies. A well designed, legible and quality public domain, sympathetic to the city's context assists in portraying a positive image to visitors, residents and workers and can engender great pride within the community. This, in turn, attracts other economic and social benefits well beyond the scope of a 'hard landscape' policy.

Hard landscape elements including footpaths and street furniture, form a significant and visible component of the City of Salisbury's public domain. The design, implementation and maintenance of these elements have a considerable effect on the experience of the pedestrian, cyclist and motorist.

The co-ordination and design of these elements is critical to the 'feel' of the city across all levels and a simple urban design approach to the development is proposed, with a clearly articulated suite of elements and materials.

The Public Domain elements are composed of the following sections:

Pavements

Five categories of paving and supporting edging options are proposed including:

— Asphaltic Concrete
— Insitu Concrete
— Unit/Segmental Concrete Pavers
— Gravel
— Timber Boardwalks
— Edging Options for each category

Street Furniture

— Shelters
— Litter Bins and Enclosures
— Ash Urns
— Seats and Benches
— Bollards
— Lights
— Fences and Gates
— Outdoor Furniture Schedule

8.2 critical overview

The existing City of Salisbury strategies, policies and guidelines for the development, improvement and maintenance of the public domain of the city are documents often created independently, with a specific purpose for worthy objectives and desired outcomes (for example, the Mawson Lakes Landscape Guidelines).

Many of these documents are now out of date yet are still utilised by many people within the City of Salisbury as reference documents. Many of the reports, including the maintenance regime for all of the City of Salisbury's reserves and open spaces, are tailored for a specific purpose (maintenance requirements, etc.) and are not able to be referenced to one another.

Currently, footpath paving for pedestrian networks within streets is an X-type 'Clover' two-way interlocking paver in Brasilian Brown. Within reserves, a clover leaf paver or stabilised X6 rubble is used, although newer reserves completed by developers are paved with a variety of different surfaces. This clearly needs to be inventoried and assessed to ensure consistency and a direction in keeping with 'City Image'

Material selection and replacement programmes are not effectively co-ordinated. The City Landscape Plan is an opportunity to coordinate material hierarchies and locations in an easy to use manual from field staff to the City of Salisbury's strategic planning.

The Landscape Plan aims to provide not only a single source document for all of the City of Salisbury, but a 'one stop shop' for the wider community, including other government agencies, developers, consultants, businesses and residents

8.3 pavements

8.3.1 Asphaltic Concrete

Asphaltic concrete or bitumen is an economical material well suited to complement materials such as insitu concrete, unit/segmental pavers, gravels and stone. Used effectively, asphaltic concrete or bitumen is a unifying element and can be used to cover large areas at minimal capital expense. By utilising other materials, it can be 'dressed up' in higher quality urban areas or used as a basic footpath material, where appropriate.

Finish

Asphaltic concrete or bitumen is a flexible design material suited to a range of applications across all levels. For an effective treatment asphaltic concrete or bitumen requires a suitable edge treatment and this includes insitu concrete, steel, recycled polymer or hardwood. Edge treatments provide visual contrast and define paths and thresholds. Design should allow for removal, where possible, to prevent a 'patchwork' effect.

Uses

— Footpaths
— Secondary roads
— Feeder roads
— Car parks
— Local streets

Other Uses

— Parks
— Public spaces such as small squares
— Minor shopping areas supporting other materials such as insitu concrete or unit/segmental pavers

Comparative Materials

Asphaltic concrete or bitumen can be tailored to complement other materials such as unit/segmental pavers, insitu concrete, stone and gravels. It can also be coloured for other uses such as bike/shared paths.

Edging Options (in order of hierarchy)

1 Concrete
2 Steel
3 Recycled hardwood

Indicative Cost (December 2006)

Asphaltic bitumen: $45.00/m^2

Edging: $25.00/lineal metre

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8.3.2 Insitu Concrete

Insitu concrete is an effective and durable hard landscape element suited to a wide range of uses. It requires minimal maintenance, once installed, and is a long term finish. It can be coloured with powdered or liquid oxides, cut to provide a tiled appearance, treated for exposing of selected aggregate, used for contrast and is readily available.

Finish

There are a number of different finishes for insitu concrete:

— float or broom finished;

— shotblast;

— honed;

— exposed aggregate.

Insitu concrete footpaths are always reinforced to engineers' details and should include suitable base course preparation.

In high profile areas, insitu concrete can be cut to provide a tiled and high quality appearance.

Joints of varying types (expansion and contraction and the like) are designed to appear continuous and avoid unattractive junctions/joints.

Uses

Footpaths:

— Main roads, collector roads, secondary roads

— Supporting material to concrete pavers

— Shopping areas, residential areas and major paths in parks and reserves

— Superior material used with asphaltic concrete or bitumen and gravel

Roads:

— Thresholds

— Residential estates

— Crossings

— Intersections

Other Uses

— Public spaces such as plazas or intersections

— Major park entrances

Comparative Materials

— Supports stone and unit/segmental pavers

— Where specified, used as the dominant material and supported by gravel, asphaltic concrete or bitumen and gravel.

Indicative Cost (December 2006)

Insitu Concrete: $50.00-65.00/$m^2$

Exposed Aggregate Insitu Concrete: $85.00/$m^2$

8.3.3 Segmental Pavers

Pre-cast unit or segmental pavers are proposed as one of the key feature pavements for high profile, highly pedestrianised sites and entry statement areas across the city.

Concrete pavers are proposed in line with existing City of Salisbury design guidelines. These are durable, cost effective, available, easy to install and have a high level of finish suitable for the aforementioned applications. Further, concrete pavers have been used extensively throughout the city of Salisbury and would complement the existing applications.

Concrete pavers would be co-ordinated with other materials such as asphaltic concrete, insitu concrete, gravel and soft landscaping. Several sizes are proposed including 300x300x60, 400x400x60 and 500x500x60 mm dependent on location and application.

Finish

Concrete pavers provide a high level of finish and are attractive, aesthetically pleasing pavements for use in areas where pedestrian traffic is high, and a good quality and durable finish is required. Concrete pavers are available in a range of colours and finishes (such as honed, semi-honed, shotblast, exposed aggregate).

Products such as UrbanStone, BEST or Stonevue are proposed.

Uses

— City centre footpaths
— Entry statements
— Major intersections
— Major city streets
— Major park entries

Comparative Materials

Concrete pavers are proposed as the feature material and are supported by insitu concrete, asphaltic concrete or bitumen and gravel.

Indicative Products

— UrbanStone, www.urbanstone.com.au
— BEST Pavers, www.bestpavers.com.au
— Stonevue, www.stonevue.com.au

Indicative Cost (December 2006)

Varies, dependent on product.

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8.3.4 Timber Boardwalks

Timber boardwalks are proposed for environmentally sensitive sites such as wetlands, bushland paths, informal crossings, Water Sensitive Urban Design (WSUD) drainage swales and the like.

Timber boardwalks are designed to be complementary to the natural environment. Timber boardwalks should be designed to cause minimal or negligible disturbance to the natural environment. Handrails and other devices are used in accordance with the relevant standards.

Finish

Recycled hardwood or hybrid mix of recycled timber and plastic/ PET product with galvanised/stainless steel finishes to fixings.

Uses

— Environmentally sensitive sites
— Wetlands
— Creeks
— WSUD drainage swales
— Bushland paths
— Other open spaces areas requiring environmental interpretation

Comparative Materials

The use of boardwalks will be site specific and will require co-ordination with all hard landscape approaches.

Indicative Cost (December 2006)

Cost varies depending on materials, footings, handrails, fixings and site restraints.

$500.00-$1,200.00/lineal metre

8.3.5 Gravel

Gravel is an attractive, economical material used across the City as an alternative to irrigated grass and in feature areas where turf may have been previously used, such as entry statements, medians, and 'nature strips' between footpath, kerb and gutter.

Gravel is a low cost option, suitable for use as a supporting element to other pavement types and in areas where a surface treatment is required with little or no maintenance. It is also proposed for environmentally sensitive sites where informal paths are required with minimal intrusion into the natural environment.

In recent years, gravel in various forms has developed as an alternative to other surface treatments. Indeed the City of Salisbury and other government agencies such as the Department for Transport, Energy and Infrastructure (DTEI) have been using 'X6 Sand' and 'PM40/60' as treatments to medians and other areas not suited to irrigation of large areas of grass. It is increasingly available in various forms including the use of locally sourced material.

Gravel requires little or no maintenance apart from resurfacing every 5-10 years, depending on use. It is highly durable, but not recommended for constant vehicular traffic. Cement stabilised gravel (6% cement) is a suitable material surface for a lightly trafficable road, such as a remote car park in a national park, or a large regional park with asphaltic concrete or bitumen road surface supporting the car park.

It is to be used in bushland settings as a pedestrian path and fire access path supporting timber boardwalks and asphaltic concrete paths.

It is also a semi permeable pavement that can be used to express Water Sensitive Urban Design (WSUD) principles.

Finish

Gravel is available in numerous forms. For trafficable use, it is cement stabilised (6%) or using builders lime. Typical aggregate size varies between 'fines' and 8-10 mm. It is also available in a range of colours, dependent on material availability.

Uses

Gravel is to be used as a feature material for the following locations:

— City of Salisbury entry statements.
— Along main and secondary roads in the medians and along the 'nature strips'.
— Residential entry statements.
— Bushland paths.
— Car parks with light vehicular traffic supported by bitumen road surface.
— Park paths.
— Secondary public spaces with no active recreation purposes.

Comparative Materials

Gravel can be tailored to complement other materials such as unit/segmental pavers, insitu concrete, stone and gravels. It can also be coloured for other uses such as bike/shared paths.

Edging Options (in order of hierarchy)

— Unit concrete paver band.
— Concrete (either insitu or quick kerb).
— Steel.
— Timber.

Indicative Cost (December 2006)

Decomposed gravel: $25.00/$m^2$

Edging: commences at $25.00/lineal metre for timber edging

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8.3.6 Pavement Schedule

	Regional Reserves	District Reserve - Sports Field	District Reserve – Passive Recreation	District Reserve – Natural Resource/ Wetland	Neighbourhood Reserve - sports field	Neighbourhood Reserve – Passive Recreation	Neighbourhood Reserve – natural resource/wetland	Local Reserve – Passive Recreation	Local Reserve – Natural Area	Dog Park	Municipal Building Grounds	Dual Use Pedestrian Corridor
Asphaltic Concrete/Bitumen	■	■	■									■
Insitu Concrete	■	■	■		■							■
Segment Pavers	■	■			■						■	■
Timber Boardwalks	■			■			■		■			■
Gravels	■		■	■		■	■	■	■	■		■

8.4 outdoor furniture

The quality of outdoor furniture conveys a strong indication of the intended character of a site. The City of Salisbury has a need for a range of furniture styles to cater for a diverse range of landscape character and functionality. For example, the hard landscape elements used in a civic square will be very different from that used along a nature trail. Similarly, outdoor furniture placed at a sportsground will differ from that used at a dog park.

A key requirement for all styles of outdoor furniture is that they are functional, robust, and generally require low levels of maintenance. Outdoor furniture should also utilise materials and construction practices that are sustainable and exhibit a commitment to environmental protection. Fixings should in general be tamper-proof and difficult to remove without specialist tools.

All outdoor furniture should be designed and maintained in compliance with Australian Standards, including Occupational Health and Safety Regulations, and the Disability Discrimination Act 1992.

8.4.1 Shade Shelters

Shelters are provided in open space areas that have a large number of users and are generally associated with picnic settings, playspaces and sports fields. A large variety of shelters in differing styles are now available as proprietary items, specifically designed for use by councils.

Shelters should be chosen and located in context with each particular site. Parameters such as wind loading, soil types, and proximity to the coast should all be considered. All structures must be certified by a structural engineer prior to construction being commenced.

8.4.2 Litter Bin Enclosures

Litter bins throughout the City of Salisbury are generally the plastic mobile type that can be placed inside an enclosure (in locations) or attached to a sturdy post (in reserves). Litter bin enclosures should be selected on the basis of resistance to vandalism, ease of maintenance, and functionality.

Litter bins should be located in areas where they are easily accessible such as next to trails and paths or near picnic areas. The location should also be readily accessible by the maintenance crews that will be emptying the bins.

8.4.3 Ash Urns

The use of ash urns are generally restricted to town centres and shopping centres where disposal of cigarette butts can be a problem. They are commonly fabricated from stainless steel and have a simple locking device and are easy to empty and clean.

8.4.4 Seats and Benches

Seats and benches should be selected on the basis of comfort, resistance to vandalism, ease of maintenance, and functionality. They are typically constructed with powdercoated mild steel frames and should have fixings below final finished surfaces. The seat and backrest may be made of recycled or plantation grown timber or aluminium.

When choosing locations for seats and benches, the following should be considered:

— Locations should take advantage of existing views which encourage passive surveillance and increase park users' safety.

— Seats and benches should be set back from paths on paved aprons so they are not hazards for bike riders, joggers or the visually impaired.

— Seating should be provided at regular intervals along trails, walking tracks and dual-use paths, as rest stations for recuperation, or contemplation.

8.4.5 Bollards

Bollards are generally used to ensure a safe separation between conflicting uses, such as pedestrians and vehicles. They can delineate areas and provide legibility to open areas. Bollards can range from highly ornamental mild steel or stainless steel posts used in urban situations, to cost effective products made from recycled timber used in natural areas.

Bollards and other safety barriers or rails, are also used in urban areas where alfresco diners are exposed to vehicular traffic. In these cases the design should conform to 'Roadside Dining Protection – A Guideline for Local Government Authorities in South Australia', a State Government publication.

8.4.6 Bicycle Racks

Bicycle racks are an important element that is often overlooked. Racks should be provided at locations such as town centres, high use transit interchanges, and recreation centres. They are typically fabricated from galvanised steel or stainless steel and should have fixings below final finished surfaces.

8.4.7 Drink Fountains

Drink fountains should be located in key open space areas such as sportsgrounds, fitness trails and dog parks. The design of drink fountains should be carefully considered so that disabled persons are not disadvantaged by poor design. Modified drink fountains are available that have a water dispenser for access by dogs which is particularly useful in dog parks.

8.4.8 Tree Grilles and Guards

The use of tree grilles and guards will be generally restricted to open spaces that have a high level of usage and high maintenance requirements. Tree guards are used to protect trees that may otherwise succumb to vandalism and should be constructed of powdercoated mild steel.

Tree grilles should be used where trees are planted into paved areas, to protect the root plate from compaction. Uses of below ground treatments such as structural soils are also recommended in these situations. Grilles are generally made from cast iron, HDPE plastic or stainless steel.

8.4.9 Signage

Signage is an important landscape element that plays a role in corporate identity, interpretation, and way-finding. The placement, graphic style and scale are important factors in a successful signage strategy.

Signage should have the following objectives:

— Consistency in style; must follow City Image guidelines and standards.

— Should be easy to read and recognisable.

— Should be informative and relevant.

— Should be robust and cost effective.

8.4.10 Picnic Settings

Picnic settings should be selected on the basis of comfort, resistance to vandalism, ease of maintenance, and functionality. Where possible, below ground fixings should be incorporated into the design. A paved apron below the picnic setting should conceal the fixings and prevent theft.

When choosing locations for picnic settings the following should be considered:

— Provide views to children's playspaces so that parents or guardians can have good surveillance.

— Protect picnic settings from prevailing winds.

— Maintain a comfortable distance between picnic settings.

— Provide picnic settings in conjunction with shade shelters where there is no natural shade from trees.

— Generally, locate the setting north-south.

— Consider the provision of a paved apron beneath the picnic setting and linkage to path networks.

8.4.11 Playspaces

The key objectives of children's playspaces are to:

— develop social and basic motor skills for young children;

— provide a safe area for children to play;

— provide an area that includes some form of play equipment, which may vary from playspace to playspace;

— provide an area that is protected from vehicular traffic.

Design Considerations

Locating playspaces:

— Location of a playspace should generally be a five minute walk for a majority of residents (approximately 400 metres).

— Playspaces should be in clear public view.

Cater for a diversity of social and physical needs.

— Playspaces should contain a mix of active play equipment, active non-structured play areas, imaginative/creative play areas and adult/carer areas.

— The location of different play zones need to be considered in relation to separating conflicting activities, different age groups and group sizes. The playground should accommodate for a wide age range (toddlers to 12 year olds).

— The number of play elements should consider the carrying capacity of each playspace.

— Shade from existing trees is to be utilised when locating a new playspace.

— Observation spaces should be considered for children, parents and carers.

— Supportive Environments for Physical Activity (SEPA) principles shall be applied.

Be physically accessible to all.

— Paths and surface treatment to aid access must be considered and rubber soft fall is to be provided in strategic locations.

— Features and play equipment that are inclusive should be provided.

— Playspace should link to proposed or existing pathway network.

Maximise user safety.

— Crime Prevention Through Environmental Design (CPTED) principles, such as: access control; clear sightlines; maximisation of passive surveillance; provision of adequate lighting; minimising places of entrapment; clearly designating and defining the use of space, must underpin the design.

— Conflict with existing features and facilities are to be considered and minimised.

— Fencing to all or part of junior playspaces is to be considered.

Be environmentally sustainable.

— Consideration must be given to the use of sustainable materials and products, and water efficient plants.

The play equipment shall be constructed from the following materials:

— Plastic Panels: Shall not be used unless approved by the Principal.

— Posts, Caps, and Metal Play Items: Shall be hot dipped galvanised steel or similar approved.

— Chains: Shall be 6 mm short link hot dip galvanised proof coil chain and shall not be vinyl coated unless otherwise approved. Split links shall not be used.

— Fasteners: Shall be vandal resistant and hot dipped galvanised.

Construction of the play equipment shall comply with the following Standards:

— AS4422:1996 Playground Surfacing – Specifications, requirements and test method.

— AS4486.1:1997 Playgrounds and Playground Equipment Development, installation, inspection, maintenance and operation.

— AS4685.1-2004 Playground Equipment – General safety requirements and test methods.

8.4.12 Outdoor Furniture Schedule

	Regional Reserves	District Reserve - sports field	District Reserve – passive recreation	District Reserve – natural resource/wetland	Neighbourhood Reserve - sports field	Neighbourhood Reserve – passive recreation	Neighbourhood Reserve – natural resource/wetland	Local Reserve – passive recreation	Local Reserve – natural area	Dog Park	Dual Use Pedestrian Corridor	Municipal Building Ground
Shade Shelters	■	■	■									
Bins and Enclosures	■	■	■		■							■
Ash Urns												■
Seats and Benches	■	■	■	■	■	■	■	■	■	■	■	■
Bollards	■	■	■	■								
Bicycle Racks	■	■	■	■	■			■		■		■
Lighting	■	■	■		■						■	■
Drink Fountains	■	■	■		■					■		
Tree Grills and Guards												■
Signage	■	■		■	■		■		■	■		■
Picnic Settings	■	■	■	■	■	■	■	■	■			
Playspaces	■	■	■		■	■		■				

8.5 lighting

— Depending on the development size the scheme could either be ETSA or CLER – check with the City of Salisbury staff.

— At this point, designs should be undertaken using high pressure sodium lamps (T5s are acceptable on columns and are presently being trialled within the city). The use of mercury vapours is not acceptable within the city of Salisbury.

— Lighting columns should be placed no further than 800 mm behind back of kerb to ensure that a 2 metre paved footpath can still be obtained in this area.

— Light columns should be the same side of the road as the proposed footpath. It should be noted, however, that footpaths are required on both sides of collector routes.

— Columns, poles, fittings and luminaires must be certified to Australian Standards. Certification to European standards will not be acceptable to the City of Salisbury.

— Designs requiring the installation in laneways where no footpath exists should show a requirement for bollards to be installed to protect the column/pole as part of that design.

— The City of Salisbury would prefer the installation of impact absorbing columns/poles in CLER/Energy Only designs where the City of Salisbury is to become the owner of the asset. In V category designs, the use of TSA slip base poles should be considered in preference to rag bolt fittings.

Road Luminaires & Lamps

Boston Lanterns	100, 150 250 watt hps
Boston 2 Lanterns	50 watt hps
Sylvania Nostalgia	50 watt hps
Seaford Lanterns (Westside	50 watt hps
Sylvania Roadsters	150 & 250 watt hps
Bega style uplight (asymetrical)	9008 125 watt mv
Bega style uplight (asymetrical)	900 750 watt mv
Primaspheres (on road bridges)	50 watt hps
Conlux bollard	32 watt compact fluro

Columns

Riverton Column	(single & double outreach)
Vicpole Column	(single & double outreach)
Boulevard Column (Street & Park Furniture)	(single columns)
Promenade Column (Street & Park Furniture)	(single columns)
4.5 metre post top with Westside slipover	(single sided)
bollard	
TSA style slip base columns	(single & double outreach)

Reserve Luminaires & Lamps

Sylvania Avenue	70 watt metal halide or 70 watt hps
Thorn Gamma70 watt metal halide or 70 watt hps	
Solar Lights?	

Columns

Cootes 4.5 metre column	(single & double outreach)
Components not to be used	
Riverton impact absorbing rag	(single or double outreach)
Bolt mounted columns	

8.6 maintenance

The maintenance of public domain elements includes all the various forms of minor assets that have been installed or constructed throughout the city to contribute towards the recreational needs of the community. The City of Salisbury strives to maintain all public domain elements to standards that have the following objectives:

— Ensure public domain elements are maintained in a safe, functional, good condition that maximises the life of the asset.

— Ensure public domain elements are maintained to a standard that enhances the City of Salisbury's ability to provide recreational opportunities.

— Ensure public domain elements are inspected, assessed, and maintained on a regular, programmed basis.

— For detailed information regarding maintenance of public domain elements, refer to the City of Salisbury Maintenance Services Specifications.

REFER TO 10.0 Maintenance

8.7 future directions

— Develop a range of furniture 'suites' that are unique to the City of Salisbury, and are designed for particular types of open space.

— Ensure that furniture designs comply with DDA requirements, e.g. picnic settings that can be used by wheelchair users, drink fountains that are accessible to persons in wheelchairs.

— Investigate new materials that may have properties that are sought after, such as fire-proof aluminium bins, etc.

— Investigate playspaces that are based on natural elements and landform, rather than fabricated equipment, e.g. stepping stones and balancing logs can provide greater play value than other more expensive equipment.

— Utilise accessible playspace soft-fall, such as recycled rubber, wherever possible.

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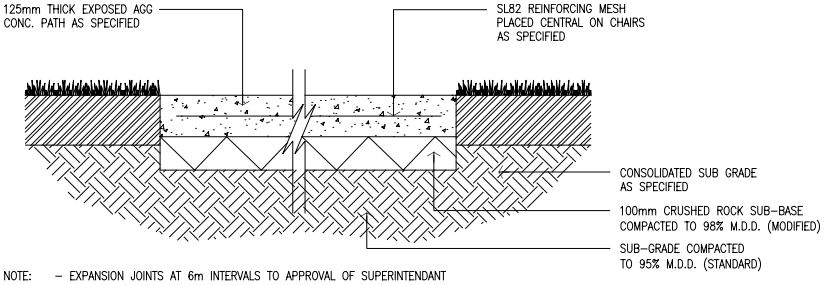
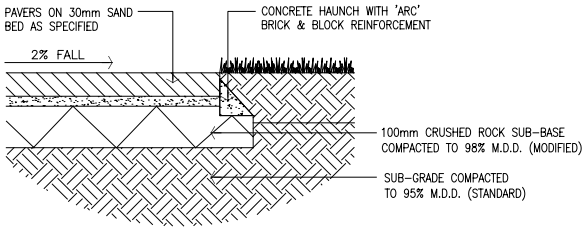
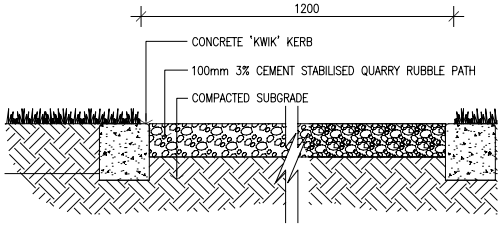
8.8 typical details



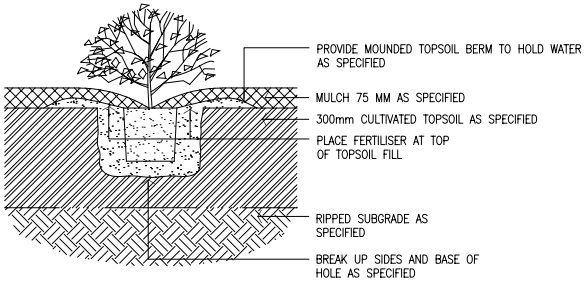
EXPOSED AGGREGATE CONCRETE PATH



TYPICAL PAVING DETAIL



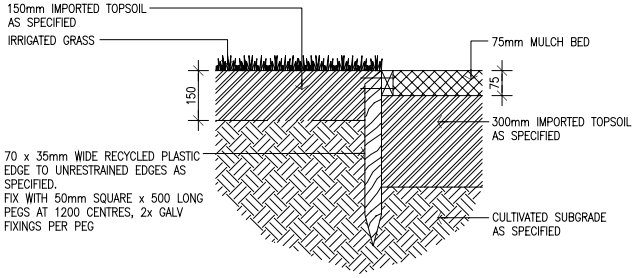
TYPICAL CEMENT STABILISED QUARRY RUBBLE PATH



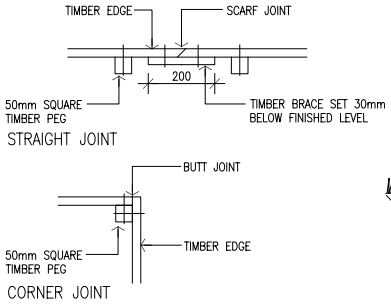
TYPICAL SHRUB PLANTING

NOTE

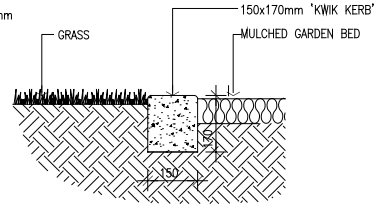
1. EXCAVATE PLANTING HOLE TO TWICE WIDTH & DEPTH OF POTSIZE DIMENSIONS
2. APPLY FERTILISER TYPE & RATE AS PER SPEC. AVOID ROOT CONTACT.
3. PLACE PLANT IN CENTRE OF HOLE, BACKFILL WITH APPROVED TOPSOIL, FIRMING PROGRESSIVELY.
4. WATER WELL INTO SAUCER AROUND CROWN OF PLANT.



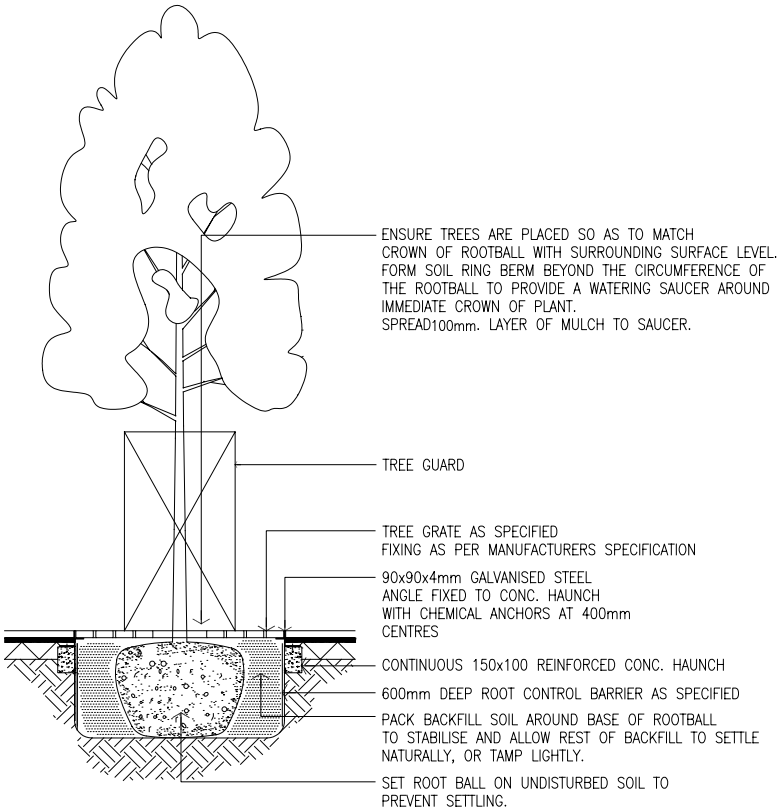
RECYCLED PLASTIC EDGE DETAIL



CORNER JOINT DETAIL

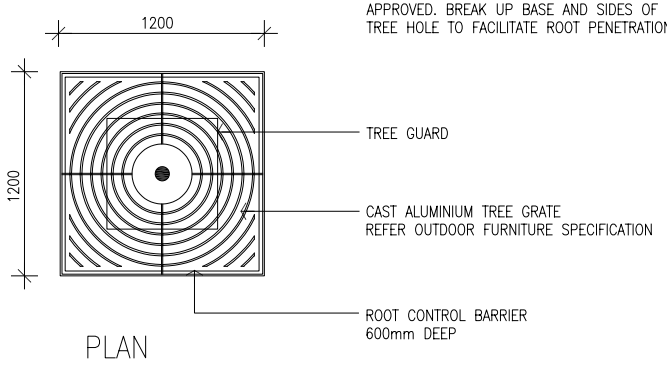


CONCRETE EDGE DETAIL



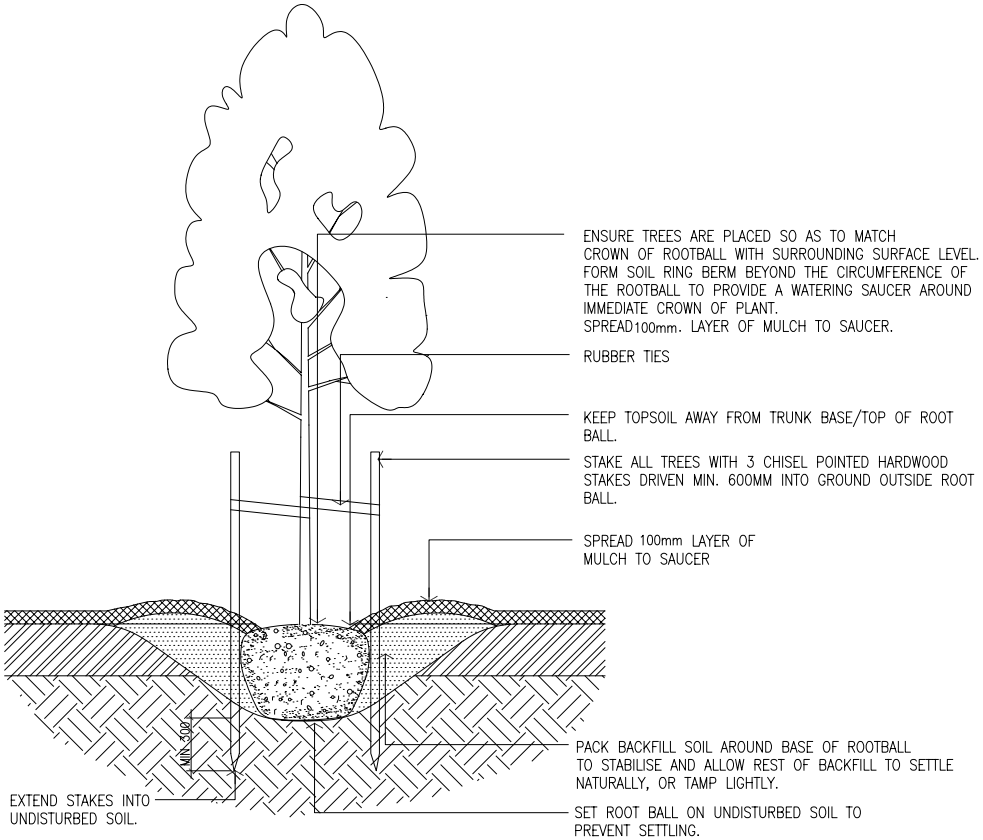
SECTION

NOTE:–
EXCAVATE TREE PLANTING HOLE BACKFILL WITH SOIL OR SIMILAR APPROVED. BREAK UP BASE AND SIDES OF TREE HOLE TO FACILITATE ROOT PENETRATION.

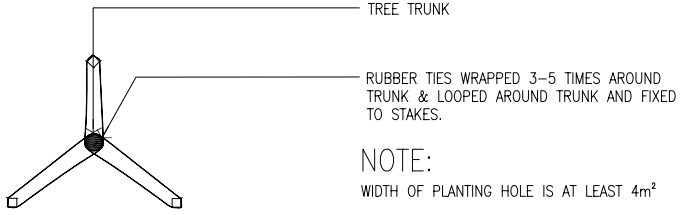


PLAN

TREE PLANTING DETAIL - GRILLE



SECTION



NOTE:
WIDTH OF PLANTING HOLE IS AT LEAST 4m²

PLAN

TREE PLANTING DETAIL - MULCH

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9.0 irrigation

"Irrigation of the land with seawater desalinated by fusion power is ancient; it's called rain."

Michael McClary

AL0608: 30/05/07 : HASSELL

9.1 introduction

The City of Salisbury operates a broad range of irrigation systems throughout the Council area. The irrigated landscape is an important component that contributes to the overall amenity and image of the city and provides valuable recreational opportunities for the community through the provision of irrigated sportsgrounds, reserves and landscapes.

The City of Salisbury operates approximately 155 automatically controlled irrigation systems which include approximately 175 hectares of irrigated turf. These irrigation systems use a broad range of control systems ranging from battery operated controllers in small gardens and roundabouts to centrally controlled irrigation systems for large sports fields. Total water consumption, including supply to buildings, varies between 700 ML and 750 ML per annum, depending on climatic conditions at a cost of more than $550,000 per annum.

9.2 critical overview

Current awareness of the critical state of the Murray Darling Basin and the effect on water supplies to South Australia has resulted in permanent water conservation measures and a requirement for Local Government, as a major user of water for irrigation, to demonstrate accountability and sustainability in the management of the irrigated landscape.

The City of Salisbury has a demonstrated history of commitment to water conservation and whilst some excellent achievements have already been made in relation to water management and conservation, there remain many more opportunities to consolidate this work and achieve further success in this area.

9.3 Irrigated Public Open Space (IPOS) overview

"The Code of Practice – IPOS" provides a template which can be used by managers of IPOS to ensure the planning, management and reporting of water consumption in the urban environment is based on sound principles applied consistently at all levels of management. The "Code of Practice" can be used by providers, practitioners, and regulating authorities to set policy, manage resources and regulate water use in the provision of IPOS.

"The Code of Practice – IPOS" addresses the following critical areas:

Turf and Irrigation Management Planning

A template for the development of a Turf and Irrigation Management Plan is provided. The plan addresses issues of:

- water supply options;
- functional basis for the provision of IPOS;
- irrigation system performance;
- turf grass species selection;
- turf quality and "fit for use" standards;
- horticultural practices;
- irrigation scheduling.

9.4 provision of irrigated landscapes

— The provision of irrigated sportsgrounds and reserves will be guided by the City of Salisbury's Open Space Strategy and Sport and Recreation Plan.

— The provision of irrigated turf areas and landscape treatments will be guided by functional benefit and will be kept to the minimum required to meet the functional requirement, complemented by alternative dry landscape treatments. Where the provision of irrigated turf areas cannot be supported on functional benefit (aesthetic benefit only), alternative treatments and options will be considered in the first instance.

— Consideration for the use of irrigated turf for aesthetic benefit only will be limited to high amenity areas, such as Council building grounds, entrance statements, and high profile streetscape plantings. The irrigated area for aesthetic benefit only will be kept to the minimum required to meet the amenity objectives.

— Developers will be required to ensure that irrigated turf/ landscape areas are developed in accordance with the above policies.

9.5 irrigation systems

9.5.1 Mains Water

Most parks and gardens are watered with mains water. The City of Salisbury will develop alternative water sources to SA Water mains as the preferred water source for irrigating Council reserves (including bore water, recycled stormwater, reclaimed effluent). Where alternative water sources are of unsuitable quality for irrigation or are not cost effective to implement, SA Water mains is used for water supply.

9.5.2 Recycled Water

The City of Salisbury is recognised around the world for its pioneering achievements in aquifer storage and recovery, or ASR, technology. This is a process of injecting cleansed stormwater from wetlands into a suitable underground aquifer for storage and extraction in drier months. The combination of dedicated stormwater capture and treatment with ASR is an integrated approach that enables urban stormwater to be harvested for year round use for irrigation of public open space.

The Mawson Lakes Reclaimed Water Scheme is a project established to provide reclaimed water to Mawson Lakes residential and mixed use development through a reclaimed water network, known as the 'lilac system'. Each property is to be fitted with a lilac coloured reclaimed water meter. It is envisaged that the reclaimed water supply system will provide over 50% of household water and all public open space irrigation. The supply of reclaimed water will be achieved by treating waste water from the Mawson Lakes community at the Bolivar Treatment Plant and returning the reclaimed waste water to mix with recycled stormwater from Parafield Wetlands in a mixing tank at Greenfields. The reclaimed water is then pumped back to the Mawson Lakes Development.

9.5.3 Central Irrigation Controller

The City of Salisbury's Central Control System allows the remote operation of irrigation systems through a central computer. The system allows remote access to irrigation controllers to change programmes and switch off systems in the event of rain, changes in weather patterns or vandalism

9.5.4 Sub-surface Irrigation

The City of Salisbury has been utilising sub-surface drip systems for the irrigation of turf for several years. This type of system is very water efficient, reducing both evaporation and vandalism. Sub-surface drip systems are installed across the municipality at a variety of locations including sections of road median at Port Wakefield Road and Main North Road.

9.6 irrigation specification

In general the following criteria will apply to all irrigation systems throughout the City of Salisbury.

Irrigation infrastructure shall conform to all relevant Australian Standards including:

- AS/NZS 3500.1:2003 Plumbing and drainage - Water services.
- AS/NZS 3000:2000 Electrical installations (known as the Australian/New Zealand Wiring Rules).
- AS 2698.2-2000 Plastics pipes and fittings for irrigation and rural applications - Polyethylene rural pipe.
- AS 2698.3-1990 Plastics pipes and fittings for irrigation and rural applications - Mechanical joint fittings for use with polyethylene micro-irrigation pipes.
- AS/NZS 4129:2000 Fittings for polyethylene (PE) pipes for pressure applications.
- AS/NZS 2032:2006 Installation of PVC pipe systems.

Pipework

AS 1477 Series 1	PVC Solvent Cement Pipe (SWJ)
AS 1477 Series 1	PVC Rubber Ring Joint (RRJ)
AS 1477 Series 2	PVC Vinyl Iron Pipe Rubber Ring Joint (RRJ)
AS 4130	PE80 Black Polyethylene Pipe (High Density)
AS 1159	PE50 Black Polyethylene Pipe (High Density)
AS 2698	PE30 Black Polyethylene Pipe (Low Density)
AS 3879	Solvent Cement for use with rigid PVC pipe and fittings.
AS 2032 - (1977)	Code of Practice for Installation of PVC Pipe Systems
AS 2033 - (1977)	Code of Practice for Installation of PVC Pipe Systems
AS 1432-(1983)	Copper Tube for Water, Gas and Sanitation
AS 1074 - (1980)	Hot Dipped Galvanised Steel Pipe

Fittings

AS 1477 - (1988)	Parts 1 & 4 PVC Pipes and Fittings for Pressure Applications
AS 2129 - (1982)	Flanges for Pipes, Valves and Fittings

Valves

AS1628	Bronze Gate Valves – Bronze Check Valves
AS 3579	Cast Iron Gate Valves
AS 2638	Cast Iron Sluice Valves
AS 3578	Cast Iron Swing Check Valves
AS 3500.1 - (1990)	National Plumbing and Drainage Code Part 1: Water Supply
AS 2845	Water Supply, Mechanical Backflow Preventers, Materials, Design, Performance Requirements

Reticulation Equipment

AS 1565 - (1974)	Copper and Copper Alloys - Ingots and Casting

Electrical: ETSA Service Rules and Conditions of Supply - (1989)

AS 3000 - (1986)	Electrical Installation of Buildings, Structures and Premises (S.A.A Wiring Rules)
AS 3126 - (1981)	Extra Low Voltage Transformers

Design Parameters

- All new irrigation systems will be designed and constructed to best practice standards to ensure efficient water application and usage.
- All new turf irrigation systems, including irrigation systems designed to operate at lower pressures for non-potable water application will be designed and constructed to meet a minimum Distribution Uniformity (DU) of 85% to ensure efficient water application and usage.
- All new and existing turf irrigation systems are to be controlled by automatic irrigation controllers.
- Existing irrigation systems are to be regularly audited to determine performance. Where systems have a Distribution Uniformity (DU) of <75%, a programme of upgrade/ replacement will be submitted through the new initiative capital works budget program for consideration.
- Irrigation infrastructure will be maintained to ensure systems are operating at optimum design performance.

9.7 irrigation management and maintenance

Irrigation systems play an important role in the development and maintenance of turf and landscaped areas throughout the city. It is directly attributable to the quality of sportsgrounds and recreation reserves that the community regards very highly. The efficient use of irrigation water is now a high priority for the City of Salisbury, and the maintenance and management of these systems has become increasingly important.

The City of Salisbury's objectives for the management of irrigation systems is as follows:

— Ensure irrigation systems operate at peak efficiency and effectiveness.

— Ensure irrigation systems are maintained in good condition to maximise the lifecycle of equipment.

— Improve irrigation records by keeping a log of maintenance activities.

— Ensure sufficient application of water to landscapes to meet quality outcomes relevant to reserve hierarchies and typologies.

9.6.1 Horticultural Management Practices

— Kikuyu will be used as the predominant grass species for the City of Salisbury irrigated turf areas, due to its reduced water requirements.

— Turf and landscape maintenance practices will be carried out in a manner that minimises the amount of water required to meet the desired quality standards.

9.6.2 Turf Quality Standards

Irrigated turf areas will be assessed and divided into categories based on functional requirements and the principal of "fit for use". These categories will be used to determine turf quality and water requirements.

9.6.3 Irrigation Scheduling

Irrigation application will be scheduled in accordance with plant usage requirements, soil conditions and climatic conditions to ensure the application of the minimum amount of water required to meet the quality standards of each category.

9.6.4 Performance Monitoring and Reporting

A report will be provided to the City of Salisbury annually on water consumption within the city.

9.8 future directions

— Continue the development of a computer model for water management.

— Continue to develop systems and explore new technologies that minimise water consumption.

— Explore the use of different turf grasses, such as Paspalum, that may decrease water demand.

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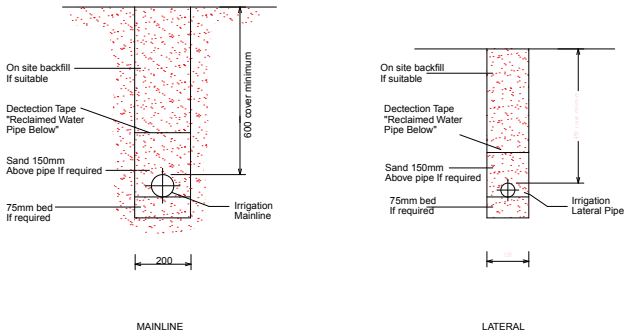
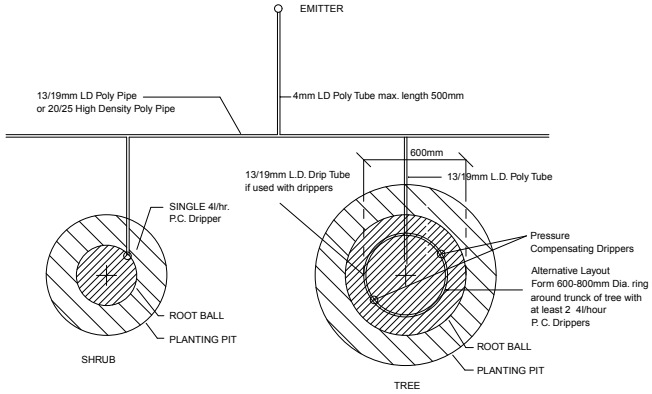
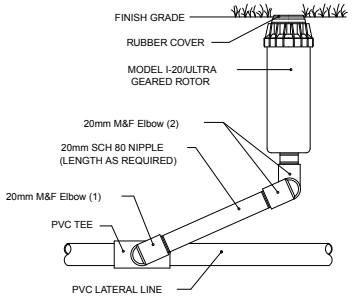
9.9 typical details



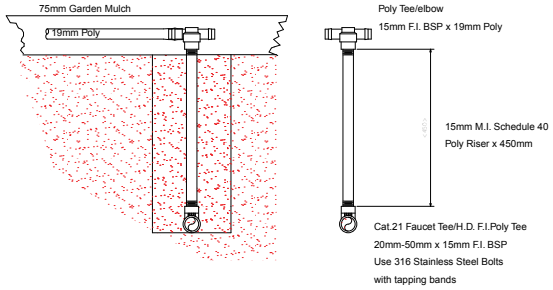
Irrigation Trench Details NTS



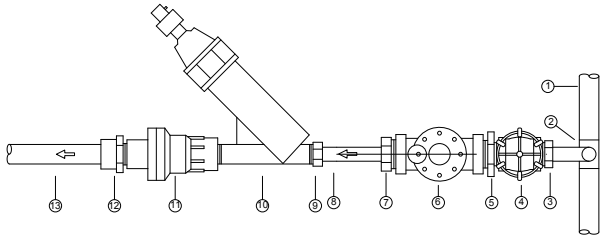
Drip Layout to Individual Plants NTS



Installation Detail - Swing NTS

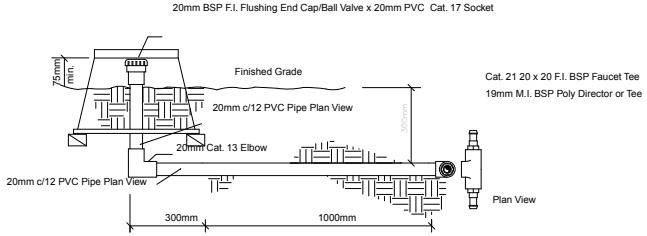


Drip Irrigation Poly Lateral Take Off NTS

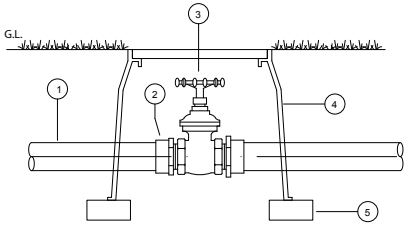


1. EXISTING WATER SUPPLY LINE
2. RISER EXTENDING OFF EXISTING PIPE
3. 20mm MALE CONNECTOR
4. 20mm GATE VALVE SA WATER APPROVED
5. 25x20mm HEXAGON NIPPLE
6. 25mm HUNTER SOLENOID VALVE
7. 25x20mm COPPER MALE CONNECTOR
8. 20mm COPPER PIPEWORK
9. 20mm FEMALE CONNECTOR
10. 20mm 4E20 PLASTIC SCREEN FILTER
11. SENNINGER PMR-20MF 20F-20F PRESSURE REGULATOR
12. 20mm CAT.17 FAUCET SOCKET
13. 20mm CLASS 12 PVC

Drip Irrigation Valve Assembly

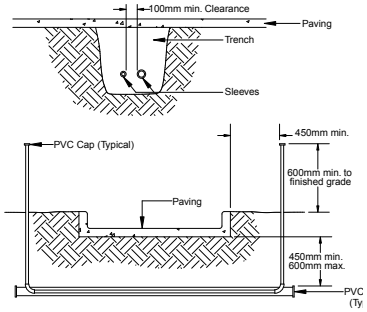


Flushing Valve Assembly



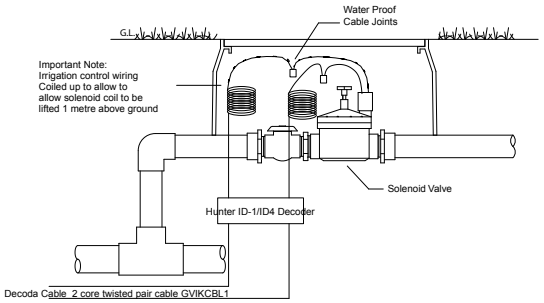
1. Irrigation Main 80 - 25mm
2. Valve Socket
3. Isolation Valve, Same Size As Pipe
4. Valve Box
5. Brick Support

Irrigation Isolation Valves NTS

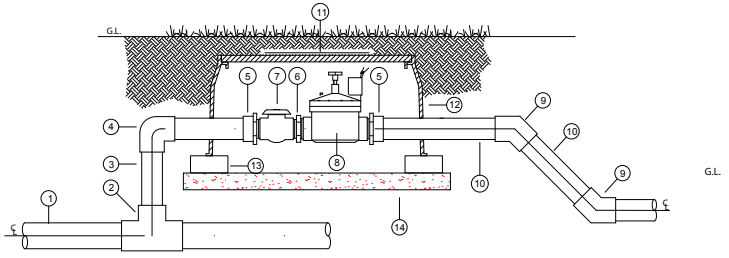


Notes:
1. All PVC irrigation sleeves to be class 12 pipe.
2. All joints to be solvent welded and water tight.
3. Where there is more than one sleeve, extend the smaller sleeve 600mm min. above finished grade.
4. Mechanically tamp to 95% modified.

Irrigation Sleeves

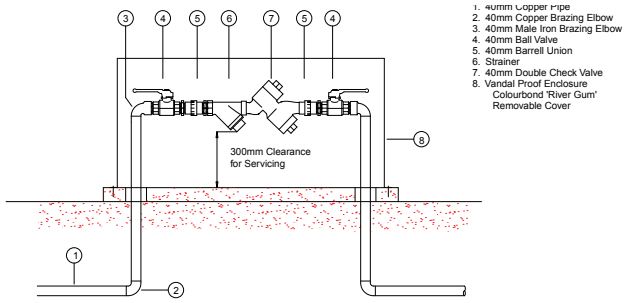


Solenoid Valve Electrical Connections NTS

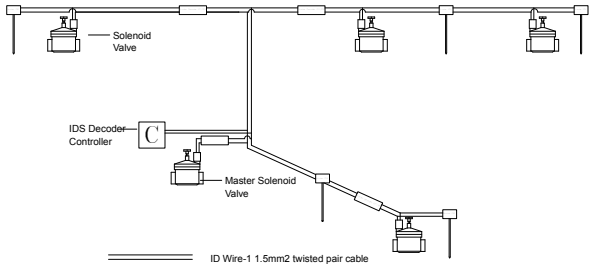


1. 40mm CLASS 9 PVC MAINLINE
2. 40x25mm CAT.19 TEE
3. 25mm CLASS 9 PVC SPACER
4. 25mm CAT.13 90° ELBOW
5. 25mm CAT.17 SOCKET
6. 25mm NIPPLE
7. 25mm BALL VALVE
8. 25mm SOLENOID VALVE
9. 25mm CAT.10, 45° ELBOW
10. 25mm CLASS 9 PVC PIPE
11. 75x5mm GALV PLATE EITHER ATTACHED TO THE LID, OR INSIDE
12. VALVE BOX
13. BRICK SUPPORT FOR VALVE BOXES
14. 600mm x 600mm x 50mm CONCRETE SLAB

Solenoid Valve Typical Installation NTS



Backflow Prevention Assembly
Installation Detail NTS



Decoder Wiring Schematic NTS

10.0 maintenance

"Another flaw in the human character is that everybody wants to build and nobody wants to do maintenance."

Kurt Vonnegut

revision	01	02	03	04	05	06	07

10.1 introduction

The City of Salisbury provides a range of horticultural and hard landscape maintenance services across a region that stretches from Gepps Cross to Elizabeth and extends from the mangroves of Gulf St Vincent to the Adelaide Hills; a total area of 161 square kilometres.

These services include the management of:

— feature landscape areas;
— footbridges culverts and boardwalks;
— grassed areas;
— clearance of flammable undergrowth;
— irrigation systems;
— footpaths;
— play equipment;
— outdoor furniture and signage;
— trees and wetlands.

The objectives of these services are as follows:

— Ensure an attractive, healthy, and clean environment.
— Promote the health and well being of the City of Salisbury's community.
— Effectively maintain the City of Salisbury's assets.
— Meet statutory obligations.

The key strategies listed in the City of Salisbury's Corporate Plan that underpin the management of the environment are as follows:

— Maintain and conserve biodiversity and natural habitats.
— Develop and maintain infrastructure in an environmentally and cost sustainable manner.
— Minimise waste generation.
— Maximise water conservation.
— Promote the use of sustainable resources.

10.2 critical overview

The City of Salisbury's maintenance and asset management systems have undergone radical changes over the last decades. Maintenance is now seen as crucial component of the many services that are provided to the community.

It is now recognised that the more dilapidated an area, the more likely it is to attract unwanted activities. The maintenance and the 'image' of an area can have a major impact on whether it will become targeted for crime or vandalism. For example, regular maintenance of reserve areas can go a long way to making an area unattractive to offenders. Another extension of the concept is that territorial concern, social cohesion and a general sense of security can be reinforced through the development of the identity and image of a community.

This approach can improve not only the image the population has of itself and its domain, but also the projection of that image to others. With clear spatial definitions, by the subdivision of space into different degrees of public/semi-public/private areas and the accompanying raising of standards and expectations, patterns of social estrangement decline. This is known to be tied to reduction in opportunities for abhorrent or criminal behaviour, such as vandalism. Maintenance needs to be considered at the design stage, as the selection of materials and finishes will impact on the types of maintenance regime that can be sustained over time.

10.3 maintenance hierarchy

10.3.1 High Quality (e.g. civic squares, regional sports fields)

The open space and related facilities are of superior quality and provide a high level of service to users. Some examples could be:

— regularly irrigated grassed area or fields;

— quality structures, e.g. synthetic verses grassed surface, quality shelters and seating;

— protection of the natural environment (flora and fauna);

— the settings and facilities should be safe and have a high level of appeal.

10.3.2 Good Quality (e.g. local neighbourhood parks)

The open space and related facilities are of a good quality and provide an appropriate level of service. Some examples could be:

— well maintained clubroom and amenities;

— regularly mown fields and maintained garden beds;

— the settings and facilities should be safe and appealing.

10.3.3 Safe/Appealing Quality (e.g. native bushland areas, mangroves)

The open space and related facilities are of sound quality and are safe to use. In particular, the open space and facilities should:

— have appeal from a visual and user perspective, i.e. people will appreciate and, where appropriate, use the reserve or feature within a reserve;

— meet statutory and/or Council health, safety and risk management requirements.

10.4 specific maintenance guidelines

10.4.1 Sportsgrounds

Open Space Type	Maintenance Guidelines
Regional Sportsground	Ovals and fields mown on a regular basis and to a high standard (regularity to depend on growth conditions and user requirements).
	Surfaces of courts and other dedicated facilities to be maintained to a high standard.
	Buildings and amenities maintained to a good standard.
	Building surrounds and landscaping maintained to a good standard.
	Other structures such as pathways, seating, shelters and play equipment, to be maintained to a good standard and in accordance with Australian Standards.
	Note that some user groups could contribute to maintenance as part of a formalised lease agreement.
District Sportsground	Ovals and fields mown on a regular basis and to a good standard (regularity to depend on growth conditions and user requirements).
	Surfaces of courts and other dedicated facilities to be maintained to a good standard.
	Buildings and amenities maintained to a good standard.
	Building surrounds and landscaping maintained to a safe and appealing standard.
	Other structures such as pathways, seating, shelters and play equipment, to be maintained to a safe and appealing standard and in accordance with Australian Standards.
	Note that some user groups could contribute to maintenance as part of a lease arrangement.
Neighbourhood Sportsground	Ovals and fields mown to a safe and appealing standard (regularity to depend on growth conditions).
	Buildings and amenities maintained to a safe and appealing standard.
	Building surrounds and landscaping maintained to a safe and appealing standard.
	Other structures such as pathways, seating, shelters and play equipment, to be maintained to a safe and appealing standard and in accordance with Australian Standards.

10.4.2 Recreation Parks

Open Space Type	Maintenance Guidelines
Regional Park	Irrigated areas to be mown on a regular basis and to a high standard (regularity to depend on growth conditions).
	Garden beds to be maintained to a good standard.
	Non-irrigated areas to be maintained to a safe and appealing standard.
	Any structures or amenities, such as toilet facilities, picnic and barbecue areas, playgrounds, seating, shelters and pathways to be maintained to a high standard and in accordance with Australian Standards.
District Park	Irrigated areas to be mown on a regular basis and to a good standard (regularity to depend on growth conditions).
	Garden beds to be maintained to a good standard.
	Non-irrigated areas to be maintained to a safe and appealing standard.
	Any structures or amenities, such as toilet facilities, picnic and barbecue areas, playgrounds, seating, shelters and pathways to be maintained to a good standard and in accordance with Australian Standards.
Neighbourhood Park	Irrigated areas to be mown on a regular basis and to a safe and appealing standard (regularity to depend on growth conditions).
	Garden beds to be maintained to a safe and appealing standard.
	Non-irrigated areas to be maintained to a safe and appealing standard.
	Any structures or amenities, such as toilet facilities, picnic and barbecue areas, playgrounds, seating, shelters and pathways to be maintained to a safe and appealing standard and in accordance with Australian Standards.
Local Park	Irrigated areas to be mown on a regular basis and to a safe and appealing standard (regularity to depend on growth conditions).
	Garden beds to be maintained to a safe and appealing standard.
	Non-irrigated areas to be maintained to a safe and appealing standard.
	Any structures or amenities, such as toilet facilities, picnic and barbecue areas, playgrounds, seating, shelters and pathways to be maintained to a safe and appealing standard and in accordance with Australian Standards.

The regularity and specific standard of maintenance will need to be determined by the City of Salisbury as part of operational procedures. Climate conditions, soil quality, plantings and types of structures will all influence the approach to maintenance.

10.4.3 Other Open Space

Open Space Type	Maintenance Guidelines
Foreshore	Some irrigated sections along the coastline to be maintained to a high standard (higher profile areas). Others to be maintained to a good or 'natural' standard.
	Non-irrigated areas to be maintained to a good standard to maintain a quality ecosystem and a safe setting.
	Any structures or amenities, such as toilet facilities, picnic and barbecue areas, playgrounds, seating, shelters and pathways to be maintained to a good standard and in accordance with Australian Standards.
Natural Area Bushland	Non-irrigated areas to be maintained to a good standard to maintain a quality ecosystem and a safe setting.
Natural Area Wetland	Non-irrigated areas to be maintained to a good standard to maintain a quality ecosystem and a safe setting.
	Aquatic environments to be maintained to a good standard to maintain a quality ecosystem and a safe setting.
Natural Area Dunes	Non-irrigated areas to be maintained to a good standard to maintain a quality ecosystem and a safe setting.
Corridor/Linear Reserve	Irrigated areas to be mown to a safe and appealing standard as a minimum. Some areas will justify a higher standard (regularity to depend on growth conditions).
	Any structures or amenities, such as toilet facilities, picnic and barbecue areas, playgrounds, seating, shelters and pathways to be maintained to a safe and appealing standard as a minimum and in accordance with Australian Standards.

10.5 maintenance of natural areas and wetlands

Certain areas of public open space within the City of Salisbury have been retained as areas of indigenous vegetation. These areas contain either undisturbed indigenous vegetation, or are areas that have been disturbed and subsequently revegetated with indigenous plant species, such as the Dry Creek Linear Park at Walkley Heights. These areas are generally not irrigated.

Maintenance of these areas is generally restricted to servicing drainage and stormwater infrastructure, resurfacing paths, trails and firetracks, repair of footbridges and boardwalks, reduction of flammable undergrowth, and eradication of invasive weeds.

Wetland areas are generally similar to natural areas in terms of maintenance, but also include the servicing of stormwater management, water quality monitoring and eradication of invasive aquatic weeds. For more specific information on natural areas and wetland maintenance refer to the City of Salisbury Maintenance Services Specifications.

10.6 maintenance of grassland

A large part of the City's landscaped areas are grassed. Different types of grass surfaces exist; this is dependent on the type of open space and its function. For example, irrigated lawns used for passive recreation will require different management to irrigated sportsfields and non-irrigated grasslands.

The City of Salisbury's key objectives for grass maintenance are as follows:

— Ensure that grassed areas are maintained to create a pleasing landscape.

— Provide safe, healthy grassed areas that are 'fit for use' and meet the sporting and recreational requirements of the City.

— Ensure the immediate and long term health and vigour grassed areas, to allow the optimum utilisation of grassed areas and playing fields.

— Control and remove undesirable weeds, diseases and other pests that compete with desired grass species.

For further more detailed information on grass maintenance refer to the City of Salisbury Maintenance Services Specifications.

10.7 renewal of existing landscapes

Existing landscapes that have been established for a period of several years may require renewal due to planted trees or shrubs competing for light and nutrients from understorey shrubs and groundcovers. In these cases an assessment of the type and function of planting needs to be undertaken, in order to specify renewal works.

Screen and buffer type planting are the most common type of landscape that require renewal by the City of Salisbury. The following design issues should be considered:

— If tree spacings are too close, some may need to be removed to enable understorey shrubs to be planted.

— If trees are well spaced and understorey planting is senescent, understorey removal should be undertaken and replanted with appropriate species.

— Trees may require canopy lifting to allow sunlight to reach new understorey plants.

— Replanting should be undertaken during the wetter winter months.

— Replanted screens should be remulched to prevent weed growth.

— A sacrificial drip irrigation system may be necessary in high profile areas.

— Plant establishment will be improved through the use of soil additives such as 'TerraCottem' or similar.

— When replanting beneath established canopy trees, care should be taken when selecting replacement species. The following plant species are worth trialling and are proven to be successful in dry shade conditions in most soil types.

- *Acacia acinacea*
- *Acacia venulosa*
- *Brachysema lanceolatum*
- *Chorizema cordatum*
- *Correa alba*
- *Correa reflexa*
- *Crowea exalata*
- *Dampiera diversifolia*
- *Grevillea dimorpha*
- *Homoranthus flavescens*
- *Micromyrtus ciliata*
- *Myoporum parvifolium*
- *Pultenaea pedunculata*

10.8 future directions

— Review maintenance specifications to ensure that methods are current best practice.

— Review status of reserves to ensure that maintenance standards are ‘fit for purpose’.

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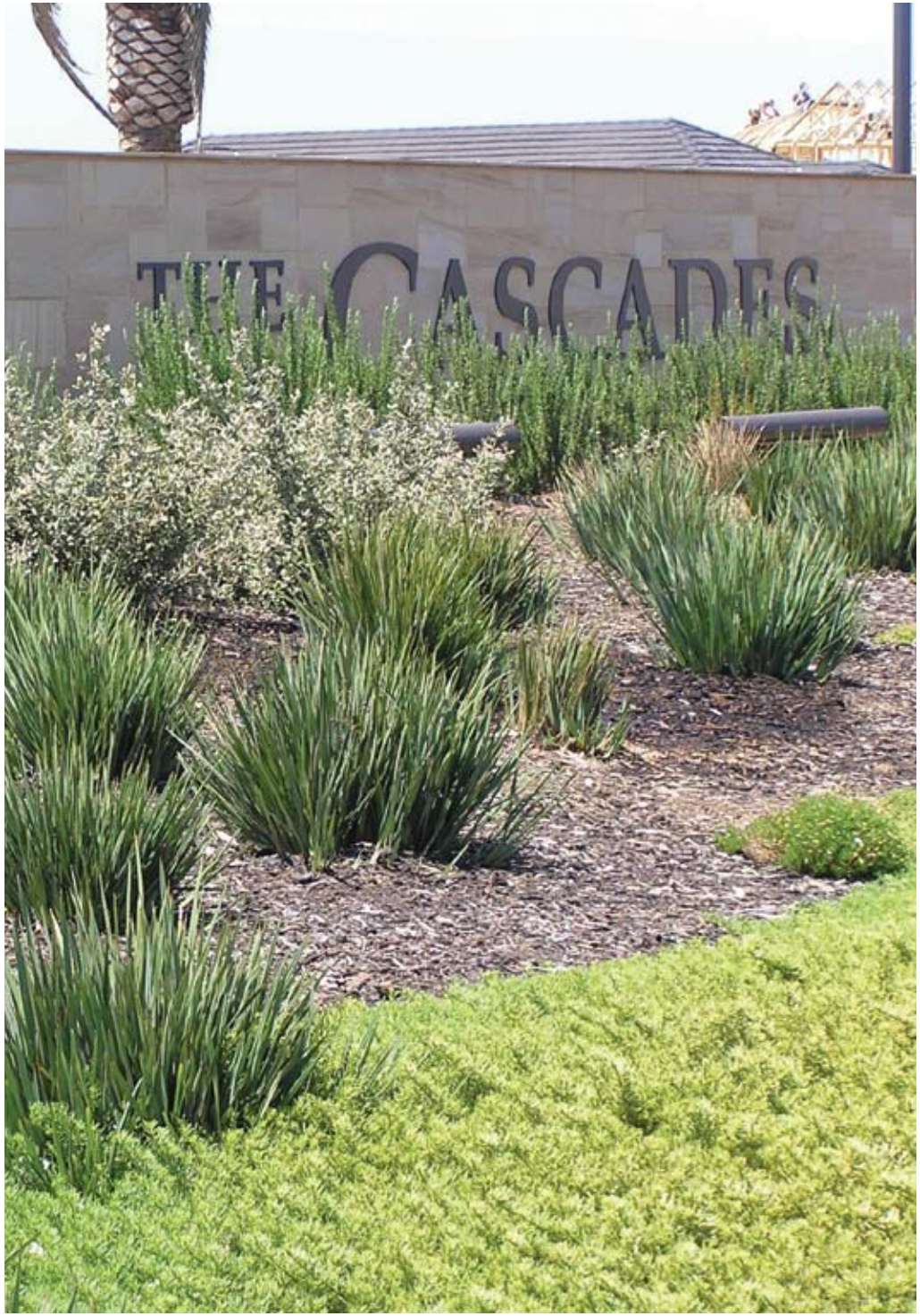
11.0 projects



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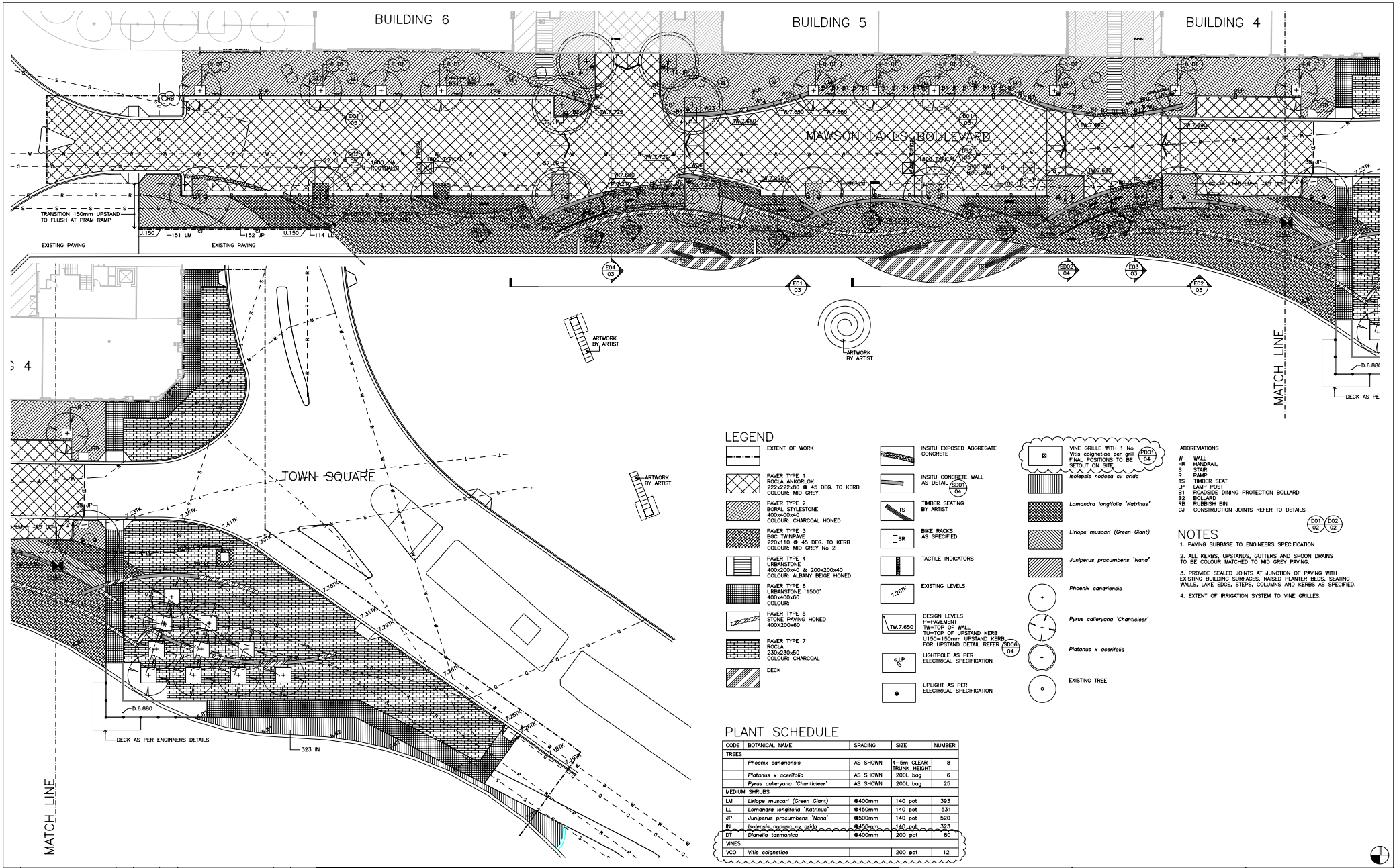
11.1 introduction

The following projects are representative of quality landscapes that have been constructed within the City of Salisbury. It is intended that these documents be reviewed and regularly updated to provide examples of current best practice in landscape architectural design. It is anticipated that, over time, a comprehensive list of project details will be compiled as a quick point of reference, both as a design tool, and to aid discussion

11.2 project sheet index



LEGEND

- EXTENT OF WORK
- PAVER TYPE 1 ROCLA ANKORLOK 222x222x80 @ 45 DEG. TO KERB COLOUR: MID GREY
- PAVER TYPE 2 BORAL STYLESTONE 400x400x40 COLOUR: CHARCOAL HONED
- PAVER TYPE 3 BGC TWINPAVE 220x110 @ 45 DEG. TO KERB COLOUR: MID GREY No 2
- PAVER TYPE 4 URBANSTONE 400x200x40 & 200x200x40 COLOUR: ALBANY BEIGE HONED
- PAVER TYPE 6 URBANSTONE '1500' 400x400x60 COLOUR:
- PAVER TYPE 5 STONE PAVING HONED 400X200x60
- PAVER TYPE 7 ROCLA 230x230x50 COLOUR: CHARCOAL
- DECK
- INSITU EXPOSED AGGREGATE CONCRETE
- INSITU CONCRETE WALL AS DETAIL SD01 04
- TIMBER SEATING BY ARTIST (TS)
- BIKE RACKS AS SPECIFIED (BR)
- TACTILE INDICATORS
- EXISTING LEVELS (7.26TK)
- DESIGN LEVELS P=PAVEMENT TW=TOP OF WALL TU=TOP OF UPSTAND KERB U150=150mm UPSTAND KERB FOR UPSTAND DETAIL REFER SD06 04
- LIGHTPOLE AS PER ELECTRICAL SPECIFICATION (LP)
- UPLIGHT AS PER ELECTRICAL SPECIFICATION
- VINE GRILLE WITH 1 No Vitis coignetiae per grill FINAL POSITIONS TO BE SETOUT ON SITE PD01 04
- *Isolepsis nodosa cv arida*
- *Lomandra longifolia 'Katrinus'*
- *Liriope muscari (Green Giant)*
- *Juniperus procumbens 'Nana'*
- *Phoenix canariensis*
- *Pyrus calleryana 'Chanticleer'*
- *Platanus x acerifolia*
- EXISTING TREE

ABBREVIATIONS

W	WALL
HR	HANDRAIL
S	STAIR
R	RAMP
TS	TIMBER SEAT
LP	LAMP POST
B1	ROADSIDE DINING PROTECTION BOLLARD
B2	BOLLARD
RB	RUBBISH BIN
CJ	CONSTRUCTION JOINTS REFER TO DETAILS D01 02 D02 02

NOTES

1. PAVING SUBBASE TO ENGINEERS SPECIFICATION
2. ALL KERBS, UPSTANDS, GUTTERS AND SPOON DRAINS TO BE COLOUR MATCHED TO MID GREY PAVING.
3. PROVIDE SEALED JOINTS AT JUNCTION OF PAVING WITH EXISTING BUILDING SURFACES, RAISED PLANTER BEDS, SEATING WALLS, LAKE EDGE, STEPS, COLUMNS AND KERBS AS SPECIFIED.
4. EXTENT OF IRRIGATION SYSTEM TO VINE GRILLES.

PLANT SCHEDULE

CODE	BOTANICAL NAME	SPACING	SIZE	NUMBER
TREES				
	Phoenix canariensis	AS SHOWN	4–5m CLEAR TRUNK HEIGHT	8
	Platanus x acerifolia	AS SHOWN	200L bag	6
	Pyrus calleryana 'Chanticleer'	AS SHOWN	200L bag	25
MEDIUM SHRUBS				
LM	*Liriope muscari (Green Giant)*	@400mm	140 pot	393
LL	*Lomandra longifolia 'Katrinus'*	@450mm	140 pot	531
JP	*Juniperus procumbens 'Nana'*	@500mm	140 pot	520
IN	*Isolepsis nodosa cv arida*	@450mm	140 pot	323
DT	*Dianella tasmanica*	@400mm	200 pot	80
VINES				
VCO	*Vitis coignetiae*		200 pot	12

ISSUE	REVISION DESCRIPTION	INITIALS	DATE
01	CROSS OVER ALTERATION	BG	18.06.03
02	ISSUE TO CLIENT FOR PAVING INFORMATION	HGF	06.08.03
03	AMEND SEATING	VZ	15.08.03
04	REVISED PAVING INFO	VZ	20.08.03
05	REVISED PAVING INFO	VZ	27.08.03
06	ISSUED TO CLIENT FOR REVIEW	HGF	28.08.03
07	ISSUED TO CLIENT FOR REVIEW	HGF	03.09.03
08	ISSUED TO CLIENT FOR REVIEW	HGF	12.09.03
09	LIGHT LOCATIONS SHOWN	HGF	19.09.03
10	JOINT NOTE ADDED	HGF	24.09.03
11	PALMS MOVED DUE TO SERVICE CONFLICT	HGF	15.10.03
12	PATH AMENDED IN TOWN SQUARE	HGF	04.12.03
13	VINES ADDED, PLANTING TO TREE PITS + BINS	HGF	17.12.03

KEY PLAN

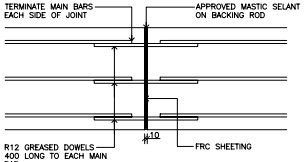
HASSELL
HASSELL PTY LTD ACN 007 711 435
LEVEL 5, 70 HINDMARSH SQUARE ADELAIDE 5000 AUSTRALIA
ADELAIDE@HASSELL.COM.AU
T 61 8 8203 5222 F 61 8 8203 5200

PROJECT: MAWSON LAKES BOULEVARD
AT: MAWSON LAKES ADELAIDE

FOR: DELFIN LEND LEASE
DRAWING: LANDSCAPE PLAN
.

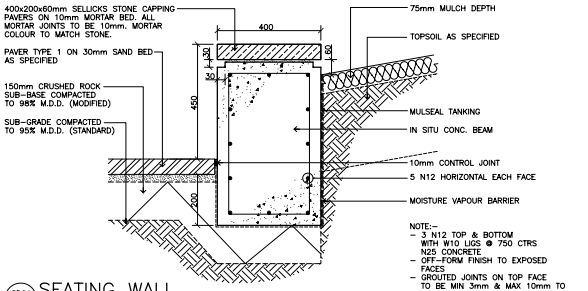
SCALE 1:200 AT A1
DATE DRAWN 4.04.03 | DRAWN HGF | PROJ. No. AL0421
DISCIPLINE L | STAGE CD | DRAWING No. 01 | ISSUE 13

CONTRACTORS SHALL VERIFY JOB DIMENSIONS BEFORE ANY JOB COMMENCES. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE SUPERINTENDANT AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS SIGNED BY THE CONSULTANT. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACT SPECIFICATIONS AND DRAWINGS.



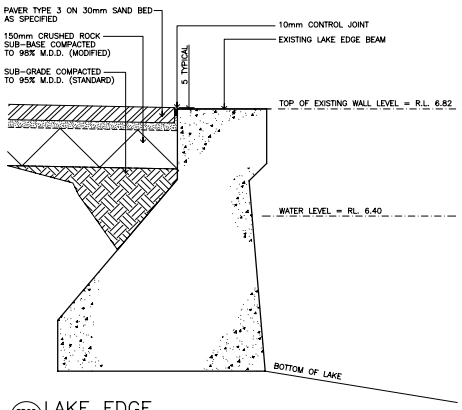
D01 01 SCALE 1:10 — SEATING WALL–JOINT DETAIL — PLAN VIEW

NOTE:–
LOCATIONS OF JOINTS REFER DWG No CD01

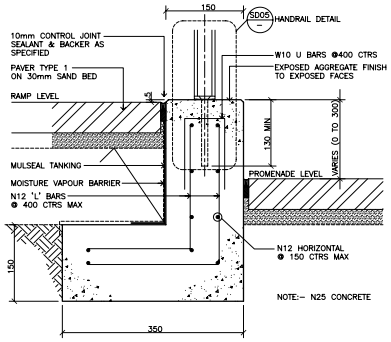


NOTE:–
– 3 N12 TOP & BOTTOM WITH W10 LIGS @ 750 CTRS
– N25 CONCRETE
– OFF–FORM FINISH TO EXPOSED FACES
– GROUTED JOINTS ON TOP FACE TO BE MIN 3mm & MAX 10mm TO ENSURE SMOOTH CURVES ARE ACHIEVED

SD01 01 SCALE 1:10 — SEATING WALL



SD02 01 SCALE 1:10 — LAKE EDGE



NOTE:– N25 CONCRETE

SD03 01 SCALE 1:5 — RAMP UPSTAND

CONCRETE NOTES

C1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AUSTRALIAN STANDARD AS3600 CONCRETE STRUCTURES, THE SPECIFICATION AND DETAILS PROVIDED ON THE DRAWINGS, UNLESS INSTRUCTED BY THE ENGINEER OTHERWISE. FORMORK TO AUSTRALIAN STANDARD AS3610.

C2. CLEAR CONCRETE COVER TO REINFORCEMENT FOR INSITU CONCRETE ELEMENTS SHALL BE:

	COVER (mm)			
	TOP	BOTTOM	SIDES EXTERNAL	SIDES INTERNAL
SEATING WALL, UPSTANDS, STAIRS.	65	65	65	—

C3. REQUIRED SURFACE FINISH AND CLASS OF FORMWORK FOR INSITU CONCRETE SHALL CONFORM WITH THE FOLLOWING UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER.

LOCATION	SURFACE	TYPE OF FINISH	CLASS OF FORMWORK
FLOOR SLABS	TOP FACE	WOOD FLOAT FOR TREE PIT EDGE BEAM EXPOSED AGGREGATE FOR EXPOSED AREAS OFF–FORM FOR SEATING WALL	
SEATING WALL, UPSTANDS, STAIRS.	EXPOSED FACE	EXPOSED AGGREGATE FOR STAIRS STEEL FLOAT FOR UPSTANDS	2

C4. SCHEDULE OF CONCRETE PROPERTIES TO BE USED FOR THE PARTICULAR SECTION OF WORK SHALL BE AS FOLLOWS UNLESS OTHERWISE INSTRUCTED. MIX DESIGNS SHALL BE SUBMITTED BY THE SUB–CONTRACTOR TO THE ENGINEER FOR INSPECTION 28 DAYS PRIOR TO POUR.

LOCATION	GRADE (MPa)	MAX AGGREGATE (mm)	SLUMP
SEATING WALL, UPSTANDS, STAIRS.	N25	20	80±15

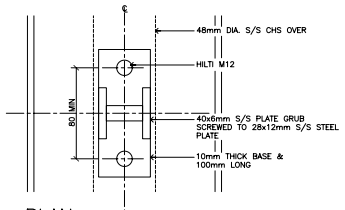
* XYPEX C1000/2000 ADDITIVE TO MANUFACTURERS SPECIFICATIONS.
** CONCRETE TO HAVE LESS THAN 650 MICROSTRAIN AT 8 WEEKS.

C5. ALL REINFORCEMENT IN SLABS AND BEAMS SHALL BE SUPPORTED ON CHAIRS TO GIVE THE REQUIRED COVER. SPACING OF THE CHAIRS TO SLAB REINFORCEMENT SHALL NOT EXCEED 800mm IN EACH DIRECTION.

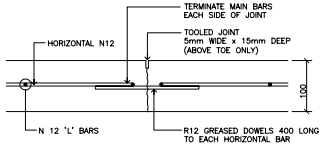
C6. GIVE THE ENGINEER MINIMUM 24 HOURS PRIOR NOTICE FOR ALL REQUIRED INSPECTIONS AS NOTED IN THE SPECIFICATION.

C7. ALL CONCRETE SHALL BE CURED FOR A MINIMUM OF 7 DAYS AFTER POURING BY COVERING WITH A PVC MEMBRANE WEIGHED DOWN TO PREVENT AIR FLOW BENEATH IT. ALL CONCRETE IN CONTACT WITH THE GROUND SHALL BE POURED ON 0.2mm MEMBRANE U.N.O.

C8. LAPS: UNLESS NOTED OTHERWISE, ALL LAPS SHALL BE AS FOLLOWS.
FABRIC:– 2 CROSS WIRES PLUS 25mm
N12 – 400mm
NOTE: ALL BAR CRANKS TO BE NO GREATER THAN 1 in 6 U.N.O.

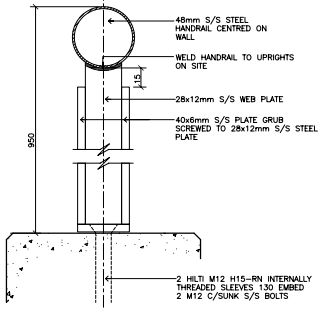


PLAN



D02 01 SCALE 1:10 — KERB UPSTAND–JOINT DETAIL — PLAN VIEW

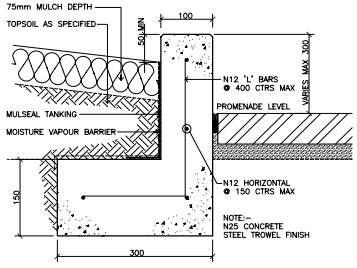
NOTE:–
LOCATIONS OF JOINTS REFER DWG No CD01



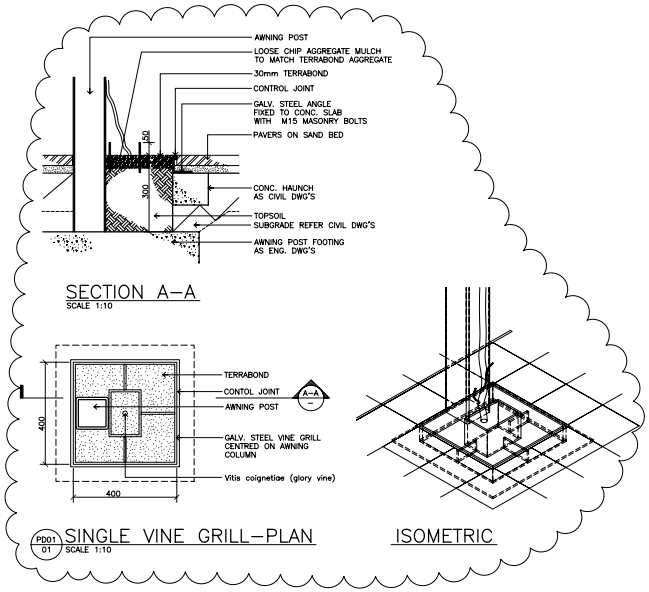
SECTION

NOTE:–
UPRIGHTS TO BE AT 1500mm CTRS MAX

SD05 – SCALE 1:2 — HANDRAIL DETAIL



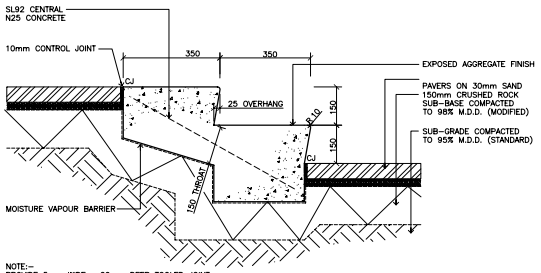
SD06 01 SCALE 1:5 — UPSTAND KERB



SECTION A–A
SCALE 1:10

PD01 01 SCALE 1:10 — SINGLE VINE GRILL–PLAN

ISOMETRIC

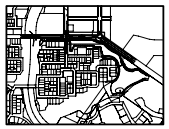


NOTE:–
PROVIDE 5mm WIDE x 20mm DEEP TOOLED JOINT AT 3m MAX CTRS. CUT EVERY 2nd WIRE OF MESH AT JOINT

SD04 01 SCALE 1:10 — STAIRS

ISSUE	REVISION DESCRIPTION	INITIALS	DATE
1	ISSUED TO CLIENT	HGF	12.09.03
2	LIGHT POLE DETAIL ADDED	HGF	24.09.03
3	VINE DETAIL ADDED	HGF	17.12.03

KEY PLAN



HASSELL

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ADELAIDE@HASSELL.COM.AU
T 61 8 8203 9222 F 61 8 8203 9200

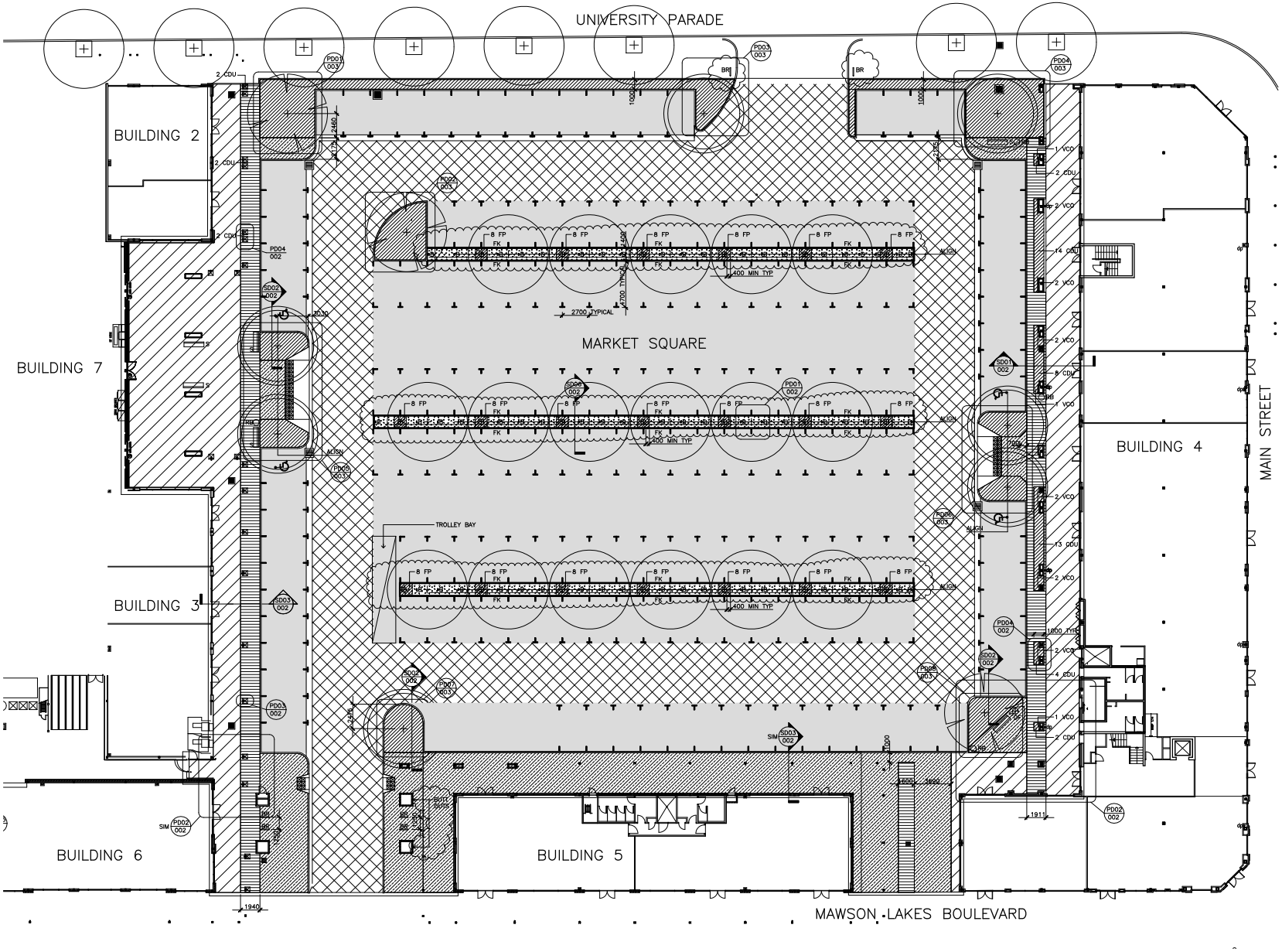
PROJECT: MAWSON LAKES BOULEVARD
AT: MAWSON LAKES ADELAIDE

FOR: DELFIN LEND LEASE
DRAWING: LANDSCAPE DETAILS 2

SCALE 1:100 @ A1

DATE DRAWN	DRAWN		PROJ. No.
4.04.03	HGF		AL0421
DISCIPLINE	STAGE	DRAWING No.	ISSUE
L	CD	04	3

CONTRACTORS SHALL VERIFY JOB DIMENSIONS BEFORE ANY JOB COMMENCES. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE SUPERINTENDANT AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS SIGNED BY THE CONSULTANT. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACT SPECIFICATIONS AND DRAWINGS.



LEGEND

- EXTENT OF WORK
- ASPHALT CAR PARK — REFER CIVIL DWG'S
- PAVER TYPE 1 — ROCLA ANCHORLOK 222x222x80mm — COLOUR: ASH GREY
- PAVER TYPE 2 — BORAL STYLESTONE 400x400x40mm — COLOUR: CHARCOAL — FINISH: HONED
- PAVER TYPE 3 — BORAL STYLESTONE 400x400x40mm — COLOUR: CHARCOAL — FINISH: SHOTBLAST
- PAVER TYPE 4 — URBANSTONE 400x200x40mm & 200x200x40mm — COLOUR: ALBANY BEIGE — FINISH: HONED
- PAVER TYPE 5 — TERRABOND RESIN BOND GRAVEL
- 100mm FLUSH CONC. KERB — REFER CIVIL DWG'S
- WHITE LINEMARKING — REFER CIVIL DWG'S
- SEATS
- BIKE RACKS
- RUBBISH BIN
- DRINKING FOUNTAIN
- TIMBER BOLLARDS — REFER SD01 003
- TACTILE INDICATORS
- PLANTING BEDS
- VINE GRILLS WITH 1 No Vitis coignetiae per grill — PD03 002
- LIGHT POLES — REFER ELEC. DWG'S
- SUBSURFACE DRAINAGE — REFER TO CIVIL DWG'S
- Platanus x hispanica — REFER DETAIL SD06 002
- Ficus microcarpa var hillii — REFER DETAIL SD06 002
- Platanus orientalis 'Digitata' — REFER DETAIL SD05 002

NOTES

1. CAULKED JOINTS AS DETAIL SD04/002 TO BE INSTALLED TO ALL PENETRATIONS AND JUNCTIONS WITH BUILDINGS.
2. FOR PLANT SCHEDULE REFER DWG No CD003

FOR CONSTRUCTION

ISSUE	REVISION DESCRIPTION	INITIALS	DATE	ISSUE	REVISION DESCRIPTION	INITIALS	DATE
A	FOR CONSTRUCTION	TS	02.07.03				
B	LIGHT POLE REMOVED	VZ	22.08.03				
C	BIKE RACK LOCATIONS REVISED	HGF	28.11.03				
D	BUTT OUTS SHOWN, PLANTING TO BASE OF LIGHTS, EXTRA BOLLARDS	HGF	17.12.03				

KEY PLAN

HASSELL
HASSELL PTY LTD ACN 007 711 435
70 HINDMARSH SQUARE ADELAIDE SA 5000 AUSTRALIA
ADELAIDE@HASSELL.COM.AU
T 61 8 8223 5222 F 61 8 8223 5200

PROJECT: MARKET SQUARE
AT: MAWSON LAKES ADELAIDE

FOR: DELFIN LEND LEASE
DRAWING: LANDSCAPE PLAN

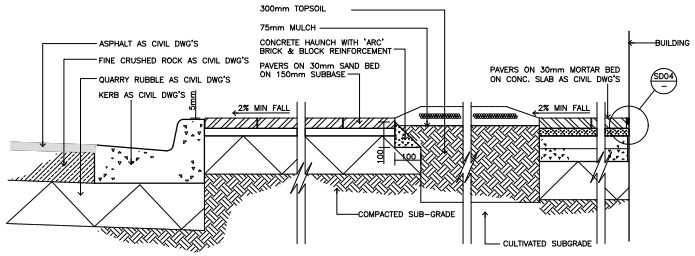
1:200 SCALE AT A1

DATE DRAWN	DRAWN		PROJ. No.
2.06.03	HGF		AL0421A

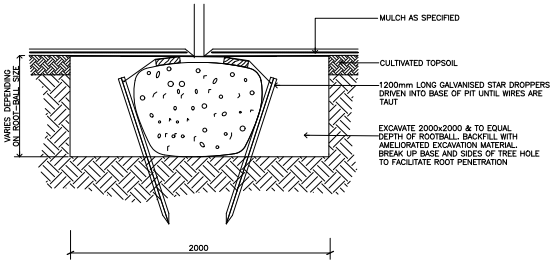
DISCIPLINE	STAGE	DRAWING No.	ISSUE
L	CD	001	D

CONTRACTORS SHALL VERIFY JOB DIMENSIONS BEFORE ANY JOB COMMENCES. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE SUPERINTENDANT AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS SIGNED BY THE CONSULTANT. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACT SPECIFICATIONS AND DRAWINGS.

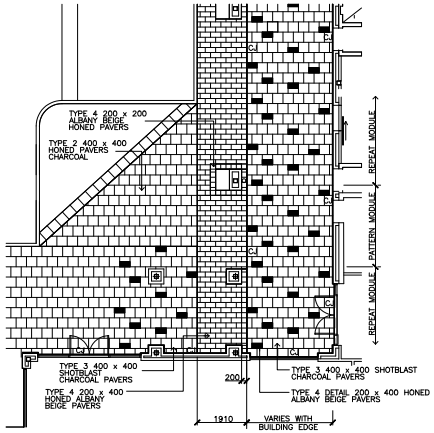
FOR CONSTRUCTION



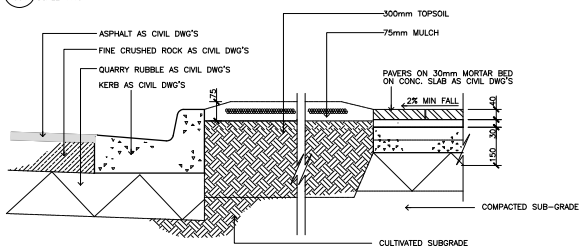
SD01 001 SCALE 1:10 TYPICAL SECTION DETAIL



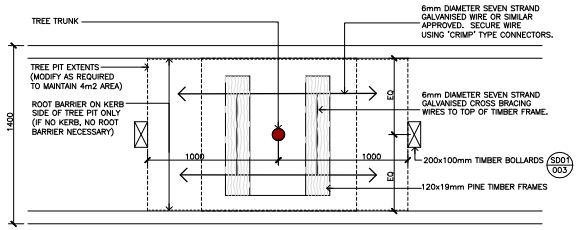
SD05 001 SCALE 1:20 DETAIL TREE-PIT SECTION



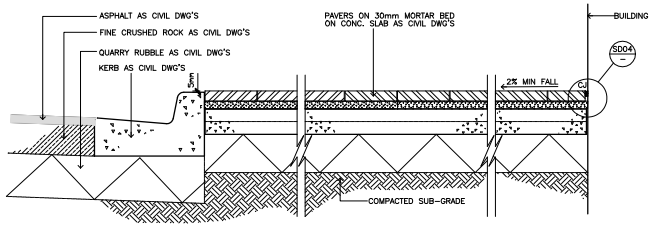
PD02 001 SCALE 1:100 NOTE: CJ=CONTROL JOINT TYPICAL PAVING LAYOUT



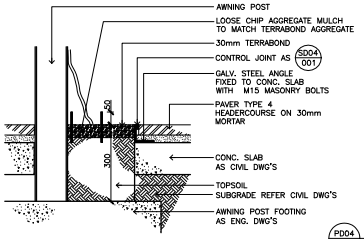
SD02 001 SCALE 1:10 TYPICAL SECTION DETAIL



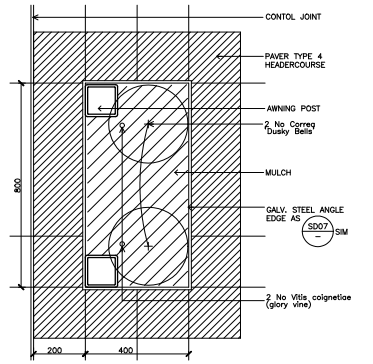
PD01 001 SCALE 1:20 DETAIL TREE-PIT PLAN



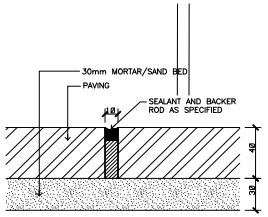
SD03 001 SCALE 1:10 TYPICAL SECTION DETAIL



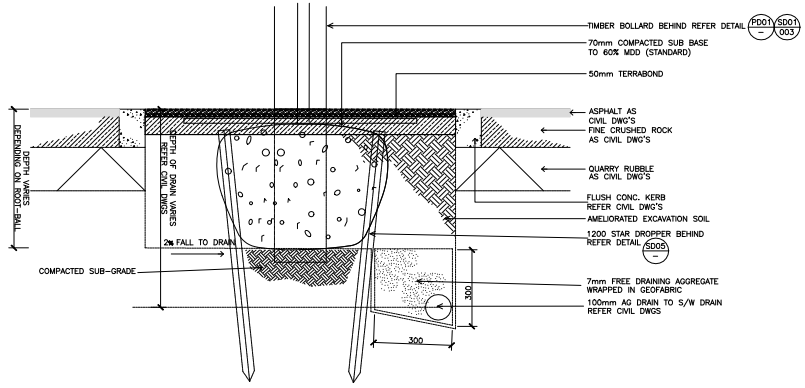
SD07 001 SCALE 1:10 SINGLE VINE GRILL - SECTION



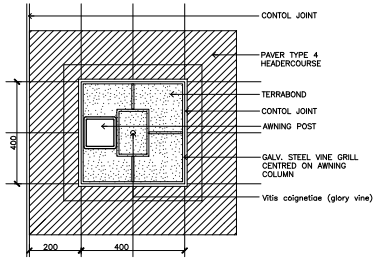
PD04 001 SCALE 1:10 TYPICAL PLANTER/VINE GRILL-PLAN



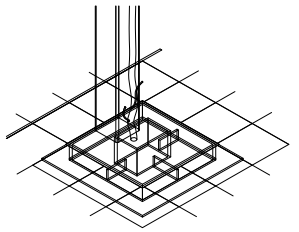
SD04 - SCALE 1:20 CONTROL JOINT - TYPICAL



SD06 001 SCALE 1:10 TYPICAL SECTION DETAIL



PD03 001 SCALE 1:10 SINGLE VINE GRILL - PLAN



SINGLE VINE GRILL - ISOMETRIC

ISSUE	REVISION DESCRIPTION	INITIALS	DATE	ISSUE	REVISION DESCRIPTION	INITIALS	DATE
A	FOR CONSTRUCTION	TS	02.07.03				
B	REVISED TREE PLANTING DETAILS	VZ	14.08.03				

KEY PLAN

HASSELL

HASSELL PTY LTD ACN 007 711 435
70 HINDMARSH SQUARE ADELAIDE SA 5000 AUSTRALIA
ADELAIDE@HASSELL.COM.AU
T 61 8 8203 5222 F 61 8 8203 5200

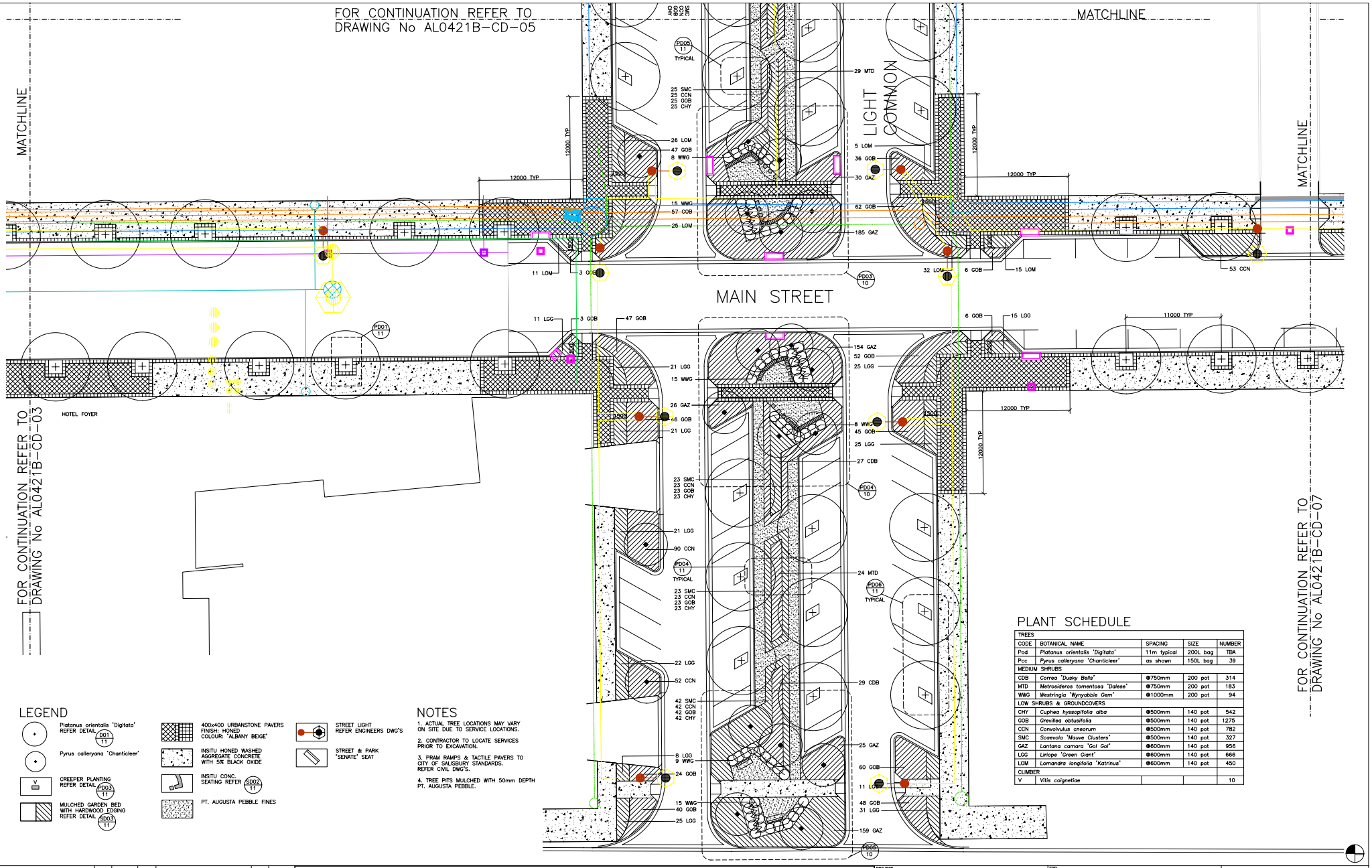
PROJECT: MARKET SQUARE
AT: MAWSON LAKES ADELAIDE

FOR: DELFIN LEND LEASE
DRAWING: LANDSCAPE DETAILS 1

SCALE AS SHOWN AT A1

DATE DRAWN	DRAWN		PROJ. No.
2.06.03	HGF		AL0421A
DISCIPLINE	STAGE	DRAWING No.	ISSUE
L	CD	002	B

CONTRACTORS SHALL VERIFY JOB DIMENSIONS BEFORE ANY JOB COMMENCES. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE SUPERINTENDANT AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS SIGNED BY THE CONSULTANT. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACT SPECIFICATIONS AND DRAWINGS.



PLANT SCHEDULE

TREES				
CODE	BOTANICAL NAME	SPACING	SIZE	NUMBER
Pod	*Platanus orientalis 'Digitata'*	11m typical	200L bag	TBA
Pcc	*Pyrus calleryana 'Chanticleer'*	as shown	150L bag	39
MEDIUM SHRUBS				
CDB	*Correa 'Dusky Bells'*	@750mm	200 pot	314
MTD	*Metrosideros tomentosa 'Dalese'*	@750mm	200 pot	183
WWG	*Westringia 'Wynyabbie Gem'*	@1000mm	200 pot	94
LOW SHRUBS & GROUNDCOVERS				
CHY	*Cuphea hyssopifolia alba*	@500mm	140 pot	542
GOB	*Grevillea obtusifolia*	@500mm	140 pot	1275
CCN	*Convolvulus cneorum*	@500mm	140 pot	782
SMC	*Scaevola 'Mauve Clusters'*	@500mm	140 pot	327
GAZ	*Lantana camara 'Gal Gal'*	@600mm	140 pot	956
LGG	*Liriope 'Green Giant'*	@600mm	140 pot	666
LOM	*Lomandra longifolia 'Katrinus'*	@600mm	140 pot	450
CLIMBER				
V	*Vitis coignetiae*			10

LEGEND

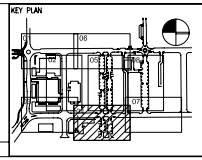
- Platanus orientalis 'Digitata' — REFER DETAIL PD01 11
- Pyrus calleryana 'Chanticleer'
- CREEPER PLANTING — REFER DETAIL PD03 11
- MULCHED GARDEN BED WITH HARDWOOD EDGING — REFER DETAIL SD03 11
- 400x400 URBANSTONE PAVERS FINISH: HONED COLOUR: 'ALBANY BEIGE'
- INSITU HONED WASHED AGGREGATE CONCRETE WITH 5% BLACK OXIDE
- INSITU CONC. SEATING REFER SD02 11
- PT. AUGUSTA PEBBLE FINES
- STREET LIGHT — REFER ENGINEERS DWG'S
- STREET & PARK 'SENATE' SEAT

NOTES

1. ACTUAL TREE LOCATIONS MAY VARY ON SITE DUE TO SERVICE LOCATIONS.
2. CONTRACTOR TO LOCATE SERVICES PRIOR TO EXCAVATION.
3. PRAM RAMPS & TACTILE PAVERS TO CITY OF SALISBURY STANDARDS. REFER CIVIL DWG'S.
4. TREE PITS MULCHED WITH 50mm DEPTH PT. AUGUSTA PEBBLE.

ISSUE	REVISION DESCRIPTION	INITIALS	DATE	ISSUE	REVISION DESCRIPTION	INITIALS	DATE
1	ISSUED TO CLIENT	HGF	2.09.03				
2	ISSUE TO CLIENT	HGF	12.09.03				

KEY PLAN



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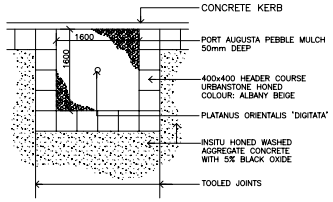
T 61 8 8203 5222 F 61 8 8203 5200

PROJECT: MAWSON LAKES CENTRAL
AT: MAWSON LAKES ADELAIDE

FOR: DELFIN LEND LEASE
DRAWING: STREETSCAPE PLAN
.

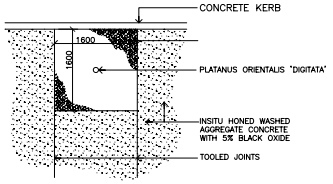
SCALE 1:200 AT A1

DATE DRAWN	DRAWN		PROJ. No.
4.04.03	HGF		AL0421B
DISCIPLINE	STAGE	DRAWING No.	ISSUE
L	CD	04	2



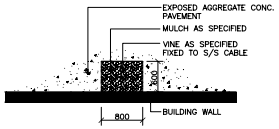
TYPICAL TREE PIT &
PAVING DETAIL–MAIN STREET
PD01 – SCALE 1:50

NOTE :– CONCRETE EXPANSION JOINTS IN PATH AT EVERY 6 METRES

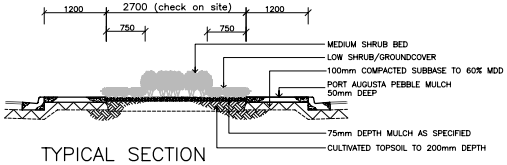


TYPICAL TREE PIT
PD02 – SCALE 1:50

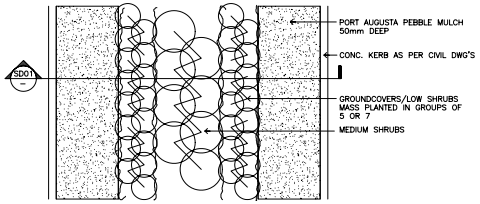
NOTE :– CONCRETE EXPANSION JOINTS IN PATH AT EVERY 6 METRES



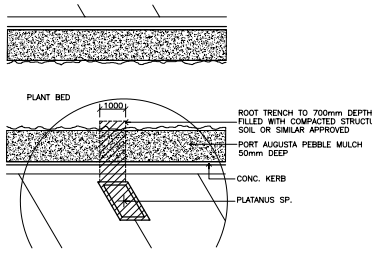
TYPICAL VINE PIT
PD03 01 SCALE 1:50



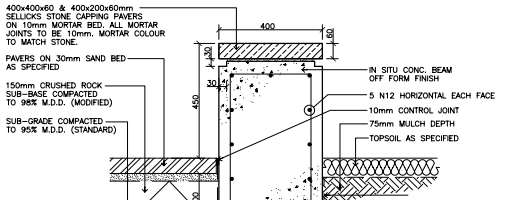
TYPICAL SECTION
LIGHT COMMON MEDIAN
SD01 – SCALE 1:50



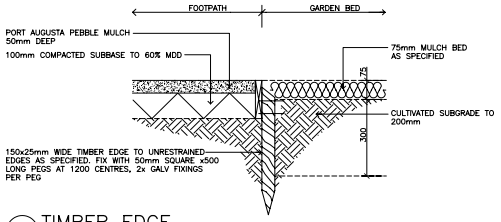
TYPICAL PLANTING PLAN
LIGHT COLUMN MEDIAN
PD04 – SCALE 1:50



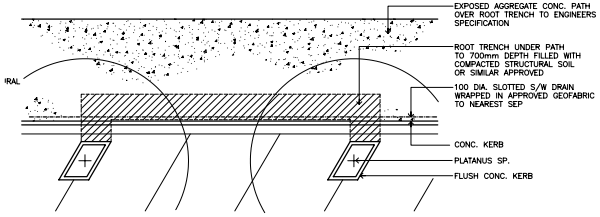
PLAN – ROOT TRENCH
TO LIGHT COMMON MEDIAN
PD05 – SCALE 1:100



SEATING WALL
SD02 – SCALE 1:10



TIMBER EDGE
SD03 01 SCALE 1:10

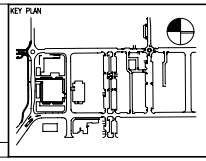


PLAN – ROOT TRENCH
BELOW LIGHT COMMON CONC. PATH
PD06 – SCALE 1:100

NOTE:– MINIMUM STRUCTURAL SOIL VOLUME TO BE 7 CUBIC METRES

ISSUE	REVISION DESCRIPTION	INITIALS	DATE	ISSUE	REVISION DESCRIPTION	INITIALS	DATE
1	ISSUED TO CLIENT	HGF	2.09.03				
2	ISSUED TO CLIENT	HGF	12.09.03				
3	TREE DETAIL REMOVED	HGF	10.10.03				

KEY PLAN



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T 61 8 8203 5222 F 61 8 8203 5200

PROJECT
MAWSON LAKES CENTRAL
AT
MAWSON LAKES
ADELAIDE

FOR
DELFIN LEND LEASE
DRAWING
LANDSCAPE DETAILS
.

SCALE AS SHOWN

DATE DRAWN	DRAWN		PROJ. No.
4.04.03	HGF		AL0421B
DISCIPLINE	STAGE	DRAWING No.	ISSUE
L	CD	11	3

CONTRACTORS SHALL VERIFY JOB DIMENSIONS BEFORE ANY JOB COMMENCES. ALL SHOP DRAWINGS SHALL BE SUBMITTED TO THE SUPERINTENDANT AND MANUFACTURE SHALL NOT COMMENCE PRIOR TO THE RETURN OF UNAMENDED SHOP DRAWINGS SIGNED BY THE CONSULTANT. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACT SPECIFICATIONS AND DRAWINGS.

appendix A: coastal plain plant list

appendix A: coastal plain plant list

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
Mixed *Atriplex paludosa* spp (Marsh Saltbush), *Halosarcia* spp (Samphire), *Sarcocornia* spp (Low Shrubland), *Sclerostegia* spp (Bindyi) and *Avicennia marina* (Grey Mangrove) (coastal areas only)																			
ENDEMIC NATIVE PLANTS																			
GROUND COVERS	*Enchylaena tomentosa*	Ruby Saltbush	0.3-1 x 0.5-1.5		■	■		■		■									
	Myoporum parvifolium	Creeping Boobiala	0.2 x 2	■	■	■		■		■		■	■	■	■	■	■		
SHRUBS	*Atriplex semibaccata*	Saltbush	0.5-1 x 1-2			■					■				■	■			
	Maireana aphylla	Cotton Bush	0.5-1 x 0.5-1												■	■			
	Maireana opositifolia	Salt Bluebush	1 x 1	■		■				■		■	■						
	Myoporum insulare	Common Boobialla	3-5 x 3-5								■								
	Rhagodia candolleana	Seaberry Saltbush	1-1.5 x 1-1.5	■															
TREES	*Banksia marginata*	Silver Banksia	3 x 3				■				■			■				■	
	Banksia integrifolia	Coast Banksia	8-12 x 4-8				■				■			■					
	Melaleuca halmaturorum	Swamp Paper-Bark	3-8 x 2-6				■	■										■	Tolerant of water-logged soil
NON-LOCAL NATIVE PLANTS																			
GROUND COVERS	*Astroloma pinifolium*	Pine Heath	0.45 x 0.5-1	■		■				■	■				■	■			
	Atriplex semibaccata	Saltbush	0.5 x 1														■		
	Carpobrotus rossii	Pig Face	0.2 X 3													■	■		Succulent

AL0608: 30/05/07 : HASSELL

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
GROUNDCOVERS	*Dampiera rosmarinifolia*	Wild Rosemary	0.3 x 0.6		■	■				■		■	■	■	■	■	■		
	Disphyma crassifolium	Pig Face	0.2 X 2.5	■	■							■				■	■		Succulent
	Enchylaena tomentosa	Ruby Salt Bush	0.4 x 1	■	■							■				■	■		
	Hardenbergia violacea	Happy Wanderer	1.5-2 x 2-3	■		■				■		■	■	■	■	■			
	Kennedia prostrata	Running Postman	0.1 x 1.5-4	■	■	■				■		■	■	■	■	■	■		
	Kunzea pomifera	Muntries	0.05 – 0.5		■	■				■		■	■	■	■	■	■		
	Myoporum parvifolium	Creeping Boobiala	0.1 x 0.5	■	■	■				■		■	■	■	■	■	■		
	Scaevola crassifolia	Fan Flower	0.2 x 0.5	■	■	■				■		■	■	■	■	■	■		
SHRUBS	*Acacia sophorae*	Coastal Wattle	2-4 x 1-3								■								
	Alyxia buxifolia	Sea Box	0.5-2 x 0.5-2	■		■				■		■	■	■	■	■			Can be trimmed as you would an English box.
	Calytrix tetragonal	Calytrix	1-1.5 x 1-1.5	■		■				■		■			■	■			These species can also be pruned into an informal hedge.
	Correa alba	White Correa	1.5 x 1.5							■	■				■				
	Correa backhouseana	Coastal Correa	1.5 x 1.5							■	■				■				
	Dianella revoluta	Black Anther Flax Lily	1 x 0.5	■	■	■	■			■	■	■	■	■	■	■			
	Dodonaea viscosa purpurea	Purple Hop Bush	3 x 1.5	■						■	■	■	■	■	■	■			
	Eremophila glabra 'Lime Gold'	Lime Gold Eremophila	1.2 x 1.5	■						■		■	■	■	■	■			
	Eutaxia micropylla	Small leaved Eutaxia		■		■				■		■	■	■	■	■			

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Grevillea fililoba* 'Ellendale'	Grevillea Ellendale	2 x 2	■						■		■	■	■	■	■			
	Grevillea 'Sea Spray'	Grevillea Sea Spray	0.75 x 1.5	■						■		■	■	■	■	■			
	Grevillea olivaceae 'Orange'	Orange Grevillea	3 x 2-3	■						■	■	■	■	■	■	■			
	Grevillea olivaceae 'Red	Red Grevillea	3 x 2-3	■						■	■	■	■	■	■	■			
	Grevillea olivaceae 'Yellow'	Yellow Grevillea	3 x 2-3	■						■	■	■	■	■	■	■			
	Leptospermum flavescnes 'Cardwell'	Common Tea Tree	2 x 2	■						■	■	■	■	■	■	■			
	Leptospermum scoparium 'Pink Cascade'	Pink Tea-Tree	0.5 x 1-2	■						■		■	■	■	■	■			
	Leucophyta brownii	Cushion Bush	0.75 x 1	■						■		■	■	■	■	■			
	Myoporum insulare	Boobiala	4-5 x 2-3								■		■	■	■				
	Olearia axillaris	Coastal Daisy Bush	2-3 x 1.5-2	■		■						■	■	■	■	■			
	Melaleuca citrina		1.5 x 1.5	■						■	■	■	■	■	■	■			
	Melaleuca nesophila 'Little Nessy'	Little Nessy	2 x 3	■						■		■	■	■	■	■			
	Westringia frutcosa	Coastal Rosemary	1.5 x 1.5	■		■				■		■	■	■	■	■			
TREES	*Acacia acuminata*	Jam Wattle	3-6 x 1-4												■	■			
	Acacia maidenii	Maiden's Wattle	13-14 x 4-5		■	■													Needs well-drained site and will tolerate some shade
	Acacia saligna	Golden Wreath Wattle	3-8 x 3-8			■							■	■	■	■			

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
TREES	*Allocasuarina littoralis*	Black Sheoak	8 x 3				■											■	
	Allocasuarina verticillata	Drooping Sheoak	5-10 x 3-6				■												
	Agonis flexuosa	Willow Myrtle	10-12 x 8-10			■	■												Prefers a sandy soil
	Angophora costata	Smooth-bark Apple Myrtle	12-15 x 6-10		■	■			■										
	Araucaria heterophylla	Norfolk Island Pine	30 x 12-15	■	■				■			■							
	Casuarina obesa	Swamp Sheoak	6-20 x												■	■			
	Corymbia citriodora	Lemon-scented Gum	15-20 x 12 x 15	■	■	■			■			■	■	■	■				
	Corymbia maculata	Spotted Gum	20 x 10	■	■	■			■			■	■	■	■				
	Eucalyptus leucoxylon 'Euky Dwarf'	Euky Dwarf	5-7 x 2-3	■				■										■	
	Eucalyptus leucoxylon var 'Rosea'	Rosy SA Bluegum	10-12 x 6-8			■	■					■	■	■	■				Moderately salt tolerant
	Eucalyptus occidentalis	Flat Topped Yate	12-20 x 12-20		■	■													Moderately salt tolerant
	Eucalyptus salicola	Salt Gum	10-15 x 10-15		■	■													Adaptable to salty soil
	Eucalyptus sargentii	Salt River Gum	6-12 x 4-9			■	■												One of the most salt tolerant eucalypts
	Hakea preissii	Needle Bush	2-5 x 2-3												■	■			
	Melaleuca cuticulatis	Salt Water Paperbark	6-8 x 5-6				■									■		■	Suitable for saline and waterlogged sites.
	Melaleuca hamulosa	Broom Bush Honey Myrtle	3-4 x 3-4													■			Very salt and water-logging tolerant

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
GROUND COVERS	*Armeria maritima*	Sea Pink	0.3 x 0.3																
	Echeveria crenulata	Hen and Chicks	0.1-0.3 x 0.3-0.6	■		■						■	■	■					
	Echeveria imbricata	Hen and Chicks	0.1 x 0.3	■		■						■	■	■					
	Juniperus procumbens	Creeping Juniper	0.3 X 3-4.5	■		■						■	■	■	■	■			
SHRUBS	*Agave attenuata*	Century Plant	1-2 x 1-2	■		■			■		■	■		■	■	■			
	Aloe ferox	Red Aloe	2-3 x 2-3	■								■					■		
	Artemisia 'Powis Castle'	Wormwood	1-1.5 x 1-1.5	■					■	■	■	■		■	■				
	Cistus purpureum 'Brilliancy'	Coastal Rock Rose	1-1.5 x 1-1.5	■					■		■	■	■	■	■				
	Euphorbia characiaswulfenii	Wulf Euphorbia	1-1.5 x 1-1.5	■					■		■	■	■						
	Grewia occidentalis	Purple Star Flower	1-2 X 1-2	■						■	■	■	■	■	■	■			Can trim to shape
	Kalanchoe beharensis	Elephants Ear Kalanchoe	1-3 x 1-3	■					■		■								
	Lavandula x allardii	Coastal Lavender	0.5-1.5 x 0.5-1.5	■					■		■	■		■	■				
	Lavatera maritime	Lavatera	2 x 2						■	■	■								
	Limonium presii	Sea Lavender	0.25 x 0.25	■															
	Myrtus communis	True Myrtle	8-10 x 6-8	■							■	■	■	■	■				
	Nerium oleander	Oleander	1-6 x 1-4	■			■		■	■	■		■					■	
	Portularcaria afra	Elephant's Foot	0.5-1.5 x 0.5-1.5	■		■						■	■	■	■	■			
	Rhaphiolepis indica	India Hawthorn	1-2 x 1-2	■								■					■		
	Rhaphiolepis indica 'Ballerina'	Ballerina Hawthorn	0.6 x 0.6	■		■						■	■	■	■	■			Suitable for a compact hedge

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
SHRUBS	*Salvia* 'Allen Chickering'	Allen Chickering Sage	0.9-1.1 x 0.9-1.1	■		■			■		■	■		■	■	■			
	Salvia apiana	White Sage	0.9-1.3 x 0.9-1.3	■					■		■	■		■	■	■			
	Senecio serpens	Blue Chalk Sticks	0.15 x 0.15						■		■	■							
TREES	*Laurus nobilis*	Bay Tree	6-7 x 4-5	■								■			■	■		■	Can trim to shape
	Lyonothamnus floribundus ssp. *Asplenifolius*	Fernleaf Catalina Ironwood	8-10 x 6-8								■				■	■			
	Olea europea (sterile form)	Olive	2-6 x 1-4				■	■										■	
	Pinus pinea	Italian Stone Pine	20-25 x 10-15	■	■	■					■								Strongly aerial salt tolerant.

revegetation list

Avicennia marina (Grey Mangrove) (coastal areas only)		
	Botanical Name	**Common Name**
SHRUBS	*Alyxia buxifolia*	Sea Box
	Lepilaena australis	Austral Water-mat
	Lepilaena cylindrocarpa	Long-fruit Water-mat
	Lepilaena preisii	Slender Water-mat
	Melaleuca uncinatum	Broom Bush
	Olearia axillaris	Coastal Daisy Bush
	Sarcocornia blackiana	Thick-head Samphire
	Sarcocornia quinquflora	Beaded Samphire
	Westringia fruticosa	Coastal Rosemary
TREES	*Avicennia marina* var. *resinifera*	Mangrove
	Banksia marginata	Silver Banksia
Mixed *Halosarcia* sp. (Samphire), *Sclerostegia* sp. (Bindyi), *Atriplex paludosa* sp. (Marsh Saltbush), sp.		
GRASSES AND SEDGES	*Gahnia filum*	Smooth Cutting-grass
	Juncus krausii	Sea Rush
	Puccinellia stricta var. *stricta*	Australian Saltmarsh-gras
	Sporobolus virginicus	Salt Couch
GROUNDCOVERS	*Angianthus preissianus*	Salt Angianthus
	Atriplex suberecta	Lagoon Saltbush
	Bulbine semibarbata	Small Leek-lily
	Centrolepis cephaloformis	Cushion Centrolpis
	Hemichroa pentandra	Trailing Hemichroa
	Lavatera plebeia	Australian Hollyhock
	Lawrencia spicata	Salt Lawrencia
	Microseris lanceolata	Yam Daisy

	Botanical Name	Common Name
GROUNDCOVERS	*Myoporum parvifolium*	Creeping Boobialla
	Pogonolepsis muelleriana	Stiff Cup-flower
	Samolus repens	Creeping Brookweed
	Selliera radicans	Shiny Swamp-mat
	Senecio glossanthus	Annual Groundsel
	Senecio lautus	Variable Goundsel
	Triglochin striatum	Streaked Arrowgrass
	Wilsonia humilis	
	Wilsonia rotundifolia	Round-leaf Wilsonia
LOW SHRUBS	*Atriplex australasica*	Green Saltbush
	Atriplex paludosa ssp. *Cordata*	Marsh Saltbush
	Atriplex paludosa ssp. *Paludosa*	Marsh Saltbush
	Enchylaena tomentosa	Ruby Saltbush
	Frankenia pauciflora	Sea Health
	Halosarcia flabelliformis	Bead Samphire
	Halosarcia halcnmoides.	Grey Samphire
	Halosarcia indica ssp. *Bidens*	Brown-head Samphire
	Halosarcia indica ssp. *Leiostachya*	Brown-head Samphire
	Halosarcia pergranulata	Black-seed Samphire
	Halosarcia pruniosa	Bluish Samphire
	Hemichroa diandra	Mallee Hemichroa
	Lawrencia squamata	Thorny Lawrencia
	Maireana aphylla	Cotton-bush
	Maireana decalvans	Black cotton-bush

	Botanical Name	Common Name
LOW SHRUBS	*Maireana oppositifolia*	Salt Bluebush
	Maireana trichoptera	Hairy-fruit Bluebush
	Nitraria billardierei	Nitre-bush
	Rhagodia candollena .	Seaberry Saltbush
	Sarcocornia blackiana	Thick-head Samphire
TALL SHRUBS	*Bursaria spinosa*	Christmas Bush
	Myoporum insulare	Common Boobialla
	Sarcocornia quinqueflora	Beaded Samphire
	Sclerostegia arbuscula	Shrubby Samphire
	Sclerolaena diacantha	Grey Bindi
	Sclerostegia tenuis	Slender Samphire
	Suaeda australis	Austral Sealite
	Threlkeldia diffusa	Coast Bonefruit
TREES	*Acacia saligna*	Orange Wattle
	Melaleuca halmaturorum	Swamp Paper-bark

appendix B: lower alluvial plain plant list

appendix B: lower alluvial plain plant list

Danthonia sp. (Wallaby Grass), *Stipa* sp. (Spear Grass)

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
ENDEMIC PLANTS																			
GRASSES & SEDGES	*Dianella revoluta*	Black Anther Flax Lily	1 x 0.5	■		■				■	■	■	■	■	■	■			
	Lomandra multiflora ssp. *Dura*	Matt Rush	0.75 x 0.75	■		■				■	■	■	■	■	■	■			
	Themeda australis syn. *Triandra*	Kangaroo Grass	0.5 x 0.5								■								
GROUNDCOVERS	*Arthropodium strictum*	Chocolate Lily	0.2-1 x 0.2-0.8	■						■		■							
	Atriplex suberecta	Lagoon Saltbush	0.6 x 0.8			■					■								
	Brunonia australis	Blue Pinchushion	0.2 x 0.2	■		■				■		■		■	■	■			
	Bulbine bulbosa	Bulbine-Lily	0.75 x 0.5			■				■		■			■	■			
	Calostemma purpureum	Pink Garland-Lily	0.3-0.4 x 0.2-0.3	■						■		■				■			
	Craspedia glauca	Billy-Buttons	0.3 x 0.3			■				■	■	■				■			
	Hardenbergia violaceae	Native Lilac	1.5-2 x 2-3	■	■	■				■		■	■	■	■	■			
	Scaevola albida var. *albida*	Pale Fanflower	0.4 x 0.5-2	■	■	■		■		■		■		■	■	■			
	Wahlenbergia communis	Tufted Bluebell	0.2 x 0.2	■						■		■							

AL0608: 30/05/07 : HASSELL

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ENDEMIC PLANTS																			
SHRUBS	*Acacia ligulata*	Umbrella Bush	1.5-3 x 3-7								■								
	Acacia victoriae	Elegant Wattle	2-5 x 2-8								■								
	Atriplex semibaccata	Berry Saltbush	0.5 x 1								■								
	Acacia paradoxa	Kangaroo Thorn	2-4 x 3-4								■								
	Teucrium racemosum	Grey Germander	0.3-0.6 x 0.4	■		■				■	■	■							Trim to keep neat
TREES	*Acacia pycnantha*	Golden Wattle	4-6 x 2-4	■				■			■	■	■			■		■	
	Eucalyptus camaldulensis	River Red Gum	20-30 x 10-15			■			■				■						
NON-LOCAL NATIVE PLANTS																			
GRASSES & SEDGES	*Dianella* 'Silver Streak'	Silver Streak	0.6 x 0.6	■						■		■	■	■	■	■			
	Dianella caerulea 'Breeze'	Breeze	0.6 x 0.6	■						■		■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella caerulea 'Cassa Blue'	Cassa Blue	0.5 x 0.4	■	■					■		■	■	■	■	■			Will grow in shade
	Dianella caerulea 'Little Jess'	Little Jess	0.4 x 0.4	■	■					■		■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella revoluta 'Baby Bliss''	Baby Bliss	0.25 x 0.25	■	■					■		■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella tasmanica 'Emerald Arch'	Emerald Arch	0.45 X 0.45	■						■		■	■	■	■	■			Very hardy adaptable plant, low maintenance

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NON-LOCAL NATIVE PLANTS																			
GRASSES & SEDGES	*Dianella revoluta* 'Little Rev'	Little Rev	0.3-0.4 x 0.3																Very hardy adaptable plant, low maintenance
	Dianella revoluta 'Revelation'	Revelation	0.5 x 0.5																Very hardy adaptable plant, low maintenance
	Dianella tasmanica 'Tas Red'	Tas Red	0.4 x 0.4																Foliage colour changes with the seasons
	Lomandra 'Katrinus Deluxe'	Katrinus Deluxe	0.6 x 0.6																Very hardy adaptable plant, low maintenance – showy flowers
	Lomandra confertifolia 'Wingarra'	Wingarra	0.3 x 0.3																Very hardy adaptable plant, low maintenance
	Lomandra filiformis 'Savanna Blue'	Savanna Blue	0.3 x 0.3																Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Cassica'	Cassica	1.2 x 0.8																Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Nyalla'	Nyalla	0.8 x 0.8																Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Tanika'	Tanika	0.6 x 0.6																Very hardy adaptable plant, low maintenance

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NON-LOCAL NATIVE PLANTS																			
GRASSES & SEDGES	*Poa labillardieri* 'Eskdale'	Eskdale	0.6 x 0.45																Very hardy adaptable plant, low maintenance – good erosion control
	Poa poiformis 'Kingsdale'	Kingsdale	0.45 x 0.45																Very hardy adaptable plant, low maintenance – good erosion control
GROUNDCOVERS	*Correa decumbens* fr. Prostrate	Prostrate Correa Decumbens	0.3 x 2																
	Dampiera lineraris	Common Dampiera	0.1-0.5 x 0.5-2																
	Eremophila 'Kalbarri Carpet'	Kalbarri carpet	0.3 x 2																
	Eremophila glabra 'Prostrate Burgundy		0.1 x 3																
	Grevillea 'Bronze Rambler'	Bronze Rambler	0.3 x 4																
	Grevillea 'Raptor'	Raptor grevillea	0.1 x 1.5-2																
	Grevillea lanigera	Woolly Bush	0.1-0.2 x 2-3																
	Grevillea lanigera 'Mount Tamboritha'	Grevillea Mount Tamoritha	0.1 x 1-2																
	Grevillea thelemanniana	Spider Net Grevillea	0.1-0.3 x 2-3																
	Viola hederacea	Native Violet																	

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Acacia* 'Little Nugget'	Little Nugget	1 x 0.45	■						■		■	■	■	■	■			
	Acacia 'Mop Top'	Mop Top	0.6-0.9 x 0.9-1.2	■						■		■	■	■	■	■			
	Acacia cognata 'Limelight'	Limelight	0.5-1 x 1	■						■				■	■	■			
	Acacia fimbriata fr. Dwarf	Dwarf Fringed Wattle	1.5 x 2	■						■	■			■	■	■			
	Adenanthos cuneata	Basket Flower	1 x 1.5	■							■			■	■	■			
	Adenanthos sericeus	Red Flowering Albany Woolly Bush	2-7 x 2-6	■							■			■	■	■			
	Bankia 'Giant Candles'	Giant Candle Banksia	3-4 x 2-3	■						■	■			■	■	■			
	Banksia ericifolia	Heath Banksia	34 x 1.5	■						■	■			■	■	■			
	Banksia ericifolia fr. Dwarf	Dwarf Heath Banksia	1-2 x 1	■						■	■			■	■	■			
	Banksia integrifolia 'Roller Coaster'	Roller Coaster Banksia'	1 x 1.5-2.5	■						■	■			■	■	■			
	Banksia media	Southern Plains Banksia	3-6 x 1-3	■						■	■			■	■	■			
	Banksia occidentalis	Red Swamp Banksia	3-8 x 2-5	■						■	■			■	■	■			
	Banksia speciosa	Showy Banksia	2-5 x 3-5	■						■	■			■	■	■			
	Banksia spinulosa	Hairpin Banksia	2-3 x 1-2	■						■	■			■	■	■			
	Banksia spinulosa nana	Dwarf Hill Banksia	1.5 x 1	■						■	■			■	■	■			
	Callistemon 'Kings Park Special'	Kings Park Special Bottlebrush	1 x 3	■						■	■			■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Callistemon* 'Little John'	Little John	1 x 1	■						■	■			■	■	■			
	Callistemon citrinus 'White Anzac'	Anzac Bottlebrush	3 x 3	■						■	■			■	■	■			
	Callistemon pallidus 'Bonang'	Silver Cloud Callistemon	1.8 x 1.5	■						■	■			■	■	■			
	Callistemon citrinus 'Firebrand'	Firebrand Callistemon	1.8 x 1.5	■						■	■			■	■	■			
	Calothamnus quadrifidus	Calothamnus	2-3 x 1-2	■						■	■			■	■	■			
	Chamalaucium axillare	Esperence Wax Flower	0.5-1 x 1-2	■		■				■	■	■	■	■	■	■			
	Correa 'Firebird'	Firebird Correa	1 x1	■						■				■	■	■			
	Correa 'Marian's Marvel'	Marian's marvel	1-2 x 1.5-3	■						■	■			■	■	■			
	Correa baeuerlenii	Chefs Hat Correa	1.5 x 1.5	■						■	■			■	■	■			
	Correa flabra	Rock Correa	2-3 x 1-3	■						■	■			■	■	■			
	Correa pulchella	Wild Fuchsia	1 x 1	■						■				■	■	■			
	Correa pulchella 'Dusky Bells'	Dusky Bells	0.3-1 x 2-4	■						■	■			■	■	■			
	Correa pulchella Pink Bells	Pink Bells	1 x 1	■						■	■			■	■	■			
	Correa pulchella 'White Tips	White Tips	1 x 1	■						■	■			■	■	■			
	Correa reflexa fr. Salmon	Salmon Correa	1 x 1	■						■	■			■	■	■			
	Correa reflexa fr. Tall	Tall Correa	2 x 1.5	■						■				■	■	■			
	Correa schlechtendalii	Scented Correa	1-1.5 x 1-1.5	■						■	■			■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Dodonaea boroniaefolia*	Fern Leaf Hop Bush	2 x 1	■						■	■			■	■	■			
	Dodonaea inaequifolia	Slender Leaf Hop Bush	1-2 x 1-2	■		■				■	■	■	■	■	■	■			
	Dodonaea viscosa purpurea	Hop Bush	3 x 1.5	■						■	■			■	■	■			
	Eremophila drummondii x nivea 'Spring Afair'	Eremophila Spring Affair	2 x 1-1.5	■						■				■	■	■			
	Eremophila glabra 'Lime Gold'	Lime Gold Eremophila	1.2 x 1.5	■						■	■			■	■	■			
	Eremophila glabra silver form	Silver Eremophila Glabra	0.5 x 0.5-1	■						■	■			■	■	■			
	Eremophila macdonnelli fr. Simpson Desert	Simpson Desert Eremophila	0.5-1 x 2-5	■						■	■			■	■	■			
	Eremophila maculata	Spotted Emu Bush	1-1.5 x 2			■				■	■		■	■	■	■			
	Eremophila maculata aurea	Yellow Emu Bush	1.5 x 1-1.5	■						■	■			■	■	■			
	Eremophila maculata compacta	Dwarf Emu bush	1 x 1.5	■						■	■			■	■	■			
	Eremophila maculata Red	Red Emu-Bush	1-2 x 1-1.5	■						■	■			■	■	■			
	Eremophila maculata 'Winter Gold'	Eremophila Winter Gold	1.5 x 1.5	■						■	■			■	■	■			
	Eremophila microtheca	Emu Bush	1.5 x 1.5	■						■	■			■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Eremophila nivea*	Silver Emu Bush	1-2.5 x 0.7-1.5	■						■				■	■	■			
	Eremophila racemosa	Arid Emu Bush	1.5 x 0.5-1.5	■						■	■			■	■	■			
	Eremophila racemosa 'Peaches and Cream'	Eremophila Peaches and Cream	1.5 x 1.5	■						■				■	■	■			
	Eriostemon myporoides	Native Wax Flower	2 x 1.5-2	■							■			■	■	■			
	Eriostemon profusion	Native Wax Flower	2 x 1-2	■						■				■	■	■			
	Eutaxia obovata	Bacon and Eggs	1 x 1	■						■	■			■	■	■			
	Grevillea 'Bonfire'	Bonfire Grevillea	1.5 x 2	■							■	■		■	■	■			
	Grevillea 'Bonnie Prince Charlie'	Bonnie Prince Charlie	0.6 x 0.6-1	■						■		■	■	■	■	■			
	Grevillea 'Cherry Ripe'	Cherry Ripe Grevillea	0.3-0.5 x 0.4-0.5	■						■		■	■	■	■	■			Trim to keep compact
	Grevillea 'Coochin Hills'	Coochin Hills Grevillea	5 x 2-4	■							■	■		■	■	■			
	Grevillea 'Edna Walling Softy Softly'	Edna Walling Grevillea	0.3-0.4x0.35-0.55	■						■		■	■	■	■	■			Trim to keep compact
	Grevillea 'Firesprite'	Firesprite	2-3 x 2	■							■	■		■	■	■			
	Grevillea 'Lemon Supreme'	Grevillea Lemon Supreme	1.5 x 1.5	■							■	■		■	■	■			
	Grevillea 'Red Sunset'	Sunset Grevillea	1 x 2	■						■	■			■	■	■			
	Grevillea 'Rosy's Baby'	Rosy's Baby Grevillea	0.8-1 x 0.6-0.8	■						■		■	■	■	■	■			Trim to keep compact

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Grevillea* 'Rosy Posy'	Rosy Posy Grevillea	1.2 x 1.2	■						■		■	■	■	■	■			Trim to keep compact
	Grevillea 'Sea Spray'	Sea Spray Grevillea	0.75 x 1.5	■							■	■		■	■	■			
	Grevillea crithmifolia	Scented Grevillea	2 x 2	■							■	■		■	■	■			
	Grevillea curviloba	Scented Grevillea	prostrate or upright	■							■	■		■	■	■			Very Prickly
	Grevillea filioba 'Ellendale'	Grevillea Ellendale	2 x 2	■						■	■			■	■	■			
	Grevillea hookeriana	Hooker's Grevillea	2-3 x 2-3	■							■	■		■	■	■			
	Grevillea lanigera	Woolly Bush	0.1-0.2 x 2-3	■						■	■			■	■	■			
	Grevillea olivaceae 'Orange'	Orange Grevillea	3 x 2-3	■						■	■			■	■	■			
	Grevillea olivaceae 'Red'	Red Grevillea	3 x 2-3	■						■	■			■	■	■			
	Grevillea olivaceae 'Yellow'	Yellow Grevillea	3 x 2-3	■						■	■			■	■	■			
	Grevillea rosmarinifolia 'Lutea'	Yellow Grevillea	1-2 x 1-2	■							■			■	■	■			
	Grevillea shiressii	Hidden Grevillea	3 x 3.5	■						■	■			■	■	■			
	Grevillea stenomera 'Prostrate Pink'	Pink Stenomera	1 x 1.5-3	■						■				■	■	■			
	Grevillea thelemanniana 'Red Wings	Grevillea Red Wings	1.5-2 x 1-2	■						■	■			■	■	■			.
	Grevillea thelemannina 'White Wings'	Grevillea White Wings	1.5-2 x 1-3	■						■	■			■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Hakea francisiana*	Pink Pokers	4 x 2-3																
	Hakea laurina	Pin-Cushion Hakea	2-3 x 1-2																
	Hakea sericea 'Pink'	Pink Hakes	2-3 x 1-2																
	Isopogon 'Little Drumsticks'	Little Drumsticks	0.3-.65 x 0.45-0.8																
	Leptosermum flavescens 'Cardwell'	Common Tea Tree	1-3 x 1-3																
	Leptospermum petersonii 'Copper Glow'	Copper Glow Tea Tree	3 x 2.5																
	Leptospermum scoparium 'Pink Cascade'	Pink Cascade Tea Tree	0.50.5 x 1-2																
	Melaleuca 'Green Globe'	Dwarf Melaleuca	1.5 x 1-1.5																
	Melaleuca pentagona	Esperance Tea Tree	3 x 3																
	Melaleuca bracteata	Black Tea Tree	4-7 x 3-5																
	Melaleuca bracteata 'Revolution Gold'	Revolution Gold	3-4 x 1.5-2																
	Melaleuca bracteata 'Revolution Green'	Revolution Green	3-4 x 1.5-2																
	Melaleuca citrina	Melaleuca	1.5 x 1.5																
	Melaleuca incana	Soft Melaleuca	3 x 2-3																

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Melaleuca incana* 'Nana'	Dwarf Sot Melaleuca	1 x 1	■			■			■		■	■	■	■	■			
	Melaleuca nesophila 'Little Nessy'	Little Nessy	2 x 3	■						■	■			■	■	■			
	Melaleuca uncinatum	Broom Bush	2-3 x 2-4								■								
	Murraya paniculata	Murraya	3 x 3	■						■	■			■	■	■			
	Orthrosanthus multiflorus	Blue Eyes	0.6 x 1-1.5	■						■				■	■	■			
	Pittosporum phylliraeoides var. *macrocarpa*	Native Apricot	2-8 x 2-4				■											■	
	Prostanthera 'Minty'	Native Mint	1-1.8 x 1-1.2	■						■		■	■	■	■	■			
	Stenanthum 'White Mishchief'	White Mischief	0.3-0.45 x 0.8-1.2	■						■		■	■	■	■	■			Trim to keep compact
	Thomasia petalocalyz	Paper Flower	0.4 x 0.6	■						■	■			■	■	■			
	Thryptomene calycina	Grampians Thryptomene	0.5-1.5 x 0.5-1.5	■						■	■			■	■	■			
	Thryptomene saxicola	Rock Thryptomene	0.5-1 x 1.5	■			■			■	■	■	■	■	■	■			
	Westringia 'Edna Walling'	Edna Walling Westringia	0.8 x 1.2	■						■		■	■	■	■	■			
	Westringia 'Lilac and Lace'	Lilac and Lace	1.5 x 1.5	■							■	■		■	■	■			
	Westringia 'Smokey'	Smokey		■			■			■	■	■	■	■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Westringia* 'White Rambler'	White Rambler	1 x 3	■							■	■		■	■	■			
	Westringia 'Zena'			■			■			■	■	■	■	■	■	■			
	Westringia fruticosa	Coastal Rosemary	2-3 x 2-3	■			■			■	■	■	■	■	■	■			
	Westringia fruticosa variegata	variegated Coast Rosemary		■			■			■	■	■	■	■	■	■			
TREES	*Acacia iteaphylla*	Flinders Range Wattle	3 x 2					■			■	■			■	■		■	
	Acacia pendula	Weeping Myall	5-10 x 4-8	■			■												
	Acacia podalyriifolia	Mt. Morgan Wattle	5-10 x 4-6				■	■											
	Acacia salicina	Willow Acacia	5-6 x 5-6				■											■	
	Agonis flexuosa	Native Willow	10-15 x 8-10					■			■	■			■	■			
	Angophora costata	Smooth-bark Apple Myrtle	12-15 x 6-10		■	■			■										
	Brachychiton populneus	Kurrajong	8-10 x 6-8			■	■						■						
	Callistemon 'Harkness'	Gawler River Bottlebrush	3-5 x 2-3				■	■				■			■	■		■	
	Callistemon 'Kings Park Special'	Kings Park Special Bottlebrush	4 x 3					■										■	Ideal where space is limited on a narrow nature strip
	Corymbia citriodora	Lemon Scented Gum	20 x 15		■	■			■				■						
	Corymbia maculata	Spotted Gum	20 x 15		■	■			■				■						
	Euclayptus intertexta	Coolibah	8-15 x 5-10		■	■			■										

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NON-LOCAL NATIVE PLANTS																			
TREES	*Eucalyptus lansdowneana* ssp. *alba purpurea*	Port Lincoln Gum	5-7 x 3-4				■	■										■	
	Eucalyptus leucoxylon	Large Fruited SA Blue Gum	5-10 x 4-6			■	■	■				■			■	■			
	Eucalyptus leucoxylon 'Euky Dwarf'	Euky Dwarf	5-7 x 3-4					■										■	
	Eucalyptus leucoxylon 'Goolwa Gem'	Goolwa Gem	5-7 x 3-4	■				■		■				■	■	■		■	
	Eucalyptus melliodora	Yellow Box	15-35 x 8-10		■	■													
	Eucalyptus platypus	Round-leaf Moort	5-8 x 3-6				■	■										■	
	Eucalyptus sideroxylon	Red Ironbark	10-25 x 5-10		■	■	■	■		■	■			■					
	Eucalytpus torquata	Coral Gum	5-7 x 3-6	■			■	■										■	
	Flindersia australis	Crow's Ash	12 x 6-8				■												
	Geijera parvifolia	Wilga	5-8 x 5-9					■										■	Prefers a sandy soil. Slow growing. Pendulous branches would need cutting back in a streetscape situation
	Harpullia pendula	Tulipwood	10-15 x 8-12				■												
	Lophostemon confertus	Queensland Box	5-7 x 3-6				■											■	
	Melia azedarach (low fruiting)	White Cedar	8-10 x 6-8					■	■										

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
NON-LOCAL NATIVE PLANTS																			
TREES	*Pittosporum rhombifolium*	Rhomboid Leaf Pittosporum	8-12 x 4-6				■												Need to trim up to use in a street tree situation.
EXOTIC PLANTS																			
GROUNDCOVERS	*Cerastium tomentosum*	Snow in Summer	0.1 x 0.5-0.75	■	■	■				■		■	■	■	■	■			
	Festuca glauca	Blue Sheep Grass	0.3-0.4 x 0.4	■	■	■				■		■	■	■	■	■			
	Penstemon centranthifolius	Scarlet Bugler	0.3-0.5 x 0.3-0.5	■		■				■		■	■	■	■	■	■		
	Penstemon heterophyllus	Foothill Penstemon	0.2 x 0.2-0.4	■		■				■		■		■	■	■	■		
	Penstemon palmeri	Scarlet Bugler	0.6-0.9 x 0.6-0.9	■		■				■		■					■		
	Penstemon parryi	Showy Penstemon	0.5 x 0.5	■		■				■		■		■	■	■	■		
	Penstemon spectabilis	Showy Penstemon	0.5 x 0.5	■		■				■		■		■	■	■	■		
	Penstemon superbus	Showy Penstemon	0.3-0.5 x 0.3-0.5	■		■				■		■		■	■	■	■		
	Rosmarinus lavandulaceus	Trailing Rosemary	0.5 x 1-1.5	■	■	■				■		■	■	■	■	■			
	Sedum assorted	Stonecrop	0.1-0.3 x 0.1-0.3	■		■				■		■		■	■	■	■		
	Senecio mandraliscae	Groundsel	0.1 x 1	■		■				■		■		■	■	■	■		
	Sisyrinchium bellum	Blue-eyed Grass	0.1-0.3 x 0.1-0.3	■		■				■		■		■	■	■	■		
	Tulbaghia violaceae	Society Garlic	0.75 x 0.75	■		■				■		■					■		

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
EXOTIC PLANTS																			
SHRUBS	*Abelia grandiflora*	Abelia	1-2 x 1-2	■		■				■		■	■	■	■	■			
	Abutilon x hybrida	Chinese Lantern	1.5-2 x 1-1.5	■						■	■		■		■	■			
	Acanthus mollis	Oyster Plant	1 x 1-1.5	■		■				■		■	■						
	Aeonium 'Schwarzkopft'	Black Aeonium	1 x 1	■		■				■		■	■	■			■		
	Agave attenuata	Century Plant	1 x 1	■								■	■	■					
	Aloe arborescens	Tree Aloe	1.8-3.5 x 3-3.5	■							■	■	■						
	Aloe vera	Medicinal Aloe	1-5 x 1-3	■							■	■	■						
	Alyogyne cuneiformis	Native Hibiscus	1.5 x 1.5-3	■						■		■	■	■	■	■			
	Alyogyne hakeifolia	Red Centered Hibiscus	1-2 x 1-2	■						■		■	■	■	■	■			
	Alyogyne huegelii	Blue Hibiscus	2-3 x 1.5-3	■				■		■		■	■	■	■	■			
	Artemisia absinthium	Wormwood	2 x 2	■						■	■	■							
	Bougainvillea sp.	Bougainvillea		■						■		■	■						
	Buddleia davidii	Butterfly Bush	3-4 x 3-4	■						■		■	■		■	■			
	Ceanothus 'Blue Pacific'	Californian Lilac	1.5-2 x 1.5-2	■		■				■		■			■	■			
	Choisya ternata	Mexican Orange blossom	2 x 2			■				■	■	■	■	■	■	■			
	Cistus sp.	Rock Rose	0.5-2.5 x 0.5-2.5	■		■				■		■	■	■	■	■			
	Cotyledon orbiculata	Pigs Ears	1 x 1.5	■		■				■		■	■	■					
	Cycas revoluta	Cycad	1-3 x 1-2	■								■	■	■					

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
EXOTIC PLANTS																			
SHRUBS	*Echium candicans*	Echium	1-2 x 1-2	■		■				■		■	■						
	Eriocephalus africanus	African Daisy Bush	0.5 x 1	■		■				■		■	■	■	■	■			
	Euphorbia 'Wulfenii'	Wulf Euphorbia	1 x 1	■		■				■		■	■	■					
	Gaura sp.	Butterfly Bush	0.3-0.45 x 0.5	■		■				■	■	■	■	■	■	■			
	Grewia occidentalis	Purple Star Flower	1 x 1	■		■				■		■	■	■	■	■			
	Hemerocallis sp.	Daylily	0.3 x 0.3	■						■		■	■			■			
	Hibiscus coccineus	Red Hibiscus	1.5 x 1.5	■		■				■		■			■	■			
	Hibiscus syriacus	Syrian Hibiscus	2-3 x 3-4	■		■				■	■	■		■	■	■			
	Lavandula dentata	Lavender	1-1.5 x 1-1.5	■						■		■	■		■	■			
	Lavatera maritima	Lavatera	2 x 2			■				■			■						
	Myrtus communis	True Myrtle	8-10 x 6-8	■								■	■	■	■	■			
	Nerium oleander	Oleander	3-4 x 2-3							■	■	■	■	■					Parts of the plant are poisonous; they should not be planted near playgrounds or areas where children can access them.
	Nerium oleander 'Apricot Form'	Apricot Dwarf Oleander	1-1.5 x 1-1.5							■	■	■	■	■					
	Nerium oleander 'Pink'	Pink Dwarf Oleander	1-1.5 x 1-1.5							■	■	■	■	■					
	Nerium oleander 'Cherry Surprise'	Cherry Dwarf Oelander	1-1.5 x 1-1.5							■	■	■	■	■					
	Plumbago auriculata	Cape plumbago	1-3 x 1-2	■		■				■		■			■	■			
	Rosmarinus officinalis	Rosemary	2 x 2	■		■				■		■	■	■	■	■			
	Salvia 'Allen Chickering'	Allen Chickering Sage	0.9-1.1 x 0.9-1.1	■		■				■		■	■		■	■			
	Salvia apiana	White Sage	0.9-1.3 x 0.9-1.3	■		■				■		■	■		■	■			

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
EXOTIC PLANTS																			
SHRUBS	*Salvia chamaedryoides*		0.6-0.9 x 0.6-0.9	■		■				■		■			■	■			
	Salvia greggii	Autumn Sage	0.6-0.9 x 0.6-0.9	■		■				■		■	■		■	■			
	Salvia leucantha	Mexican Bush Sage	0.9-1.5 x 0.9-1.5	■		■				■		■	■		■	■			
	Salvia leucophylla	Purple Sage	1.5-1.8 x 1.5-1.8	■		■				■		■	■		■	■			
	Santolina chaecyparissus	Lavender Cotton	0.3-0.6 x 0.3-0.6	■	■	■				■		■	■		■	■			
	Strelitzia reginae	Regal Bird of Paradise	1-1.5 x 1-1.5	■		■				■		■	■	■	■	■			
	Viburnum tinus	Lauristinus	3-5 x 2-3	■		■				■	■	■	■	■	■	■			
TREES	*Acer monspessulanum*	Montpellier Maple	8-10 x 6-8					■											
	Afrocarpus gracilior	African Fern Pine	9-15 x 7.5-10.5				■	■		■		■	■	■	■	■			
	Arbutus unedo	Irish Strawberry Tree	6-8 x 7-8					■		■		■	■	■	■	■		■	
	Bauhinia variegata	Orchid Tree	8 x 6	■			■	■				■		■		■		■	
	Calodendrum capense	Cape Chestnut	6-8 x 6-8	■			■	■			■	■			■			■	Not suitable in a position with sustained strong wings
	Celtis sp.	Celtis	11 x 10				■					■			■	■			
	Celtis australis	Nettle Tree	8-10 x 8-10				■					■	■	■	■	■			Without irrigation browning of the leaf margins will occur
	Celtis laevigata	Mississippi Sugarberry	10-12 x 10-12				■												

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
EXOTIC PLANTS																			
TREES	*Ceratotonia siliqua*	Carob	10-12 x 8-10	■											■				Also suitable for hedging
	Cercis occidentalis	Western Redbud	4-6 x 4-6	■			■			■		■	■	■	■	■			Can be multi-stemmed.
	Elaeagnus angustifolia	Russian Olive	5-7 x 5-7	■			■					■		■				■	
	Elaeocarpus reticulatus	Blueberry Ash	8 x 4-6	■			■	■				■						■	
	Erythrina variegata	Coral Tree	8-15 x 8-15				■												Requires a fertile soil
	Garrya elliptica	Silktassel Tree	8 x 8	■								■							
	Jacaranda mimosifolia	Jacaranda	8-12 x 8-12				■	■											Requires watering and fertilising to establish and look its best.
	Lagerstroemia 'Comanche'	Crepe Myrtle	5 x 4-5	■				■				■	■	■	■	■		■	Attractive bark and flower
	Lagerstroemia 'Natchez'	Crepe Myrtle	8 x 5	■			■					■	■	■	■				Attractive bark and flower
	Lagerstroemia 'Tuscarora'	Crepe Myrtle'	8 x 6-7	■			■					■	■	■	■				Attractive bark and flower
	Lagerstroemia 'Yumi'	Crepe Myrtle'	5-7 x 4-6	■				■				■	■	■	■	■		■	Attractive bark and flower
	Lagerstroemia 'Zuni'	Crepe Myrtle	3.5 x 3	■				■				■	■	■	■	■		■	Attractive bark and flower
	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	3-5 x 2-3	■				■				■							Needs summer irrigation and protection from hot northerly winds

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
EXOTIC PLANTS																			
TREES	*Nuxia floribunda*	Kite Tree	8.5 x 3.5				■	■											
	Pistachia chinensis	Chinese Pistachio	10 x 8				■	■		■		■		■	■	■			Autumn colour
	Puncia granatum	Pommegranite	2-3 x 1.5-2.5	■								■			■	■			
	Pyrus calleryana	Callery Pear	11-14 x 6-8	■			■					■	■	■	■	■			Requires summer irrigation
	Pyrus calleryana 'Aristocrat'	Aristocrat Pear	12 x 8	■			■					■	■	■	■	■			Produces fruit which can be problematic and requires summer irrigation
	Pyrus calleryana 'Capital'	Captial Pear	11 x 4	■			■					■	■	■	■	■			Requires summer irrigation
	Pyrus calleryana 'Chanticleer'	Chanticleer Pear	12 x 6	■			■					■	■	■	■	■			Requires summer irrigation
	Pyrus ussuriensis var. *ovoidea*	True Manchurian Pear/Ussurian	12 x 7-8	■	■	■						■	■	■	■	■			Requires summer irrigation. Has few fruit unless planted near other pears
	Sapium sebiferum	Tallow Wood	8-10 x 5-7				■	■		■		■		■	■	■			Autumn colour
	Sophora japonica		12 x 9			■	■				■	■			■				
	Ulmus parvifolia 'Todd'	Chinese Elm	10 x 11	■			■				■	■		■	■	■			Todd is an improved cultivar of "Chinese Elm' for shape and disease resistance

revegetation list

Stipa sp. (Spear Grass), *Danthonia* sp. (Wallaby Grass)		
	Botanical Name	**Common Name**
GRASSES AND SEDGES	*Carex bichenoviana*	Notched Sedge
	Carex gaudichaudiana	Fan Sedge
	Carex pumila	Strand Sedge
	Carex tereticaulis	Rush Sedge
	Cyperus gynocaulos	Spiny Flat-sedge
	Dianella revoluta var. *revoluta*	Black-anther Flax Lily
	Elymus scarbrus var. *scabrous*	No common name in use
	Eragrostis benthamii	Bentham's Love-grass
	Isolepis cernua	Nodding Club-rush
	Juncus bufonius	Toad Rush
	Lomandra multiflora ssp. Dura	Hardmat-rush
	Sporobolus verginicus	Salt Couch
	Stipa curticoma	4 Short-crest Spear-grass
	Stipa flavescens	Coast Spear-grass
	Stipa nitida	Balcarra Spear-grass
	Stipa variablilis	Variable Spear-grass
	Themeda triandra	Kangaroo Grass
GROUNDCOVERS	*Arthropodium fimbriatum*	No common name in use
	Arthropodium strictum	Chocolate Lily
	Atriplex suberecta	Lagoon Saltbush
	Boerhavia dominii	Tar-vine
	Brachycome ciliaris var. *lanuginosa*	Woolly Variable Daisy
	Brachycome perpusilla	Tiny Daisy
	Brunonia australis	Blue Pinchushion
	Bulbine bulbosa	Bulbine-lily

	Botanical Name	Common Name
GROUNDCOVERS	*Calostoemma purpureum*	Pink Garland-lily
	Chenopodium cristatum	Crested Goosefoot
	Cotula australis	Common Cotula
	Craspedia glauca	Billy-buttons
	Crassula decumbens var.	Speading Crassula
	Einadia nutans ssp. *nutans*	Climbing Saltbush
	Erodium crinitum	Blue Heron's Bill
	Eryngium rostratum	Blue Devil
	Euphorbia drummondii	Caustic Weed
	Geranium potentilloides var.	Downy Geranium
	Geranium solanderi var. *solanderi*	Austral Geranium
	Gonocarpus mezianus	Broad-leaf Raspwort
	Gonocarpus tetragynus	Small-leaf Raspwort
	Hardenbergia violacea	Native Lilac
	Hypoxis glabella var. *glavella*	Tiny Star
	Lavatera plebeian	Australian Hollyhock
	Linus marginale	Native Lax
	Maireana enchylaenoides	Wingless Fissure-plant
	Ophioglossum lusitanicum	Austral Adder's Tongue
	Oxalis perennans	Native Sorrel
	Psoralea australasica	Native Scurf-pea
	Pterostylis longifolia	Tall Greenhood
	Rhodanthe corymbiflora	No common name in use
	Rumex brownii	Slender Dock
	Rumex dumosus var. *dumosus*	Wiry Dock
	Scaevola albida var. *albida*	Pale Fanflower

	Botanical Name	Common Name
GROUNDCOVERS	*Senecio quadridentatus*	cotton groundsel
	Teucrium racemosum	Grey Germander
	Vittadina australasica	Sticky New Holland Daisy
	Vittadinia gracilis	Woolly New Holland
	Wahlenbergia communis	Tufted Bluebell
	Wahlenbergia litticola	Coast Bluebell
	Wahlenbergia luteola	Yellow-wash Bluebell
LOW SHRUBS	*Acacia ligulata*	Umbrella Bush
	Acacia victoriae ssp. *Victoriae*	Elegant Wattle
	Atriplex australasica	Green Saltbush
	Atriplex semibaccata	Berry Saltbush
	Dissocarpus biflorus var. *biflorus*	Two-horn Saltbush
	Maireana brevifolia	Shot-Leaf Bluebush
	Pimelea curviflora var. sericea	Curved Riceflower
	Sclerolaena muricata var. *villosa*	Five-spine Bindyi
	Sclerolaena uniflora	Small-spine Bindyi
	Senecio cunnighamii	Shrubby Groundsel
TALL SHRUB LAYER	*Acacia ligulata*	umbrella Bush
	Acacia paradoxa	Kangaroo Thorn
	Muehlenbeckia florulenta	No common name in use
TREES	*Acacia pycnantha*	Golden Wattle
	Eucalyptus camaldulensis	River Red Gum

	Botanical Name	Common Name
TALL SHRUBSr	*Acacia ligulata*	Umbrella Bush
	Acacia paradoxa	Kangaroo Thorn
	Acacia pycnantha	Golden Wattle
	Eucalyptus camaldulensis	River Red Gum
	Eucalyptus sideroxylon	Red Iron-bark
	Muehlenbeckia florulenta	Climbing Vine
TREES	*Corymbia citriodora*	Lemon-scented Gum
	Corymbia ficifolia .	Red Flowering Gum
	Corymbia maculata	Spotted Gum
	Eucalyptus caesia	Gungurru
	Euclayptus cladocalyx	Sugar Gum
	Eucalyptus globosa	Blue Gum
	Eucalyptus leucoxylon	Large Fruited SA Blue Gum
	Euclapytus macrocarpa	Mottlecah
	Euclapytus microcarpa	Grey Box

appendix C: upper aluvial plain plant list

appendix C: upper alluvial plain plant list

Eucalyptus porosa (Mallee Box) Woodland

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional open Space	District open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
ENDEMIC PLANTS																			
GRASSES & SEDGES	*Dianella revoluta* var. *revoluta*	Black-anther flax-lily	1 x 0.5	■						■	■	■	■	■	■	■			
	Stipa elegantissima	Feather Spear-Grass	1 x 0.2			■				■									
	Themeda triandra	Kangaroo Grass	0.5 x 0.5		■	■				■	■								
GROUNDCOVERS	*Arthropodium strictum*	Chocolate Lily	0.2-1 x 0.2-0.8	■						■		■				■			
	Calostemma purpureum	Pink Garland-Lily	0.3-0.4 x 0.2-0.3	■								■				■			
	Kennedia prostrata	Scarlet Runner	0.1 x 1-1.5m	■	■	■				■		■	■	■	■	■			
	Podolepis rugata var. *rugata*	Pleated Copper-Wire Daisy	0.2 x 0.25			■					■								
	Psoralea australasica	Native Scurf-Pea	0.5-2 x 0.5-1	■		■				■		■	■	■	■	■			
	Stackhousia monogyna	Creamy candles	0.5 x 0.5	■						■		■				■			
	Wahlenbergia stricta ssp. *stricta*	Tall Bluebell	0.4 x 0.4	■						■		■				■			
SHRUBS	*Acacia acinacea*	Gold Dust Wattle	2 x 2-4	■							■	■		■	■	■			
	Dianella longifolia var. *grandis*	Pale Flax-Lily	0.6 x 0.3	■		■				■		■		■	■	■			

AL0608: 30/05/07 : HASSELL

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
ENDEMIC PLANTS																			
SHRUBS	*Enchylaena tomentosa*	Ruby Saltbush	0.2 x 1			■				■	■			■		■			
	Maireana brevifolia	Short-Leaf Bluebush	0.5 x 0.5			■				■	■			■		■			
	Myoporum viscosum	Sticky Boobialla	2-3 x 1-3								■			■		■			
	Olearia ramulosa	Twiggy Daisy-bush	1-2 x 0.5-1			■					■					■			
	Pimelea glauca	Smooth Riceflower	0.4 x 0.4	■		■				■		■				■			
TREES	*Acacia pycnantha*	Golden Wattle	4-6 x 2-6	■				■		■	■	■		■		■		■	
	Allocasuarina verticillata	Drooping Sheoak	5-8 x 2-3	■		■	■	■											
	Callitris preisii	Southern Cypress Pine	8-10 x 5				■	■			■								
	Eucalyptus porosa	Mallee Box	5-14 x 5-12				■				■								
	Eucalyptus socialis	Beaked Red Mallee	4-8 x 4-8				■	■			■								■	
NON-LOCAL NATIVE PLANTS																			
GRASSES AND SEDGES	*Dianella* 'Silver Streak'	Silver Streak	0.6 x 0.6	■		■				■		■	■	■	■	■			
	Dianella caerulea 'Breeze'	Breeze	0.6 x 0.6	■		■				■		■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella caerulea 'Cassa Blue'	Cassa Blue	0.5 x 0.4	■	■	■				■		■	■	■	■	■			Will grow in shade
	Dianella caerulea 'Little Jess'	Little Jess	0.4 x 0.4	■	■	■				■		■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella revoluta 'Baby Bliss'	Baby Bliss	0.25 x 0.25	■	■	■				■		■	■	■	■	■			Very hardy adaptable plant, low maintenance

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
GRASSES AND SEDGES	*Dianella revoluta* 'Little Rev'	Little Rev	0.3-0.4 x 0.3																Very hardy adaptable plant, low maintenance
	Dianella revoluta 'Revelation'	Revelation	0.5 x 0.5																Very hardy adaptable plant, low maintenance
	Dianella tasmanica 'Emerald Arch'	Emerald Arch	0.45 X 0.45																Very hardy adaptable plant, low maintenance
	Dianella tasmanica 'Tas Red'	Tas Red	0.4 x 0.4																Foliage colour changes with the seasons
	Lomandra confertifolia 'Wingarra'	Wingarra	0.3 x 0.3																Very hardy adaptable plant, low maintenance
	Lomandra filiformis 'Savanna Blue'	Savanna Blue	0.3 x 0.3																Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Cassica'	Cassica	1.2 x 0.8																Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Katrinus Deluxe'	Katrinus Deluxe	0.6 x 0.6																Very hardy adaptable plant, low maintenance – showy flowers
	Lomandra longifolia 'Nyalla'	Nyalla	0.8 x 0.8																Very hardy adaptable plant, low maintenance

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NON-LOCAL NATIVE PLANTS																			
GRASSES AND SEDGES	*Lomandra longifolia* 'Tanika'	Tanika	0.6 x 0.6	■		■				■		■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Poa labillardieri 'Eskdale'	Eskdale	0.6 x 0.45	■		■				■		■	■	■	■	■			Very hardy adaptable plant, low maintenance – good erosion control
	Poa poiformis 'Kingsdale'	Kingsdale	0.45 x 0.45	■		■				■		■	■	■	■	■			Very hardy adaptable plant, low maintenance – good erosion control
GROUNDCOVERS	*Brachycome multifida*	Cut-Leaf Daisy	0.3 x 0.3-0.8	■	■	■				■		■	■	■	■	■			
	Carpobrotus sp.	Pig Face	0.1-0.25 x 0.5	■	■	■				■									
	Correa decumbens fr. Prostrate	Prostrate Correa Decumbens	0.3 x 2	■	■	■				■		■	■	■	■	■			
	Dampiera lineraris	Common Dampiera	0.1-0.5 x 0.5-2	■						■		■	■	■	■	■			
	Disphyma sp.	Slender Pig Face	0.1-0.2 x 0.3-0.5	■	■	■				■									
	Eremophila 'Kalbarri Carpet'	Kalbarri carpet	0.3 x 2	■	■	■				■		■	■	■	■	■			
	Eremophila glabra 'Prostrate Burgundy	Red Spreading Emu Bush	0.1 x 3	■						■		■	■	■	■	■			
	Grevillea 'Bronze Rambler'	Bronze Rambler Grevillea	0.3 x 4	■	■	■				■		■	■	■	■	■			
	Grevillea 'Raptor'	Raptor Grevillea	0.1 x 1.5-2	■	■	■				■		■	■	■	■	■			

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NON-LOCAL NATIVE PLANTS																			
GROUNDCOVERS	*Grevillea lanigera*	Woolly Bush	0.1-0.2 x 2-3	■	■	■				■		■	■	■	■	■			
	Grevillea lanigera 'Mount Tamboritha'	Grevillea Mt Tamboritha	0.1 x 1-2	■	■	■				■		■	■	■	■	■			
	Grevillea thelemanniana	Spider Net Grevillea	0.1-0.3 x 2-3	■	■	■				■		■	■	■	■	■			
	Viola hederacea	Native Violet		■						■		■	■	■	■	■			
SHRUBS	*Acacia* 'Little Nugget'	Little Nugget	1 x 0.45	■						■		■	■	■	■	■			
	Acacia 'Mop Top'	Mop Top	0.6-0.9 x 0.9-1.2	■						■		■	■	■	■	■			
	Acacia cognata 'Limelight'	Limelight	0.5-1 x 1	■						■				■	■	■			
	Acacia fimbriata fr. Dwarf	Dwarf Fringed Wattle	1.5 x 2	■						■	■			■	■	■			
	Adenanthos cuneata	Basket Flower	1 x 1.5	■							■			■	■	■			
	Adenanthos sericeus	Red Flowering Albany Woolly Bush	2-7 x 2-6	■							■			■	■	■			
	Aloe arborescens	Tree Aloe	1.8-3.5 x 3-3.5	■		■				■		■	■	■	■	■			
	Aloe vera	Medicinal Aloe	1-3 x 1-3	■		■				■		■	■	■	■	■			
	Alyogyne cuneiformis	Native Hibiscus	1.5 x 1.5-3	■		■				■		■	■	■	■	■			
	Alyogyne hakeifolia	Red Centered Hibiscus	1-2 x 1-2	■		■				■		■	■	■	■	■			
	Alyogyne huegelii	Blue Hibiscus	2-3 x 1.5-3	■		■				■		■	■	■	■	■			
	Banksia 'Giant Candles'	Giant Candles Banksia	4-5 x 4-5	■		■				■		■	■	■	■	■			Requires formative pruning in the nursery

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Banksia ericifolia*	Heath Banksia	34 x 1.5	■						■	■			■	■	■			
	Banksia ericifolia fr. Dwarf	Dwarf Heath Banksia	1-2 x 1	■						■	■			■	■	■			
	Banksia speciosa	Showy Banksia	2-5 x 3-5	■						■	■			■	■	■			
	Banksia spinulosa	Hairpin Banksia	2-3 x 1-2	■						■	■			■	■	■			
	Banksia spinulosa nana	Dwarf Hill Banksia	1.5 x 1	■						■	■			■	■	■			
	Callistemon 'Kings Park Special'	Kings Park Special bottle brush	1 x 3	■						■	■			■	■	■			
	Callistemon 'Little John'	Little John	1 x 1	■						■	■			■	■	■			
	Callistemon citrinus 'Firebrand'	Firebrand Callistemon	1.8 x 1.5	■						■	■			■	■	■			
	Callistemon citrinus 'White Anzac'	Anzac Bottlebrush	3 x 3	■						■	■			■	■	■			
	Calothamnus quadrifidus	Calothamnus	2-3 x 1-2	■						■	■			■	■	■			
	Chamalaucium axillare	Esperence Wax Flower	0.5-1 x 1-2	■		■				■	■	■	■	■	■	■			
	Correa 'Firebird'	Firebird Correa	1 x1	■						■				■	■	■			
	Correa 'Marian's Marvel'	Marian's Marvel	1-2 x 1.5-3	■						■	■			■	■	■			
	Correa baeuerlenii	Chefs Hat Correa	1.5 x 1.5	■						■	■			■	■	■			
	Correa glabra	Rock Correa	2-3 x 1-3	■						■	■			■	■	■			
	Correa pulchella	Wild Fuchsia	1 x 1	■						■				■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Correa pulchella* 'Dusky Bells'	Dusky Bells	0.3-1 x 2-4	■						■	■			■	■	■			
	Correa pulchella 'Pink Bells'	Pink Bells Correa	1 x 1	■						■	■			■	■	■			
	Correa pulchella 'White Tips	White Tips	1 x 1	■						■	■			■	■	■			
	Correa reflexa fr. Salmon	Salmon Correa	1 x 1	■						■	■			■	■	■			
	Correa reflexa fr. Tall	Tall Correa	2 x 1.5	■						■				■	■	■			
	Correa schlechtendalii	Scented Correa	1-1.5 x 1-1.5	■						■	■			■	■	■			
	Dodonaea boroniaefolia	Fern Leaf Hop Bush	2 x 1	■						■	■			■	■	■			
	Dodonaea inaequifolia	Slender Leaf Hop Bush	1-2 x 1-2	■		■				■	■	■	■	■	■	■			
	Dodonaea viscosa purpurea	Hop Bush	3 x 1.5	■						■	■			■	■	■			
	Eremophila drummondii x nivea 'Spring Afair'	Eremophila Spring Affair	2 x 1-1.5	■						■				■	■	■			
	Eremophila glabra 'Lime Gold'	Lime Gold Eremophila	1.2 x 1.5	■						■	■			■	■	■			
	Eremophila glabra silver form	Silver Eremophila Glabra	0.5 x 0.5-1	■						■	■			■	■	■			
	Eremophila macdonnelli fr. Simpson Desert	Simpson Desert Eremophila	0.5-1 x 2-5	■						■	■			■	■	■			
	Eremophila maculata	Spotted Emu Bush	1-1.5 x 2			■				■	■		■	■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Eremophila maculata aurea*	Yellow Emu Bush	1.5 x 1-1.5	■						■	■			■	■	■			
	Eremophila maculata compacta	Dwarf Emu bush	1 x 1.5	■						■	■			■	■	■			
	Eremophila maculata 'Red'	Red Emu-Bush	1-2 x 1-1.5	■						■	■			■	■	■			
	Eremophila maculata 'Winter Gold'	Eremophila Winter Gold	1.5 x 1.5	■						■	■			■	■	■			
	Eremophila microtheca	Emu Bush	1.5 x 1.5	■						■	■			■	■	■			
	Eremophila nivea	Silver Emu Bush	1-2.5 x 0.7-1.5	■						■				■	■	■			
	Eremophila racemosa	Arid Emu Bush	1.5 x 0.5-1.5	■						■	■			■	■	■			
	Eremophila racemosa 'Peaches and Cream'	Eremophila Peaches and Cream	1.5 x 1.5	■						■				■	■	■			
	Eriostemon myporoides	Native Wax Floer	2 x 1.5-2	■							■			■	■	■			
	Eriostemon profusion		2 x 1-2	■						■				■	■	■			
	Eutaxia obovata		1 x 1	■						■	■			■	■	■			
	Grevillea 'Bonfire'	Bonfire Grevillea	1.5 x 2	■							■	■		■	■	■			
	Grevillea 'Bonnie Prince Charlie'		0.6 x 0.6-1	■						■		■	■	■	■	■			
	Grevillea 'Cherry Ripe'		0.3-0.5 x 0.4-0.5	■						■		■	■	■	■	■			Trim to keep compact

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Grevillea* 'Coochin Hills'	Coochin Hills Grevillea	5 x 2-4	■							■	■		■	■	■			
	Grevillea 'Firesprite'	Firesprite	2-3 x 2	■							■	■		■	■	■			
	Grevillea 'Lemon Supreme	Grevillea Lemon Supreme	1.5 x 1.5	■							■	■		■	■	■			
	Grevillea 'Red Sunset'	Sunset Grevillea	1 x 2	■						■	■			■	■	■			
	Grevillea 'Rosy Posy'		1.2 x 1.2	■						■		■	■	■	■	■			Trim to keep compact
	Grevillea 'Rosy's Baby'		0.8-1 x 0.6-0.8	■						■		■	■	■	■	■			Trim to keep compact
	Grevillea 'Sea Spray'	Sea Spray Grevillea	0.75 x 1.5	■							■	■		■	■	■			
	Grevillea crithmifolia	Scented Grevillea	2 x 2	■							■	■		■	■	■			
	Grevillea filioba 'Ellendale'	Grevillea Ellendale	2 x 2	■						■		■	■	■	■	■			
	Grevillea hookeriana	Hooker's Grevillea	2-3 x 2-3	■							■	■		■	■	■			
	Grevillea lanigera	Woolly Bush	0.1-0.2 x 2-3	■						■	■			■	■	■			
	Grevillea olivaceae 'Orange'		3 x 2-3	■						■	■			■	■	■			
	Grevillea olivaceae 'Red'		3 x 2-3	■						■	■			■	■	■			
	Grevillea olivaceae 'Yellow'		3 x 2-3	■						■	■			■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Grevillea rosmarinifolia* 'Lutea'	Yellow Grevillea	1-2 x 1-2	■							■			■	■	■			
	Grevillea shiressii		3 x 3.5	■						■	■			■	■	■			
	Grevillea stenomera 'Prostrate Pink'	Pink Prostate Grevillea	1 x 1.5-3	■		■				■		■	■	■	■	■			
	Grevillea themanniana 'Red WIngs'	Grevillea Red Wings	1.5-2 x 1-2	■						■	■			■	■	■			
	Grevillea thelmanina 'White Wings'	Grevillea White Wings	1.5-2 x 1-3	■						■	■			■	■	■			
	Hakea francisiana	Pink Pokers	4 x 2-3	■		■				■		■	■	■	■	■			
	Hakea laurina	Pin-Cushion Hakea	2-3 x 1-2	■							■	■		■	■	■			
	Hakea sericea 'Pink'	Pink Hakea	2-3 x 1-2	■		■				■		■	■	■	■	■			
	Isopogon 'Little Drumsticks'	Little Drumsticks	0.3-.65 x 0.45-0.8	■						■		■	■	■	■	■			
	Leptospermum flavescens 'Cardwell'	Common Tea Tree	1-3 x 1-3	■			■			■	■	■	■	■	■	■			
	Leptospermum petersonii 'Copper Glow'	Copper Glow Tea Tree	3 x 2.5	■			■			■	■	■	■	■	■	■			
	Leptospermum scoparium 'Pink Cascade'	Pink Cascade Tea Tree	0.50.5 x 1-2	■			■			■		■	■	■	■	■			
	Melaleuca 'Green Globe'	Dwarf Melaleuca	1.5 x 1-1.5	■			■			■	■	■	■	■	■	■			
	Melaleuca bracteata		4-7 x 3-5	■			■			■	■	■	■	■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Melaleuca bracteata* 'Revolution Gold'	Revolution Gold	3-4 x 1.5-2	■			■			■	■	■	■	■	■	■			
	Melaleuca bracteata 'Revolution Green'	Revolution Green	3-4 x 1.5-2	■			■			■	■	■	■	■	■	■			
	Melaleuca citrina		1.5 x 1.5	■			■			■	■	■	■	■	■	■			
	Melaleuca incana		3 x 2-3	■			■			■	■	■	■	■	■	■			
	Melaleuca incana 'Nana'		1 x 1	■			■			■		■	■	■	■	■			
	Melaleuca nesophila 'Little Nessy'	Little Nessy	2 x 3	■						■	■			■	■	■			
	Melaleuca nesophila 'Little Nessy'		2 x 3	■		■				■		■	■	■	■	■			
	Melaleuca pentagona	Esperance Tea Tree	3 x 3	■			■			■	■	■	■	■	■	■			
	Melaleuca uncinatum	Broom Bush	2-3 x 2-4								■								
	Murraya paniculata	Murraya	3 x 3	■						■	■			■	■	■			
	Orthrosanthus multiflorus		0.6 x 1-1.5	■						■				■	■	■			
	Pittosporum phylliraeoides var. *macrocarpa*	Native Apricot	2-8 x 2-4				■											■	
	Prostanthera 'Minty'	Native mint	1-1.8 x 1-1.2	■						■		■	■	■	■	■			
	Stenanthum 'White Mishchief'		0.3-0.45 x 0.8-1.2	■						■		■	■	■	■	■			Trim to keep compact
	Tetratheca 'Bicentennial Belle'		0.3-0.6 x 0.5-0.7	■						■		■	■	■	■	■			

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NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Thomasia petalocalyx*	Paper Flower	0.4 x 0.6	■						■	■			■	■	■			
	Thryptomene calycina	Grampians Thryptomene	0.5-1.5 x 0.5-1.5	■						■	■			■	■	■			
	Thryptomene saxicola	Rock Thryptomene	0.5-1 x 1.5	■			■			■	■	■	■	■	■	■			
	Westringia 'Edna Walling'		0.8 x 1.2	■						■		■	■	■	■	■			
	Westringia 'Lilac and Lace'	Lilac and Lace	1.5 x 1.5	■							■	■		■	■	■			
	Westringia 'Smokey'			■			■			■	■	■	■	■	■	■			
	Westringia 'White Rambler'	White Rambler	1 x 3	■							■	■		■	■	■			
	Westringia 'Zena'			■			■			■	■	■	■	■	■	■			
	Westringia fruticosa	Coastal Rosemary	2-3 x 2-3	■			■			■	■	■	■	■	■	■			
	Westringia fruticosa variegata	variegated Coast Rosemary		■			■			■	■	■	■	■	■	■			
TREES	*Acacia iteaphylla*	Flinders Range Wattle	3 x 2					■			■	■			■	■		■	
	Acacia pendula	Weeping Myall	5-10 x 4-8	■			■												
	Acacia salicina	Willow Acacia	5-6 x 5-6				■											■	
	Agonis flexuosa	Native Willow	10-15 x 8-10					■			■	■			■	■			
	Angophora costata	Smooth-bark Apple Myrtle	12-15 x 6-10		■	■			■										
	Angophora floribunda	Rough-barked Apple	18-20 x 10-12	■	■							■			■	■			Will not tolerate frost until over 1.5 m in height
	Angophora hispida	Dwarf Apple	8 x 4-5	■		■						■			■	■			

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NON-LOCAL NATIVE PLANTS																			
TREES	*Brachychiton acerifolius*	Illawara Flame Tree	14-18 x 12-15	■	■	■						■							Stunning floral display in early summer
	Brachychiton populneus	Kurrajong	8-10 x 6-8			■	■						■						
	Callistemon 'Harkness'	Gawler River Bottlebrush	3-6 x 2-4				■	■				■			■	■		■	
	Callistemon 'Harkness'	Harkness Bottlebrush	6 x 5				■	■											
	Corymbia maculata	Spotted Gum	20 x 15		■	■			■				■						
	Corymbia citriodora	Lemon Scented Gum	20 x 15		■	■			■				■						
	Cupaniopsis anacrdioides	Tuckeroo	8-15 x 8-15	■	■	■						■		■					
	Eucalyptus intertexta	Coolibah	8-15 x 5-10		■	■			■										
	Eucalyptus largiflorens	River Box	10-20 x 10-15	■	■	■													
	Eucalyptus leucoxylon	Large fruited SA Blue Gum	5-10 x 4-6			■	■	■				■			■	■		■	
	Eucalyptus leucoxylon 'Euky Dwarf'	Euky Dwarf	5-7 x 3-4	■			■	■				■			■	■		■	
	Eucalyptus leucoxylon 'Goolwa Gem'	Goolwa Gem	5-7 x 3-4	■			■	■				■			■	■		■	
	Eucalyptus melliodora	Yellow Box	15-35 x 8-10		■	■													
	Eucalyptus platypus	Round-leaf Moort	5-8 x 3-6				■	■										■	

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NON-LOCAL NATIVE PLANTS																			
TREES	*Eucalyptus sideroxylon*	Red Ironbark	10-25 x 5-10		■	■	■	■		■	■			■					
	Eucalytpus torquata	Coral Gum	5-7 x 3-6	■			■	■										■	
	Flindersia australis	Crow's Ash	12 x 6-8				■												
	Geijera parvifolia	Wilga	5-8 x 5-9					■											Prefers a sandy soil. Slow growing. Pendulous branches would need cutting back in a streetscape situation
	Harpullia pendula	Tulipwood	10-15 x 8-12				■					■							
	Melia azedarach (low fruiting)	White Cedar	8-10 x 6-8					■	■										
	Pittosporum angustifolium	Native Apricot	2-8 x 2-4				■											■	
	Pittosporum rhombifolium	rhomoboid leaf Pittosporum	8-12 x 4-6				■												
EXOTIC PLANTS																			
GROUND COVERS	*Cerastium tomentosum*	Snow in Summer	0.1 x 0.5-0.75	■	■	■				■		■	■	■	■	■			
	Festuca glauca	Blue Sheep Grass	0.3-0.4 x 0.4	■	■	■				■		■	■	■	■	■			
	Heliotropium arborescens	Cherry Pie	0.2-0.6 x 0.3-0.75	■						■		■	■	■	■	■			
	Penstemon centranthifolius	Scarlet Bugler	0.3-0.5 x 0.3-0.5	■		■				■		■	■	■	■	■	■		
	Penstemon heterophyllus	Foothill Penstemon	0.2 x 0.2-0.4	■		■				■		■		■	■	■	■		
	Penstemon palmeri	Scarlet Bugler	0.6-0.9 x 0.6-0.9	■		■				■		■					■		

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
GROUNDCOVERS	*Penstemon parryi*		0.5 x 0.5	■		■				■		■		■	■	■	■		
	Penstemon spectabilis	Showy Penstemon	0.5 x 0.5	■		■				■		■		■	■	■	■		
	Penstemon superbus		0.3-0.5 x 0.3-0.5	■		■				■		■		■	■	■	■		
	Rosmarinus lavandulaceus	Trailing Rosemary	0.5 x 1-1.5	■	■	■				■		■	■	■	■	■			
	Sedum assorted	Stonecrop	0.1-0.3 x 0.1-0.3	■		■				■		■		■	■	■	■		
	Senecio mandraliscae	Groundsel	0.1 x 1	■		■				■		■		■	■	■	■		
	Sisyrinchium bellum	Blue-eyed Grass	0.1-0.3 x 0.1-0.3	■		■				■		■		■	■	■	■		
	Tulbaghia violaceae	Society Garlic	0.75 x 0.75	■		■				■		■					■		
SHRUBS	*Abutilon x hybrida*	Chinese Lantern	1.5-2 x 1-1.5	■						■	■		■		■	■			
	Aeonium floribundum		0.3 x 0.5-1	■								■							
	Aeonium swatzkopft	Black Aeonium	1 x 1	■		■				■		■	■	■			■		
	Agave americana	Century Plant	1-1.5 x 1-1.5	■								■							
	Agave attenuata	Century Plant	1 x 1	■								■	■	■			■		
	Aloe arborescens	Tree Aloe	1.8-3.5 x 3-3.5	■							■	■	■						
	Aloe vera	Medicinal Aloe	1-5 x 1-3	■							■	■	■						
	Alyogyne cuneiformis	Native Hibiscus	1.5 x 1.5-3	■						■		■	■	■	■	■			
	Alyogyne hakeifolia	Red Centered Hibiscus	1-2 x 1-2	■						■		■	■	■	■	■			

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
SHRUBS	*Alyogyne huegelii*	Blue Hibiscus	2-3 x 1.5-3	■				■		■		■	■	■	■	■			
	Artemisia absinthium	Wormwood	2 x 2	■						■	■	■							
	Buddleia davidii	Butterfly Bush	3-4 x 3-4	■						■		■	■		■	■			
	Ceanothus 'Blue Pacific'	Californian Lilac	1.5-2 x 1.5-2	■		■				■		■			■	■			
	Choisya ternata	Mexican Orange blossom	2 x 2			■				■	■	■	■	■	■	■			
	Cotyledon orbiculata	Pigs Ears	1 x 1.5	■		■				■		■	■	■					
	Cycas revoluta	Cycad	1-3 x 1-2	■								■	■	■					
	Echium candicans	Echium	1-2 x 1-2	■		■				■		■	■						
	Eriocephalus africanus	African Daisy Bush	0.5 x 1	■		■				■		■	■	■	■	■			
	Euphorbia 'Wulfenii'	Wulf Euphorbia	1 x 1	■		■				■		■	■	■					
	Gaura sp.	Butterfly Bush	0.3-0.45 x 0.5	■		■				■	■	■	■	■	■	■			
	Grewia occidentalis	Purple Star Flower	1 x 1	■		■				■		■	■	■	■	■			
	Hemerocalis sp.	Daylily	0.3 x 0.2	■						■		■	■			■			
	Hibiscus coccineus	Red Hibiscus	1.5 x 1.5	■		■				■		■			■	■			
	Hibiscus syriacus	Syrian Hibiscus	2-3 x 3-4	■		■				■	■	■		■	■	■			
	Lavandula dentata	Lavender	1-1.5 x 1-1.5	■						■		■	■		■	■			
	Myrtus communis	True Myrtle	8-10 x 6-8	■								■	■	■	■	■			

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
SHRUBS	*Nerium oleander* 'Apricot Form'	Apricot Oleander	1-1.5 x 1-1.5	■		■				■	■	■	■	■	■				All parts of the plant are poisonous; they should not be planted near playgrounds or areas where children can access them.
	Nerium oleander 'Cherry Surprise'	Cherry Oleander	1-1.5 x 1-1.5	■		■				■	■	■	■	■					
	Nerium oleander 'Pink'		1-1.5 x 1-1.5	■		■				■	■	■	■	■					
	Plumbago auriculata	Cape plumbago	1-3 x 1-2	■		■				■		■			■	■			
	Rosmarinus officinalis	Rosemary	2 x 2	■		■				■		■	■	■	■	■			
	Salvia 'Allen Chickering'	Allen Chickering Sage	0.9-1.1 x 0.9-1.1	■		■				■		■	■		■	■			
	Salvia apiana	White Sage	0.9-1.3 x 0.9-1.3	■		■				■		■	■		■	■			
	Salvia chamaedryoides		0.6-0.9 x 0.6-0.9	■		■				■		■			■	■			
	Salvia greggii	Autumn Sage	0.6-0.9 x 0.6-0.9	■		■				■		■	■		■	■			
	Salvia leucantha	Mexican Bush Sage	0.9-1.5 x 0.9-1.5	■		■				■		■	■		■	■			
	Salvia leucophylla	Purple Sage	1.5-1.8 x 1.5-1.8	■		■				■		■	■		■	■			
	Strelitzia reginae	Regal Bird of Paradise	1-1.5 x 1-1.5	■		■				■		■	■	■	■	■			
	Viburnum tinus	Lauristinus	3-5 x 2-3	■		■				■	■	■	■	■	■	■			
TREES	*Acer monspessulanum*	Montpellier Maple	8-10 x 6-8					■											
	Afrocarpus gracilior	African Fern Pine	9-15 x 7.5-10.5				■	■		■		■	■	■	■	■			
	Albizia julibrissin	Persian Silk Tree	4-10 x 4-12	■		■	■					■							

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
TREES	*Arbutus unedo*	Irish Strawberry Tree	6-8 x 7-8					■		■		■	■	■	■	■		■	
	Bauhinia variegata	Orchid Tree	8 x 6	■			■	■				■		■		■		■	
	Calodendrum capense	Cape Chestnut	6-8 x 6-8	■			■	■			■	■			■			■	Not suitable in a position with sustained strong wings
	Celtis australis.	Nettle Tree	8-10 x 8-10				■					■			■	■			
	Celtis laevigata	Mississippi Sugarberry	10-12 x 10-12				■					■			■	■			
	Celtis occidentalis	Hackberry	8-10 x 10-15				■					■			■	■			
	Ceratotonia siliqua	Carob	10-12 x 8-10	■											■				Also suitable for hedging
	Cercis occidentalis	Western Redbud	4-6 x 4-6	■			■			■		■	■	■	■	■			Can be multi-stemmed.
	Elaeagnus angustifolia	Russian Olive	5-7 x 5-7	■			■					■		■				■	
	Elaeocarpus reticulatus	Blueberry Ash	8 x 4-6	■			■	■				■						■	
	Elaeocarpus reticulatus	Blueberry Ash	8 x 4-6	■			■	■				■						■	
	Erythrina variegata	Coral Tree	8-15 x 8-15				■												Requires a fertile soil
	Jacaranda mimosifolia	Jacaranda	8-12 x 8-12				■	■											Requires watering and fertilising to establish and look its best.

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
TREES	*Koelreuteria paniculata*	Golden-rain Tree	5-8 x 5-8	■			■					■	■	■	■	■			Will be a poor speciment if grown under shady conditios
	Lagerstroemia 'Comanche'	Crepe Myrtle	5 x 4-5	■				■				■	■	■	■	■		■	Attractive bark and flower
	Lagerstroemia 'Natchez'	Crepe Myrtle	8 x 5	■			■					■	■	■	■				Attractive bark and flower
	Lagerstroemia 'Tuscarora'	Crepe Myrtle'	8 x 6-7	■			■					■	■	■	■			■	Attractive bark and flower
	Lagerstroemia 'Yumi'	Crepe Myrtle'	5-7 x 4-6	■				■				■	■	■	■	■		■	Attractive bark and flower
	Lagerstroemia 'Zuni'	Crepe Myrtle	3.5 x 3	■				■				■	■	■	■	■		■	Attractive bark and flower
	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	3-5 x 2-3	■				■				■							Needs summer irrigation and protection from hot northerly winds
	Myrtus communis	True Myrtle	8-10 x 6-8	■								■	■	■	■	■			
	Nerium oleander	Oleander	3-4 x 2-3				■	■				■						■	All parts of the plant are poisonous; they should not be planted near playgrounds or areas where children can access them
	Nuxia floribunda	Kite Tree	8.5 x 3.5				■	■											
	Pistachia chinensis	Chinese Pistachio	10 x 8				■	■		■		■		■	■	■			Autumn colour
	Puncia granatum	Pommegranite	2-3 x 1.5-2.5	■								■			■	■			

	Botanical Name	Common Name	Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire retardant	Trees up to 8 m	Comments
EXOTIC PLANTS																			
TREES	*Pyrus calleryana*	Callery Pear	11-14 x 6-8	■			■					■	■	■	■	■			Requires summer irrigation
	Pyrus calleryana 'Aristocrat'	Aristocrat Pear	12 x 8	■			■					■	■	■	■	■			Produces fruit which can be problematic and requires summer irrigation
	Pyrus calleryana 'Capital'	Captial Pear	11 x 4	■			■					■	■	■	■	■			Requires summer irrigation
	Pyrus calleryana 'Chanticleer'	Chanticleer Pear	12 x 6	■			■					■	■	■	■	■			Requires summer irrigation
	Pyrus ussuriensis var. *ovoidea*	True Manchurian Pear/Ussurian	12 x 7-8	■	■	■						■	■	■	■	■			Requires summer irrigation. Has few fruit unless planted near other pears .
	Sapium sebiferum	Tallow Wood	8-10 x 5-7				■	■		■		■		■	■	■			Autumn colour
	Sophora japonica	Japanese Pagoda Tree	12 x 9			■	■				■	■			■				
	Ulmus parvifolia 'Todd'	Chinese Elm	10 x 11	■			■				■	■		■	■	■			Todd is an improved cultivar of "Chinese Elm' for shape and diesease resistance

revegetation list

Eucalyptus porosa (Mallee Box) Woodland		
	Botanical Name	**Common Name**
GRASS AND SEDGE	*Aristida hoathera* var. *hoathera*	Tall Kerosene Grass
	Baumea arthrophylla	Swamp Twig-rush
	Baumea juncea	Bare Twig-rush
	Carex breviculmis	Short-stem Sedge
	Cladium mariscus	Leafy Twig-rush
	Cyperus gunii ssp. *Gunii*	Flecked Flat-sedge
	Dianella revoluta var. *revoluta*	Black-anther Flax-lily
	Eagrostis benthamii	Bentham's Love-grass
	Gahnia trifida	Cutting Grass
	Juncus caespitius	Grassy Rush
	Juncus pallidus	pale rush
	Juncus planifolius	broad-leaf rush
	Lomandra collinia	Sand Mat-rush
	Lomandra micrantha ssp. *Micrantha*	Small-flower Mat-rush
	Phragmites australis	Common Reed
	Puccinellia stricta var. *stricta*	Australian Satlmarsh-grass
	Schoenoplectus vallidus	River Club-rush
	Schoenus nitens	Shiny Bog-rush
	Stipa drummondii	Cottony Spear-grass
	Stipa elegantissima	Feather Spear-grass
	Stipa nodosa	Tall Spear-grass
	Stipa scabra ssp. *Scabra*	Rough Spear-grass
	Themeda triandra	Kangaroo Grass

	Botanical Name	Common Name
GROUNDCOVERS	*Arthropodium strictum*	Chocolate Lily
	Caladenia cariochila	Heart-lip Spider-orchid
	Calostemma purpureum	Pink Garland-Lily
	Centipede cunninghamii	Common Sneezeweed
	Cheopodium pumilio	Clammy Goosefoot
	Eclipta platyglossa	Yellow Twin-heads
	Eleocharis pusilla	Small Spike-rush
	Epilobium billardierianum ssp.	Robust Willow-herb
	Kennedia prostrate	Scarlet Runner
	Hydrocotyle laxifolora	Stinking Pennywort
	Lobelia alata	Angled Lovelia
	Lotus australis	Austral Trefoil
	Microtis unifolia	Common Onion-orchid
	Myriophyllum verrucosum	Red Milfoil
	Pelargonium littorale	Native Pelargonium
	Podotheca angustifolia	Sticky Long-heads
	Podolepsis rugata var. *rugata*	Pleated Copper-wire Daisy
	Polygonum plebeium	Small Knotweed
	Potamogeton crispus	Curly Pondweed
	Potamogeton ocheratus	Blunt Pondweed
	Pseudognaphalium luteoalbum	Jersey Cudweed
	Psoralea australasica	Native Scurf-pea
	Psoralea parva	Small Scurf-pea
	Stackhousia mongyna	Creamy Candles

	Botanical Name	Common Name
GROUND-COVERS	*Vittadinia australasica*	Sticky New Holland Daisy
	Vittadinia cuneata var. *Cuneata*	No common name in use
	Wahlenbergia stricta ssp. *Stricta*	Tall Bluebell
	Wurmbea dioica	No common name in use
LOW SHRUBS	*Acacia acinacea*	Wreath Wattle
	Dianella longiflia var. *grandis*	Pale Flax-lily
	Enchylaena tomentosa	Ruby Saltbush
	Maireana brevifolia	Short-leaf Bluebush
	Myoporum viscosum	Sticky Boobialla
	Olearia ramulosa	Twiffy Daisy-bush
	Pimelea glauca	Smooth Riceflower
	Scaevola linearis ssp. *Confertifolia*	No common name in use
TREES	*Acacia pycnantha*	Golden Wattle
	Allocasuarina verticillata	Drooping Sheoak
	Callitris preisii	Southern Cypress Pine
	Eucalyptus porosa	Mallee Box
	Eucalyptus socialis	Beaked Red Mallee

appendix D: river corridor plant list

appendix D: river corridor plant list

Eucalyptus camaldulensis (River red Gum), *Eucalyptus leucoxylon* (South Australian Blue Gum) Woodland and Open Forest

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
ENDEMIC NATIVE PLANTS																			
GRASSES AND SEDGES	*Alternanthera denticulata*	Lesser Joyweed	0.2 x 1							■	■	■	■		■	■			
	Arthropodium fimbriatum	Nodding Chocolate Lily	0.3 x 0.1	■						■		■	■		■	■			
	Arthropodium strictum	Chocolate Lily	0.3 x 0.1	■						■		■	■		■	■			
	Bolboschoenus caldwellii	Salt Club-Rush	0.3-0.9 x 0.3-0.9										■	■	■				
	Calocephalus citreus	Lemon Beauty-Heads	0.15-0.3 x 0.3-0.45	■						■	■	■	■		■	■			
	Calostemma purpureum	Pink Garland-Lily	0.3-0.4 x 0.2-0.3	■						■		■	■		■	■			
	Carex appressa	Tall Sedge	1 x 0.5	■						■		■	■	■	■				
	Carex pumila	Strand Sedge	0.5 x 0.5							■	■		■	■	■	■			
	Cyperus gunnii ssp. *gunnii*	Flecked Flat-Sedge	1 x 1										■	■	■				
	Dianella revoluta var. *revoluta*	Black Anther Flax-Lily	1 x 0.5	■		■				■	■	■	■	■	■	■			
	Eleocharis acuta	Common Spike-Rush	1 x 0.5										■		■				
	Isolepis cernua	Nodding Club-Rush	1 x 0.75	■		■				■		■	■	■	■	■			
	Isolepis iunundata	Swamp Club-Rush	1 x 0.75												■				

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
ENDEMIC NATIVE PLANTS																			
GRASSES AND SEDGES	*Isolepis marginata*	Little Club-Rush	1 x 0.75												■				
	Isolepis nodosa	Knobby Club Rush	1 x 0.75	■		■				■		■	■	■	■	■			
	Juncus kraussii	Sea Rush	0.75 x 0.5												■				Tolerates very wet sites
	Juncus pallidus	Pale Rush	0.75 x 0.5										■	■	■				Tolerates very wet sites
	Lomandra multiflora ssp. *dura*	Hard Mat-Rush	0.75 x 0.75	■		■				■	■	■	■		■	■			
	Phragmites australis	Common Reed	0.75 x 0.5												■				Grows in the water
	Poa labillardieri var. *labillardieri*	Common Tussock-Grass	1 x 1	■		■				■	■	■	■		■	■			
	Poa poiformis	Coast-Tussock Grass	1.2 x 0.2	■		■				■	■	■	■		■	■			
	Schoenoplectus pungens	Spiky Club-Rush	1.2 x 0.6												■				Good bank stabiliser
	Schoenoplectus vallidus	River Club-Rush	1.2 x 0.6												■				Good bank stabiliser
	Typha domingensis	Narrow-Leaf Bulrush	1-2 x 1-2								■		■	■	■				Grows in the water, tolerates water to 1 m
	Typha orientalis	Broad-Leaf Bulrush	1-2.5 x 1-2.5								■		■	■	■				
GROUNDCOVERS	*Craspedia glauca*	Billy-Buttons	0.3-0.45 x 0.3 x 0.45	■		■				■	■	■	■	■	■	■			
	Dichondra repens	Kidney Weed	0.05 x 0.1		■	■				■	■	■	■	■	■	■			Suitable for a semi-shaded area or sun
	Hardenbergia violacea	Native Lilac	1.5-2 x 2-3	■	■	■				■	■	■	■	■	■	■			
	Kennedia prostrata	Running Postman	0.1 x 1-1.5	■	■	■				■	■	■	■	■	■	■			Needs well-drained soil

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
ENDEMIC NATIVE PLANTS																			
GROUNDCOVERS	*Lythrum salicaria*	Purple Loosestrife	2 x 0.3	■		■				■	■	■	■	■	■	■			Up to 2 m tall when in flower
	Microseris lanceolata	Yam Daisy	0.1 x 0.1		■	■				■	■		■	■	■	■			
	Ranunculus lappaceus	Native buttercup	0.1 x 0.2	■	■	■				■	■	■	■	■	■	■			
	Scaevola albida var. *albida*	Pale fanflower	0.4 x 0.5-2	■	■	■				■	■	■	■	■	■	■			
SHRUBS	*Acacia acinacea*	Gold Dust Wattle	2 x 3	■							■	■	■	■	■	■			
	Atriplex semibaccata	Berrry Saltbush								■	■				■	■			
	Bursaria spinosa	Sweet Bursaria	2 x 1.5							■	■		■	■	■	■			
	Calytrix tetragona	Common Fringe-Myrtle	1 x 1	■		■				■	■	■	■	■	■	■			
	Correa glabra	Rock Correa	1-1.5 x 1-1.5	■		■				■	■	■	■	■	■	■			
	Enchylaena tomentosa	Ruby Saltbush	0.5 x 1			■				■	■		■		■	■			
	Eutaxia microphylla var. *microphylla*	Malle Bush-Pea	1-1.5 x 1.5-2							■	■				■	■			
	Goodenia amplexans	Clasping Goodenia	0.45-0.6 x 0.6-0.9			■				■	■		■	■	■	■			
	Goodenia ovata	Hop Goodenia	1-2.5 x 1-3							■	■		■	■	■	■			
	Leptospermum myrsinoides	Heath Tea-Tree		■							■				■	■			
	Maireana brevifolia	Short-Leaf Blue Bush	1 x 1			■				■	■				■	■			
	Myoporum viscosum	Sticky boobialla	2 x 2							■	■				■	■			

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
ENDEMIC NATIVE PLANTS																			
SHRUBS	*Callistemon sieberii*	River Bottlebrush	2-7 x 3-5	■						■	■	■	■	■	■	■			
	Dodonaea viscosa ssp. *angustissima*	Narrow-Leaf Hop-Bush	1.5-3 x 2-3							■	■	■	■	■	■	■			
	Leptospermum continentale	Prickly Tea-Tree	1-4 x 2-6							■	■		■	■	■	■			
	Leptospermum lanigerum	Silky Tea-Tree	2.4-3 x 1-2.5							■	■		■	■	■	■			Prefers moist site
	Myoporum montanum	Water-Bush	2-3 x 2-3								■				■	■			
	Olearia ramulosa	Twiggy Daisy-Bush	1-2 x 1-2			■				■	■				■	■			
	Pimelea glauca	Smooth Riceflower	0.3-0.6 x 0.6	■		■				■	■	■	■		■	■			
	Stackhousia monogyna	Creamy Candles	0.3 x 0.5	■		■				■	■	■	■	■	■	■			
	Wurmbea dioica ssp. *Dioica*	Common Star-Lily	0.3 x 0.3	■		■				■	■	■	■	■	■	■			
TREES	*Acacia melanoxylon*	Blackwood	18 x 12				■		■				■		■	■			Not good under powerlines, needs a large root run. Prefers an acidic alluvial soil
	Acacia pycnantha	Golden wattle	4-6 x 2-6				■	■						■	■	■		■	
	Acacia retinodes var. *retinodes*	Wirilda	3-8 x 2-5				■	■					■	■	■	■			Will tolerate poorly drained soils and is tolerant of some inundation
	Acacia salicina	Willow Wattle	4-12 x 3-7										■		■	■			
	Allocasuarina verticillata	Drooping Sheoak	5-10 x 5-10		■		■						■		■	■			

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
ENDEMIC NATIVE PLANTS																			
TREES	*Callitris preisii*	Southern Cypress Pine	6-10 x 4-8		■		■						■		■	■			
	Eucalyptus camaldulensis	River Red Gum	20 x 12		■				■				■						
	Eucalyptus largiflorens	River Box	15-20 x 10-15										■	■					
	Eucalyptus leucoxylon	SA Blue Gum	15 x 12		■		■	■					■	■	■	■			
	Eucalyptus microcarpa	Grey Box	6-20 x 6-15		■				■				■		■	■			
	Exocarpos cupressiformis	Native Cherry	6 x 3				■						■		■	■		■	
	Pittosporum angustifolium syn. *phyllarioides*	Native Apricot	10-12 x 4-8		■		■						■		■	■			
NON-LOCAL NATIVE PLANTS																			
GRASSES AND SEDGES	*Carex tetreticaulis*	No common name in use	0.7 x 0.7	■		■						■	■	■	■	■			Boggy areas
	Dianella 'Silver Streak'	Silver Streak	0.6 x 0.6	■		■						■	■	■	■	■			
	Dianella caerulea 'Breeze'	Breeze	0.6 x 0.6	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella caerulea 'Cassa Blue'	Cassa Blue	0.5 x 0.4	■	■	■						■	■	■	■	■			Will grow in shade
	Dianella caerulea 'Little Jess'	Little Jess	0.4 x 0.4	■	■	■						■	■	■	■	■			Very hardy adaptable plant, low maintenance

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
GRASSES & SEDGES	*Dianella revoluta* 'Baby Bliss''	Baby Bliss	0.25 x 0.25	■	■	■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella revoluta 'Little Rev'	Little Rev	0.3-0.4 x 0.3	■	■	■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella revoluta 'Revelation'	Revelation	0.5 x 0.5	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella tasmanica 'Emerald Arch'	Emerald Arch	0.45 X 0.45	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Dianella tasmanica 'Tas Red'	Tas Red	0.4 x 0.4	■	■	■						■	■	■	■	■			Foliage colour changes with the seasons
	Lomandra 'Katrinus Deluxe'	Katrinus Deluxe	0.6 x 0.6	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance – showy flowers
	Lomandra confertifolia 'Wingarra'	Wingarra	0.3 x 0.3	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Lomandra filiformis 'Savanna Blue'	Savanna Blue	0.3 x 0.3	■	■	■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Cassica'	Cassica	1.2 x 0.8	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
GRASSES & SEDGES	*Lomandra longifolia* 'Nyalla'	Nyalla	0.8 x 0.8	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Lomandra longifolia 'Tankia'	Tanika	0.6 x 0.6	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance
	Poa crassicaudex	Tussock Grass	2-4 x 3-4	■		■				■		■	■	■	■	■			Prefers river banks and moister sites
	Poa labillardieri 'Eskdale'	Eskdale	0.6 x 0.45	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance – good erosion control
	Poa poiformis 'Kingsdale'	Kingsdale	0.45 x 0.45	■		■						■	■	■	■	■			Very hardy adaptable plant, low maintenance – good erosion control
GROUNDCOVERS	*Anigozanthos flavidus*	Kangaroo Paw	3 x 0.9	■						■		■	■	■	■	■			Likes moist stream banks
	Clematis microphylla	Old Man's Beard	Climber	■								■							Grows over shrubs along stream banks
	Grevillea lavandulacea	Lavender Grevillea	<0.6 x 1-1.5	■		■				■		■	■		■				Adapts to a wide range of soils.
	Hibbertia prostrata	Bundles Guinea flower	0.2 x 0.5	■		■				■		■				■			Likes a damp soil
SHRUBS	*Acacia paradoxa*	Kangaroo Thorn	2-4 x 3-4								■								Adapted to drier soils, good shelter plant for birds
	Correa aemula	Hairy Correa	1.5 x 1-1.5								■				■				Needs a sheltered site near the waterway

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NON-LOCAL NATIVE PLANTS																			
SHRUBS	*Correa reflexa*	Common Correa	2 x 2	■		■				■		■	■	■	■	■			
	Dodonaea angustissima	Slender Hop Bush	1.5-3 x 2-3			■			■			■	■	■	■				
	Dodonaea viscosa	Sticky (Giant) Hopbush	1-4 x 1-4	■		■					■			■					
	Hakea carinata	Keeled Hakea	1-2.5 x 0.5-1								■				■				
	Hakea rostrata	Beaked Hakea	1-2 x 0.5-1.5								■				■				Prefers a sandy soil
	Hardenbergia violacea	Native Lilac	1.5-2 x 2-3	■								■							
	Leptospernum myrsinoides	Silky (Heath) Tea-Tree	0.5-2.5 x 0.5-1.5			■					■								
	Melaleuca brevifolia	Mallee Honey Myrtle	3 x 1-2												■				Grows on the edge of waterways and in swampy areas
TREES	*Acacia melanoxylon*	Blackwood	10-20 x 6-10		■	■					■		■						
	Banksia integrifolia	Coast Banksia	12-16 x 6-8				■												Requires moist soil but not permanently waterlogged soil
	Banksia marginata	Silver Banksia	3 x 3					■					■	■	■	■			
	Callistemon salignus	Willow Bottlebrus	7 x 3-4				■	■			■								
	Eucalyptus incrassata	Yellow Mallee	2-5 x 2-6				■	■											Mallee form, needs a sandy soil
	Eucalyptus odorata	Peppermint Box	8-10 x 2-5				■												Plant ~10 m away from waterway bank
	Eucaltyptus sargentii	Salt River Gum	6-12 x 4-9			■	■												One of the most salt tolerant eucalypts

revegetation list

Eucalyptus camaldulensis (River Red Gum), *Eucalyptus leucoxylon* (SA Blue Gum)		
	Botanical Name	**Common Name**
GRASSES AND SEDGES	*Aristida holathera* var. *holathera*	Tall Kerosene Grass
	Baumea juncea	Bare Twig-rush
	Bolboschoenus caldwellii	Salt Club-rush
	Carex appressa	Tall Sedge
	Carex bichenoviana	Notched Sedge
	Carex gaudichaudiana	Fen Sedge
	Carex gunniana	Mountain Sedge
	Carex inverse	Knob Sedge
	Carex pumila	Strand Sedge
	Cyperus gunnii ssp. *gunnii*	Flecked Flat-sedge
	Cyperus gymnocaulos	Spiny Flat-sedge
	Cyperus vaginatus	Stiff Flat-sedge
	Dianella revoluta var. *revoluta*	Black-anther Flax-lily
	Dichanthium sericeum	Silky Blue-grass
	Eleocharis acuta	Common Spike-rush
	Elymus scabrus var. *scabrous*	No common name in use
	Isolepis cernua	Nodding Club-rush
	Isolepis inundata	Swamp Club-rush
	Isolepis marginata	Little Club-rush
	Isolepis nodosa	Knobby Club-rush
	Juncus bufonius	Toad Rush
	Juncus continuus	Pithy Rush
	Juncus kraussii	Sea Rush
	Juncus pallidus	Pale Rush
	Juncus pauciflorus	Loose-flower Rush

	Botanical Name	Common Name
GRASSES AND SEDGES	*Juncus sarophorus*	
	Juncus subsecundus	Finger Rush
	Juncus usitatus	Common Rush
	Lomandra densiflora	Soft Tussock Mat-rush
	Lomandra multiflora ssp. *Dura*	Hard Mat-rush
	Lomandra nana	Small Mat-rush
	Lomandra sororia	Sword Mat-rush
	Meurachne alopecuroidea	Fox-tail Mulga-grass
	Microlaena stipoides var. *stipoides*	Weeping Rice-grass
	Phragmites australis	Common Reed
	Poa clelandii	Matted Tussock-grass
	Poa labillardieri var. *labillardieri*	Common Tussock-grass
	Poa poiformis	Coast Tussock-grass
	Schoenoplectus litoralis	Shore Club-rush
	Schoenoplectus pungens	Spiky Club-rush
	Schoenoplectus vallidus	River Club-rush
	Sprobolus caroli	Yakka Grass
	Sporobolus virginicus	Salt Couch
	Stipa curticoma	4 Short-crest Spear-grass
	Stipa flavescens	Coast Spear-grass
	Stipa mollis	Soft Spear-grass
	Stipa nodosa	Tall Spear-grass
	Themeda triandra	Kangaroo Grass
	Typha domingensis	Narrow-leaf Bulrush
	Typha orientalis	Broad-leaf Bulrush

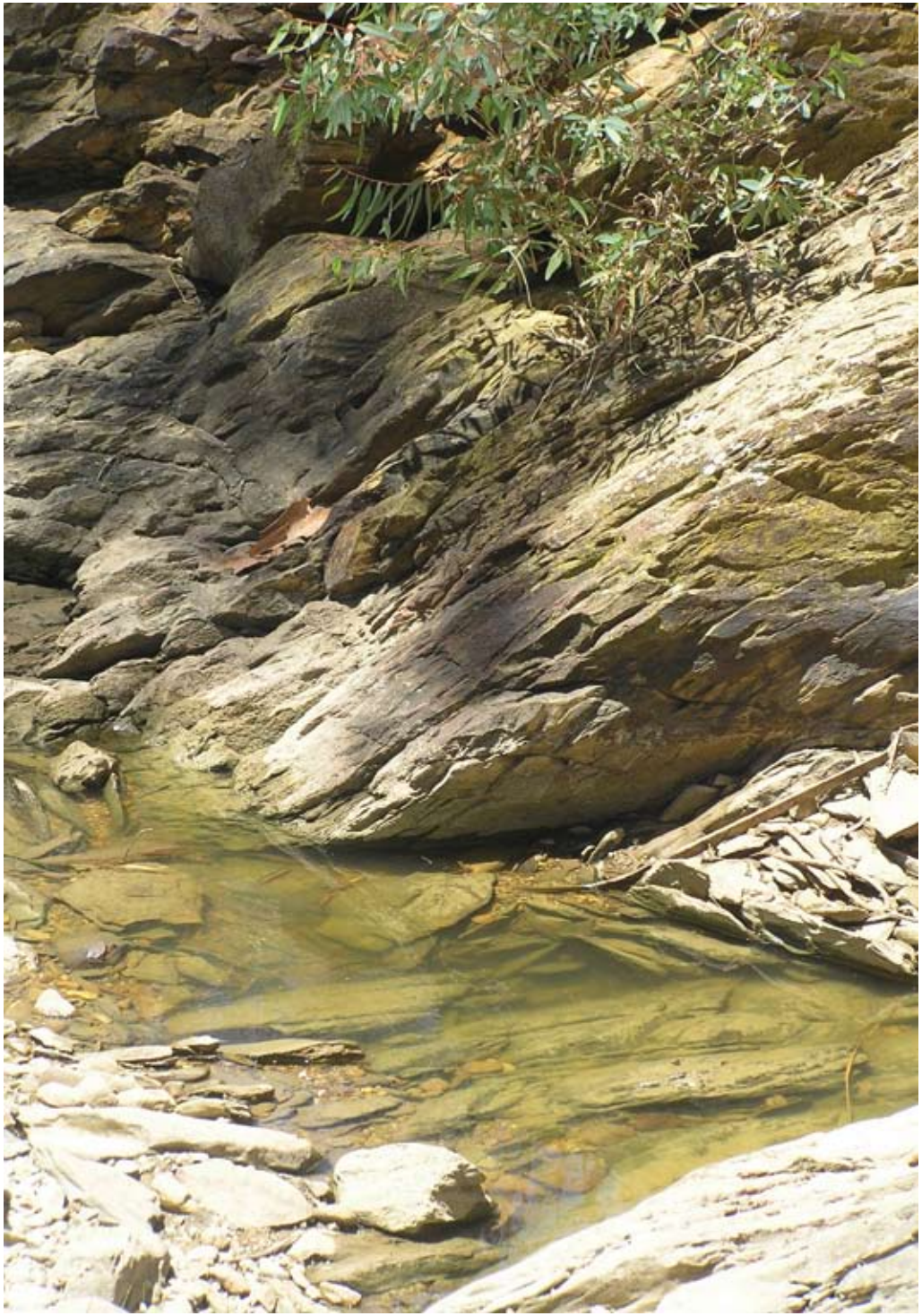
	Botanical Name	Common Name
GROUNCOVERS	*Acaena echinata* var. *echinata*	Sheep's Burr
	Alternanthera denticulate	Lesser Joyweed
	Arthropodium fimbriatum	Nodding Chcolate Lily
	Arthropodium strictum	Chocolate Lily
	Atriplex suberecta	Lagoon Saltbush
	Boerhavia dominii	Tar-vine
	Brachycome cuneifolia	Wedge-leaf Daisy
	Brachycome debilis	Weak Daisy
	Bracteantha bracteata	No common name in use
	Calocephalus citreus	Lemon Beauty-heads
	Calostemma purpureum	Pink Garland-lily
	Calotis cuneifolia	Purple Burr-daisy
	Centella cordifolia	No common name in use
	Centipede cunninghamii	Common Sneezeweed
	Chenopodium cristatum	Crested Goosefoot
	Chenopoium punilio	Clammy Goosefoot
	Cotula australis	Common Cotula
	Craspedia glauca	Billy-buttons
	Crassula hemsii	Swamp Crassula
	Crassula sieberiana ssp. *Tetramera*	Australian Stonecrop
	Cynoglossum australe	Australian Hound's-weed
	Daucus glochidatsu	Native Carrot
	Dichondra repens	Kidney Weed
	Drosera peltat	Pale Sundew
	Drosera whittakeri	Scented Sundew
	Eclipta playglossa	Yellow-twin-heads

	Botanical Name	Common Name
GROUNDCOVERS	*Epilobium billardierianum*	Robust Willow-herb
	Epilobium billardierianum	Variable Willow Herb
	Epilobium hirtigerum	Hairy Willow-herb
	Euchiton sphaericus	No common name in use
	Euphorbia drummondii	Caustic Weed
	Geranium potentilloides var.	Downy Geranium
	Geranium solanderi var. *solanderi*	Austral Geranium
	Gonocarpus mezianus	Broad-leaf Raspwort
	Gonocarpus tertagynus	Small-leaf Raspwort
	Gratiola peruviana	Austral Brooklime
	Hardenbergia vilacea	Native Lilac
	Ixiolaena leptolepsis	Narrow Plover-daisy
	Kennedia prostrata	Scarlet Runner
	Lavatera plebeian	Australian Hollyhock
	Leptorhynchos squamatus	Scaly Buttons
	Lobelia alata	Angled Lobelia
	Lotus australis	Austral Trefoil
	Ludwigia peploides ssp.	Water Primrose
	Lycopus australis	Australian Gipsywort
	Lythrum hyssopifolia	Lesser Loosestrife
	Lythrum salicaria	Purple Loosestrife
	Microlepidum pilosulumm	Hairy Shepherd's Purse
	Microseris lanceolata	Yam Daisy
	Mimulum repens	Creeping Monkey-flower
	Myosotis discolour ssp. *Discolour*	Yellow-and-blue Forget-me –not
	Myriophyllum caput-medusae	Coarse Milfoil

	Botanical Name	Common Name
GROUNDCOVERS	*Myriophyllum crispatum*	Upright Milfoil
	Myriophyllum verrucosum	Red Milfoil
	Persicaria lapathifolia	No common name in use
	Potamogeton crispus	Curly Pondweed
	Potamogeton ocheratus	Blunt Pondweed
	Potamogeton pectiantus	Fennel Pondweed
	Potamogeton tepperi	Terrper's Pondweed
	Pseudognaphalium luteoalbum	Jerey Cudweed
	Psoralea parva	Small Scurf-peaf
	Ptilotus spathulatus forma	Pussy-tails
	Rumex brownii	Slender Dock
	Rutidosis multiflora	Small Wrinklewort
	Smaolus repends	Creeping Brookweed
	Scaevola albida var. *albida*	Pale Fanflower
	Senecio hypoleucus	Pale Groundsel
	Senecio macrocarpus	Large-fruit Groundsel
	Sigesbeckia orientalis ssp. *Orientalis*	No common name in use
	Stackhousia monogyna	Creamy Candles
	Stuartina muelleri	Spoon Cudweed
	Swainsona lessertiifolia	Coast Swainson-pea
	Tanunculus lappaceus	Native Buttercup
	Teucrium racemosum	Grey Germander
	Triglochin procerum var. *procerum*	Water-ribbons
	Triglochins triatum	Streaked Arrowgrass
	Vallisneria spiralis	River Eel-grass

	Botanical Name	Common Name
GROUND COVERS	*Verbena officinalis*	Common Verbena
	Villarsia umbricola var. *umbricola*	Lax Marsh-flower
	Vittadinia australasica var.	Stick New Holland Daisy
	Vittadinia cuneata var. *cuneata*	No common name in use
	Wurumbea dioca ssp. *Dioica*	Common-star-lily
LOW SHRUBS	*Acacia acinacea*	Wreath wattle
	Adriana klotzxchii	Coast Bitter-bush
	Atriplex holocarpa	Pop Saltbush
	Atriplex semibaccata	Berry Saltbush
	Buraria spinosa	Sweet Bursaria
	Calytrix tertragona	Common Fringe-myrtle
	Correa glabra	Rock Correa
	Cryptandra tomentosa	Heath Cryptandra
	Enchylaena tomentosa var.	Ruby Saltbush
	Eutaxia microhplla var. *microphylla*	Mallee Bush-pea
	Goodenia amplexans	Clasping Goodenia
	Goodenia ovata	Hop Goodenia
	Maireana brevifolia	Short-leaf Bluebush
	Maireana decalvans	Black Cotton-bush
	Myoporum viscosum	Sticky Boobialla
	Olearia ramulosa	Twiggy Daisy-bush
	Pimelea glauca	Smooth Ricefower
	Pimelea humilis	Low Riceflower
	Pimelea stricta	Erect Riceflower
	Pimelea micrantha	Silky Riceflower
	Pultenaea largiflorens	Twiggy Bush-pea

	Botanical Name	Common Name
LOW SHRUBS	*Sclerolaena diacantha*	Grey Bindyi
	Stipa densiflora	Foxtail Spear-grass
	Vittadinia blackii	Narrow-leaf New Holland
TALL SHRUBS	*Acacia paradoxa*	Kangaroo Thorn
	Callistemon sieberii	River Bottlebrush
	Cheopodium nitrariaceum	Nitre Goosefoot
	Dodonaea viscosa ssp. *Angustissima*	Narrow-leaf Hop-bush
	Dodonaea viscose ssp. *Spatulata*	Sticky-hop-bush
	Leptospermum continentale	Prickly Tea-tree
	Leptospermum lanigerum	Silky Tea-tree
	Melaleuca brevifolia	Short-leaf Honey-myrtle
	Myoporum ontanum	Water-bush
TREES	*Acacia melanoxylon*	Blackwood
	Acacia pycnantha	Golden Wattle
	Acacia retinodes var. *retinodes*	Wirilda
	Acacia salicina	Willow Wattle
	Allocasuarina verticillata	Drooping Sheoak
	Callitris preisii	Southern Cypress Pine
	Eucalyputs camaldulensis	River Red Gum
	Eucalyptus leucoxylon	South Australian Blue Gum
	Eucalyptus microcarpa	Grey Box
	Exocarpos cupressiformis	Native Cherry
	Lysiana exocarpi ssp. *Exocarpi*	Harlequin Mistletoe
	Pittosporum phylliraeoides	Native Apricot



appendix E: <300 mm rainfall plant list

appendix E: <300 mm rainfall plant list

(Average rainfall over the Salisbury area is 440 mm/yr)

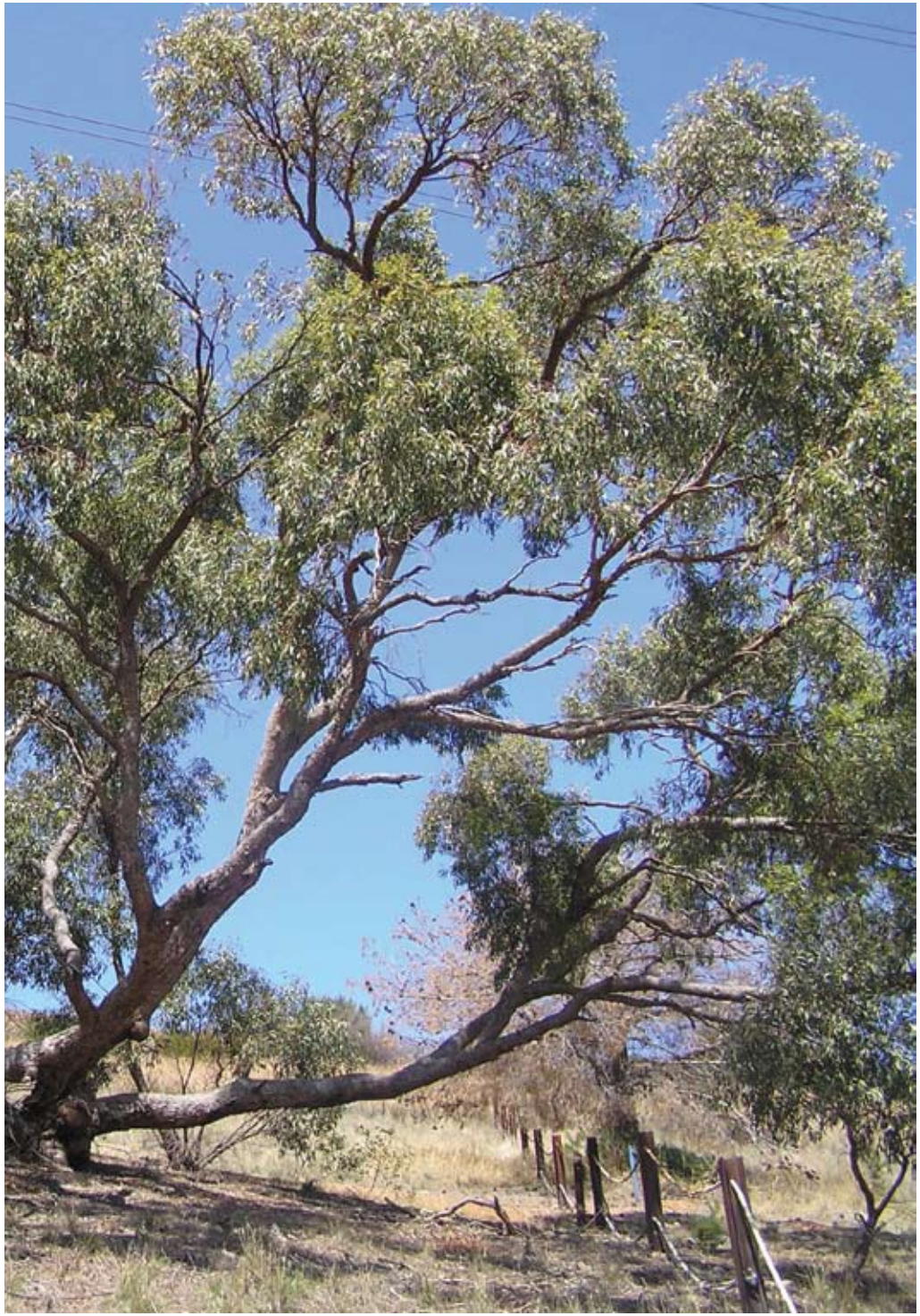
	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8 m	Comments
NATIVE PLANTS																			
GROUNDCOVERS	*Atriplex vesicaria*	Saltbush	0.7 x 1-1.5												■	■			
	Calocephalus platycephalus	Billy Buttons	0.2-0.5 x 0.2-0.5	■						■	■	■	■	■	■	■			
	Calotis lappulacea	Yellow Burr Daisy	0.3-0.5 x 0.3-0.5	■						■	■	■	■	■	■	■			
	Disphyma crassifolium	Round Leaf Pigface	0.1 x 0.5-1	■	■	■			■	■		■	■	■	■	■	■		
	Eremophila maculata 'Winter Gold'	Eremophila 'Winter Gold'	1.5 x 1.5	■						■	■	■	■	■	■	■			
	Gunniopsis quadrifida	Sturt's Pigface	0.15 x 0.5-1	■	■	■			■	■		■	■	■	■	■	■		
	Enchylaena tomentosa	Ruby Saltbush	0.3 x 0.5-1								■			■	■	■			
	Maireana astrotricha	Blue bush	0.5 x 1		■	■							■	■	■	■			
	Scaevola collaris	Fan Flower	0.1-0.5 x 0.3-0.55	■	■	■				■	■	■	■	■	■	■			
SHRUBS	*Acacia glandulicarpa*	Hairy Pod Wattle	1-2 x 1-2								■		■		■	■			
	Acacia hakeoides	Hakea Wattle	3-4 x 3-4								■		■		■	■			
	Acacia ligulata	Small Cooba	2-3 x 1-2.5					■			■		■		■	■			

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
NATIVE PLANTS																			
SHRUBS	*Acacia notabilis*	Notable Wattle	2-3 x 2-3								■		■		■	■			Prefers heavier soils
	Dodonaea angustissima	Slender Hop Bush	1.5-3 x 2-3			■			■			■	■	■	■				
	Eremophila longifolia	Long Leaved Emubush	2-6 x 1.5-4								■			■	■	■			
	Eremophila racemosa	Native Fuchsia	1-2 x 1	■								■		■	■	■			
	Myoporum montanum	Water bush	2 x 1								■			■	■	■			
	Pimelea microcephala	Mallee Rice Flower	0.5 x 0.5-0.75								■			■	■	■			
	Senna artemisioides	Desert Cassia	1-2 x 1-1.5								■			■	■	■			
TREES	*Acacia acuminata*	Jam Wattle	3-6 x 1-4										■		■	■			
	Acacia doratoxylon	Currawong	4-8 x 2-4				■												
	Acacia iteaphylla	Gawler Range Wattle	2-3 x 2-3					■						■	■	■	■		
	Acacia ligulata	Sandhill Wattle	1-4 x 1-4					■										■	Prefers sandy soil
	Acacia papyrocarpa	Western Myall	2-7 x 2-5	■	■				■				■	■					Prefers a limey soil
	Acacia stenophylla	Eumong	5-8 x 2-6					■											Prefers heavy soils
	Alectryon oleifolium	Bullock Bush	3-5 x 4-6				■	■										■	If roots are damaged it will sucker prolifically
	Brachychiton populneus	Kurrajong Bottle Tree	12-15 x 8-10	■	■	■	■												
	Callitris glaucophylla	Native Pine	8-10 x 4-6				■												
	Callitris verrucosa	Mallee Pine/ Turpentine Pine	5-7 x 4-5				■	■			■								
	Caparis mitchelli	Tree Caper/Native Orange	3-8 x 2-5				■	■	■						■	■			Prefers heavier soils

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
NATIVE PLANTS																			
TREES	*Casuarina muellerana*	Salty Sheoak	2-3 x 2-3					■											Prefers sandy soils
	Corymbia opaca	Inland Bloodwood	8-15 x 4-8				■												
	Eucalyptus crucis	Silver Mallee	4-5 x 3-4	■				■		■		■							Prefers lighter soils
	Eucalyptus deptera	Two Wing Gimlet	6-8 x 6-8				■												
	Exocarpus apyllus	Stiff Cherry	3 x 2				■	■										■	Difficult to establish in propagation. Can be grown in the shade
	Exocarpus cupressiformis	Cherry Ballart	4-8 x 2-3				■	■											Difficult to establish in propagation
	Myoporum platycarpum	Sugar Wood	3-9 x 2-4				■												
	Pittosporum angustifolium	Native Apricot	5-6 x 2-4				■	■	■	■					■	■			Prefers sandy soils
	Pittosporum angustiflolium syn. *phyllarioides*	Native Apricot	2-8 x 2-4				■	■										■	
	Santalum acuminatum	Quandong or Native Peach	6 x 3-4				■	■										■	Difficult to establish in propagation. Good shade tree
	Santalum spicatum	Quandong	4 x 3-5				■	■										■	
EXOTIC PLANTS																			
GROUND COVERS	*Clematis microphylla*	Old Man's Beard	Climber	■															
	Limonium lobatum	Winging Sea Lavender	0.3-0.45 x 0.3-0.45	■						■	■		■	■	■	■			

	Botanical Name	Common Name	Approx Dimensions at Maturity Height x Width (m)	Feature Landscape Areas	Major Roads	Arterial Roads	Collector Roads	Local Roads	Industrial Roads	Residential Development	Industrial Development	Commercial Development	Regional Open Space	District Open Space	Neighbourhood Open Space	Local Open Space	Fire Retardant	Trees up to 8m	Comments
EXOTIC PLANTS																			
TREES	*Aesculus californica*	Californian Buckeye	6-12 x 6-12																Winter deciduous, beautiful white bark
	Ceratonia siliqua	Carob	8-10 x 8-10																Tree or can be hedged sucessfully

bibliography



AL0608: 30/05/07 : HASSELL

bibliography

ACT Landscape, Public Works and Services, 1993, *Canberra Landscape Guidelines*.

Aitchison, G.D., Sprigg, R.C., Cochrane G.W., 1954, *Geological Survey of South Australia Bulletin No. 32: The Soils and Geology of Adeladie and Suburbs*, South Australian Department of Mines, Government Printer, Adelaide.

Arbor Vitae, 2004, *City of Wanneroo Street Tree Master Plan August 2004*. (Last Revised 8/10/2004)

Berkinshaw, T., 2004, *Mangroves to Mallee Multi-site Management Plan for the Northern Adelaide Coastal Plains. Background Information*.

Caves, S. (ed), 1999 *Restoring Riparian Vegetation Action Plan for Walkley Heights Reserve, City of Salisbury*.

Caves, S. (ed), 1999 *Restoring Riparian Vegetation Action Plan for Upper Little Para Linear Park, City of Salisbury and City of Playford*.

City of Salisbury, 2001, *Documents for City of Salisbury Maintenance Services Specifications*.

City of Salisbury, *Draft Irrigation Policy*, 18/10/2006 (being revised).

City of Salisbury, *Draft Strategy for Sustainable Salisbury*.

City of Salisbury, Fact Sheet St Kilda, *Sustainable Salisbury*.

City of Salisbury, *Landscape Design*, http://www.salisbury.sa.gov.au, accessed 10 October 2006.

City of Salisbury, *Open Space Management Strategy*.

City of Salisbury *Plaques and Memorials*, http://www.salisbury.sa.gov.au, accessed 18 October 2006.

City of Salisbury, 2005, *Reserve Directory*.

City of Salisbury, *Stormwater Recycling Through Wetlands in the City of Salisbury, South Australia*.

City of Salisbury, Tree Management and Removal Policy, http://www.salisbury.sa.gov.au, accessed 10 October 2006.

City of Salisbury, *Tree Preservation & Management Plan*.

City of Salisbury, *Verge Development Policy*.

City of Salisbury, 1998, *Streetscape Review, An Interim Report*.

Connell Wagner, 2005, *Draft Stage 3 - Gap Closure Report, Salisbury Local Area Bicycle Network Review, City of Salisbury*.

Delfin Lend Lease, EDAW Gillespies, *Mawson Lakes Landscape Handbook*, Revision B, August 2003.

Department of Environment and Planning, 1991, *Salisbury Heritage Survey*.

Florida Department of Transportation, 1995, *Florida Highway Lanscape Design, Florida Department of Transport,* http://www.dot.state.fl.us/emo/beauty/lanscap.pdf, accessed 24 October 2006, 11:00am

Government of South Australia, Department for Transport, Energy and Infrastructure, *Care, Control & Management of Roads by the Commissioner of Highways (Section 26 fo the Highways Act). Operational Instruction 20.1*, 20 August 2001.

Hosking, J.L., 2005, *Plants for the City of Charles Sturt: A Guide to Plant Choice Based on Environmental Factors*, honours research paper, School of Architecture, Landscape Architecture and Urban Design, The University of Adelaide, South Australia

Ian Barwick Associates, *Little Para River Study Landscape Analysis*.

Kraehenbuehl, D. N., 1966, *Pre European Vegetation of Adelaide: A Survey from the Gawler River to Hallett Cove*, Nature Conservation Society of South Australia Inc., Adelaide, South Australia.

National Tidal Centre, Australian Bureau of Meteorology, *The Australian Baseline Sea Level Monitoring Project, Annual Sea Level Data Summary Report July 2005 - June 2006*.

Robertson, M.A., 2002 *Cobbler Creek Recreation Park Vegetation Management Plan 2002-2007*.

Sheard, M.J., Bowman, G.M., 1996, *Soils, Startigraphy and Engineering Geology of Near Surface Materials of the Adelaide Plains: Report Book 94/9 Volumse 1,2 and 3,* Mines and Energy South Australia and CSIRO Australia Division of Soils Adelaide, South Australia, provided on CD from CSIRO.

Suppiah, R., Preston, B., Whetton, P.H., (et al), 2006, *Climate Change Under Enhanced Greenhouse Conditions in South Australia An Updated Report on: Assessment of Climate Change, Impacts and Risk Management Strategies Relevant to South Australia*, CSIRO, PDF document available from http://www.csiro.au/

Taylor, J. K., Thomson, B. P., Shepherd, R. G., 1974, *Geological Survey of South Australia No. 46: The Soils and Geology of the Adelaide Area*, Department of Mines South Australia, Government Printer South Australia.

Transport SA, 2004, *Trees in Medians in Urban Environments*, Transport SA

Wells, C.B., 1966, *A Composite Map of the Soils of Metropolitan Adelaide Soils and Land Use Series No. 49*, Commonwealth Scientific and Industrial Research Organisation, Melbourne, Australia.

Ice rage: The big melt, http://bulletin.ninemsn.com.au/article.aspx?id=147569

http://flood.firetree.net

http://www.bom.gov.au/ accessed on Tuesday 3 October 2006, 11:00 am.

http://www.urbanforest.on.net/ accessed on Tuesday 26 September 2006, 10:00 am

http://www.transport.sa.gov.au/pdfs/safety/commissioner_highways.pdf 19 October 2006

Looking After Your Street – City of Salisbury publication

SA Water Sustainability Report - Government of South Australia

Trees and Powerlines - Government of South Australia

FIGURES

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Figure 2.1: Physiographic Regions of Salisbury – Adapted from information in Taylor, J. K., Thomson, B. P., Shepherd, R. G., 1974, *Geological Survey of South Australia No. 46: The Soils and Geology of the Adelaide Area*, Department of Mines South Australia, Government Printer South Australia, Sheard, M.J., Bowman, G.M., 1996, *Soils, Startigraphy and Engineering Geology of Near Surface Materials of the Adelaide Plains: Report Book 94/9* Volumse 1,2 and 3, Mines and Energy South Australia and CSIRO Australia Division of Soils Adelaide, South Australia, provided on CD from CSIRO and Aitchison, G.D., Sprigg, R.C., Cochrane G.W., 1954, *Geological Survey of South Australia Bulletin No. 32: The Soils and Geology of Adeladie and Suburbs*, South Australian Department of Mines, Government Printer, Adelaide.

Figure 2.2: Soil Associations of Salisbury – Adapted from information in Taylor, J. K., Thomson, B. P., Shepherd, R. G., 1974, *Geological Survey of South Australia No. 46: The Soils and Geology of the Adelaide Area, Department of Mines South Australia*, Government Printer South Australia, Sheard, M.J., Bowman, G.M., 1996, *Soils, Startigraphy and Engineering Geology of Near Surface Materials of the Adelaide Plains: Report Book 94/9 Volumse 1,2 and 3*, Mines and Energy South Australia and CSIRO Australia Division of Soils Adelaide, South Australia, provided on CD from CSIRO and Aitchison, G.D., Sprigg, R.C., Cochrane G.W., 1954, *Geological Survey of South Australia Bulletin No. 32: The Soils and Geology of Adeladie and Suburbs*, South Australian Department of Mines, Government Printer, Adelaide.

Figure 2.4: Soil Moisture Budget – Created by HASSELL using Bureau of Meteorology data

Figure 2.5: Wind Roses – Created by HASSELL using Bureau of Meteorology data

Figure 2.6: Pre European Plant Communities - Adapted from Kraehenbuehl, D. N., 1966, *Pre European Vegetation of Adelaide: A Survey from the Gawler River to Hallett Cove*, Nature Conservation Society of South Australia Inc., Adelaide, South Australia and Urban Forrest, http://www.urbanforest.on.net/ data.

Figure 5.2: Median Clearance Zone – Created by HASSELL from Department for Transport, Energy and Infrastructure data

Figure 5.3: Secondary Clearance Zone – Created by HASSELL from Department for Transport, Energy and Infrastructure data

Figure 5.4: Urban Clearance Zone – Created by HASSELL from Department for Transport, Energy and Infrastructure data

Figure 5.5: Median Clear Sight Window – Created by HASSELL from Department for Transport, Energy and Infrastructure and Florida Department of Transportation, 1995, *Florida Highway Landscape Design*, Florida Department of Transport, http://www.dot.state.fl.us/emo/beauty/landscape.pdf, accessed 24th October 2006, 11:00am, data

Figure 5.6: Verge Clear Sight Window – Created by HASSELL from Department for Transport, Energy and Infrastructure and Florida Department of Transportation, 1995, *Florida Highway Landscape Design*, Florida Department of Transport, http://www.dot.state.fl.us/emo/beauty/landscape.pdf, accessed 24th October 2006, 11:00am, data