TREE MANAGEMENT FRAMEWORK 2018

CONTENTS

1.0 GLOSSARY

Biodiversity:	The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered important and desirable.
30 year plan for Greater Adelaide:	First introduced in 2010, the plan outlines directions and policies that will shape the future of Adelaide and how it should grow to improve livability, competitiveness and sustainability.
Climate change:	Refers to any change in the Earth's climate, or in the climate of a region or city over time, whether due to natural variability or because of human activity.
Community requests:	A Customer Request includes a request to take action about a Council service, or a request for information.
Canopy coverage:	In the context of a tree population, canopy cover is the layer of leaves, branches and stems that cover the ground when viewed from above.
Formative pruning:	Pruning of young trees to modify their form at maturity, either to avoid future structural defects (for instance by singling a twin-stem) or to create a desired cultivated tree form. The term is reserved for young trees because all pruning could be said to change form.
Urban heat island:	Is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities. The main cause of the urban heat island effect is from the modification of land surfaces by urban development and the use of materials that effectively retain heat (e.g. concrete, asphalt pavements and dark coloured roofs).
Monoculture:	The cultivation of a single crop on a parcel of land or in a region or country. In the context of a tree population, the cultivation of a single species in a region or suburb.

2.0 VISION

Our streets and parks are lined with mature, healthy trees that are a habitat for birds and other wildlife. The community values and appreciates the city's trees for their shade, appearance and the contribution they make to the environment.

3.0 OBJECTIVES

City of Marion Tree Management Framework Objectives

- Prioritised actions that focus on improving the quality and quantity of trees cared for by the City of Marion.
- A framework that leads to increased tree species diversity and tree age spread across the City.
- Efficient tree management programming that balances the benefits and positive values of trees with the risks and nuisances they can contribute.
- Clear links to Council documents that direct and influence the framework.
- Increase awareness and education to the community, developers and Council staff on the value of trees and the actions required to best manage them.

4.0 BACKGROUND

Tree Management Framework 2012 - 2017

The Tree Management Framework 2012 was a landmark document of its time that guided robust planning and management of trees across the City of Marion. This provided strategic direction for street and reserve trees and guided tree management on private property. The Tree Management Framework guided the provision of trees and aimed to appropriately 'green' the City to enhance its value and appeal, provide and enhance biodiversity and habitat and improve the overall livability of the City.

Implementation of the Tree Management Framework called for an action plan to be developed from its directions, the action plan included the following priority projects:

1. Undertake audits of street and reserve trees
2. Review provisions of resources for tree management
3. Develop service level agreements for tree management
4. Determine specific projects and works programs.

During the life of the Tree Management Framework, the provisions and resources for tree management and service levels were assessed and reviewed to develop the current budgets for tree maintenance throughout the City. An audit of street trees was carried out between 2013 and 2015, which drove the development of some tree maintenance programs, however until recently, the majority of tree management across the city has largely been reactive in nature.

Managing Trees

Trees play an important role by providing many functional characteristics that improve the overall comfort of our urban areas.

Trees provide habitat for native fauna, have significant health benefits for residents of the city and can lead to economic benefits such as the reduction of energy costs, and increased property values. Trees also play an important role in the creation of a sense of place and social wellbeing.

Despite its multitude of benefits, a variety of arboricultural, planning, social, public safety and legal issues are involved in the complex process of managing trees. Many issues revolve around the interaction of trees with people, and trees with the built environment. Enhancing amenity, managing public safety and minimising infrastructure damage requires intensive management.

According to a survey of over 100 Australian Government Authority tree managers carried out by Parks Base in 2014 (2017), three main challenges are faced when managing the City's trees: Increasing tree canopy coverage while competing with growing urbanisation, managing urban forest resilience to emerging climate change influences, and managing risk. The following Tree Management Framework Objectives will meet these challenges.

Tree Management Framework Direction

During 2010, the South Australian Government released its 30 year plan for Greater Adelaide. More recently, under its theme *'A Greener City'* a 2016 plan update set the ambitious target:

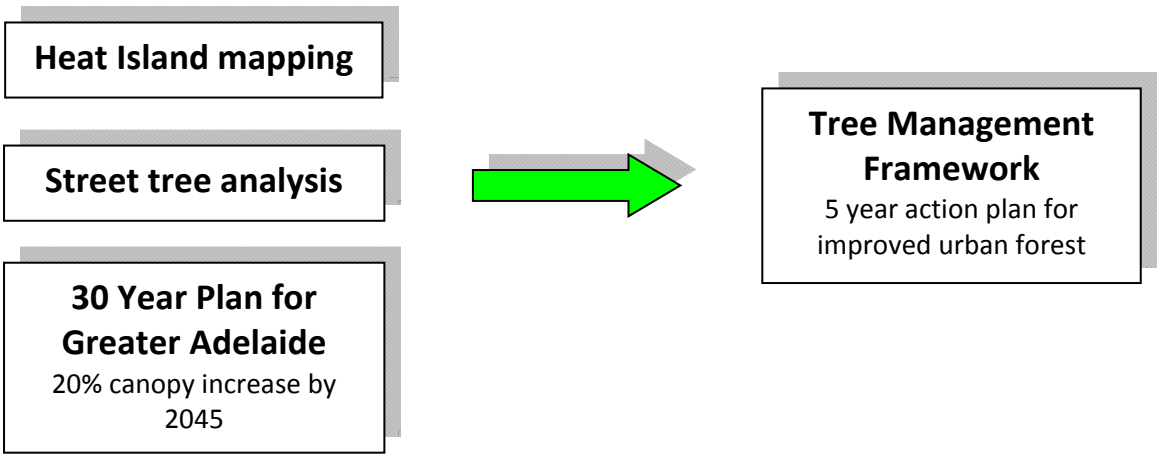
Tree canopy is increased by 20% across metro Adelaide by 2045.

The target is a necessary response to the onset of climate change; increasing vegetation across urban areas brings with it carbon storage, improved air quality, reduced temperatures and a range of social and environmental benefits. The review of the *Tree Management Framework* contains ambitious planting targets to increase canopy coverage across the City of Marion.

During 2016, Council's *Environmental Sustainability team* as part of *Resilient South* undertook the collection and analysis of high-resolution thermal infrared imagery over the City to determine the spread of surface temperatures throughout the City. In part, this information determined the locations of heat islands within the city and within the context of the *Tree Management Framework*, the most appropriate places to focus increased tree planting to reduce these heat islands.

Recommendations from this project include undertaking further analysis to determine the precise relationships between vegetation cover types (i.e. canopy versus non-canopy) and surface temperature, developing KPI's for vegetation cover and surface heat for zones within the Council, and in subsequent years acquiring data for the measurement of progress against KPI's. This project has influenced the objectives and directions of the Tree Management Framework; it will further inform tree planting programs as new information becomes available.

Further examination and analysis of Council's existing urban forest will highlight the opportunities to effectively increase canopy coverage and improve programmed tree management.



5.0 STRATEGIC DIRECTION

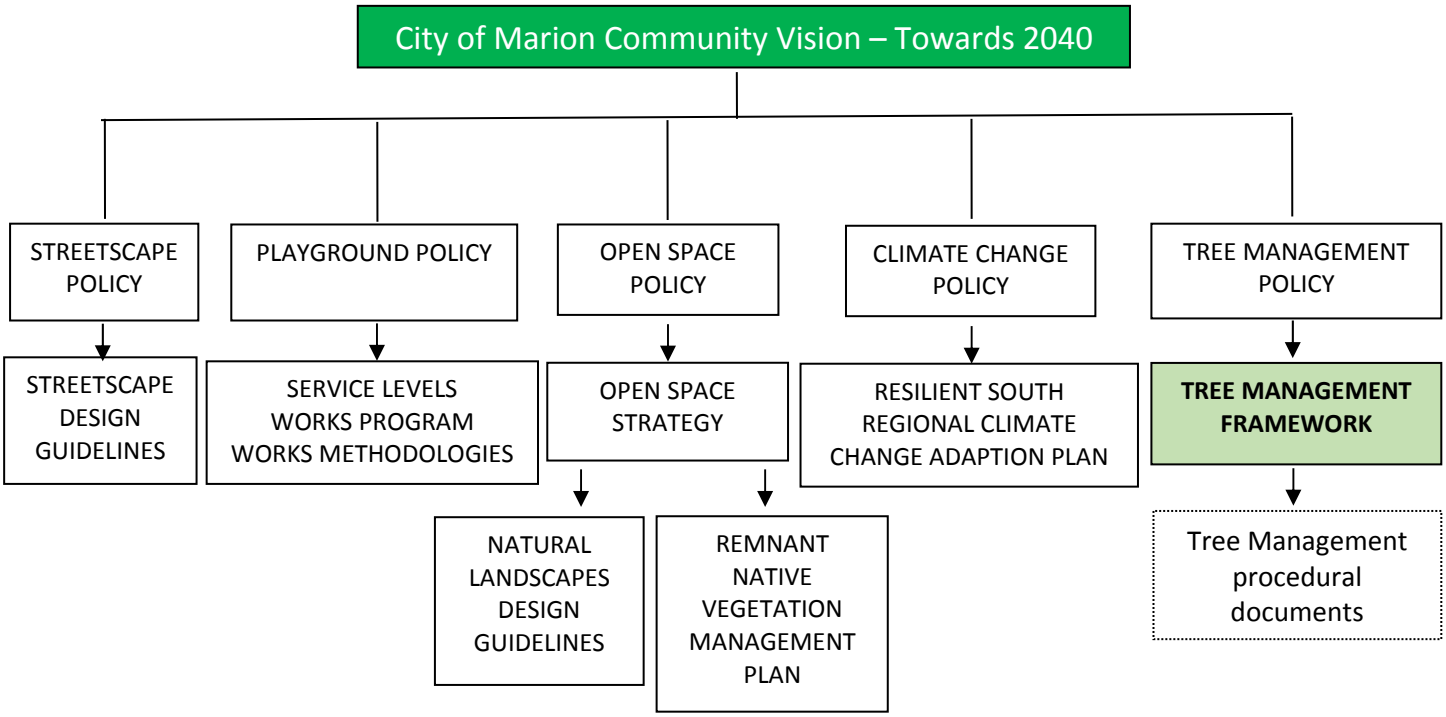
City of Marion Community Vision Directions

The City of Marion Community Vision 2017-2027 includes a number of directions and strategies that are relevant to tree management. These are summarised in the chart below.

Community Vision Theme	Strategies
LIVEABLE	• We will make our services, facilities and open spaces more accessible. • We will create more opportunities for residents to enjoy recreation and social interaction in our neighbourhood centres, libraries, sport facilities and other Council facilities. • We will celebrate our rich cultural diversity and heritage through artistic, cultural and community activities and vibrant destinations.
VALUING NATURE	• We will plan for and respond to extreme weather events through our services and urban form. • We will build community resilience to the impacts of climate change. • We will operate more efficiently and sustainably in terms of energy and water use, using the best technologies and methods to be as self-sufficient as possible.
INNOVATIVE	• We will use the best technology possible to improve efficiency of our operations and delivery of our services. • We will use data to provide evidence for resource allocation relating to our services.
PROSPEROUS	• We will seek to activate our city through quality streetscapes and place making initiatives to deliver prosperous business precincts.
CONNECTED	• We will provide a variety of options for social interaction.
ENGAGED	• We will increasingly use data and community responses to understand what our community values and then we will deliver what they want.

The Tree Management Framework directions are also aligned with the City of Marion Strategic Plan 2017-2027.

Strategic context



Strategic, Legislative and Operational Documents influencing Tree Management

Legislative controls

Local Government Act 1999

Planning, Development and Infrastructure Act 2016

City of Marion Development Plan

Native Vegetation Act 1991 (SA)

Heritage Places Act 1993 (SA)

Electricity Act 1996 (SA)

Environment Protection and Biodiversity Conservation Act 1999

Water Industry Act 2012

Water Industry Regulations 2012

Natural Resource Management Act 2004

National Parks and Wildlife Act 1972

Strategic

City of Marion Community Vision – Towards 2040

City of Marion Climate Change Policy

City of Marion Open Space Policy

City of Marion Tree Management Policy

City of Marion Streetscape Policy

City of Marion Strategic Asset Management Framework

Local Government Association and Mutual Liability Scheme: Independent Inquiry into the Management of Trees on Public Land (2012)

Operational Documents

EM02 – Environmental Management of Construction Activities (Predesign and works Environmental Checklist)

Streetscape Program of Works

Tree Management Procedural Documents

Asset management principles and trees

Trees are important community assets and are developed and managed for the needs of the community. Best practice tree management is underpinned by the asset management principles below that are contained within Councils strategic asset management framework.

1. **Assets exist to support the delivery of services to the service levels adopted by Council.**

   Trees provide many beneficial qualities and a balanced delivery of tree management will ensure that residents across the community have equal access to the benefits of trees. Tree removal and planting will follow clear and robust criteria and develop strong links with the streetscape plan. The Tree Management Framework will guide tree planting choices that are fit for the locality and maintained to meet the desired service levels.

2. **Asset management is an integral element of Strategic Management and forms part of key strategic management plans.**

   The Tree Management Framework is part of a strategic approach with other guiding policy documents to ensure an integrated approach to enhancing the environment across the City. On-ground tree management will be planned and the Tree Management Framework targets will be delivered through the annual business plan.

3. **All relevant legislative requirements together with political, social and economic environments are taken into account in asset management.**

   Tree removal, planting and maintenance will comply with relevant legislation. The foremost maintenance focus is the appropriate management of tree risk, followed by the health and condition of the City's trees and planning the Urban Forest of the future. Property owners within the City of Marion are responsible for the management of trees on private property in accordance with the requirements of the Planning, Development and Infrastructure Act 2016 and any other relevant legislation.

4. **Asset renewal actions will consider all options and opportunities for more efficient and effective means of service delivery prior to investment.**

   All tree renewal or enhancement options will be explored to identify opportunities and ensure best value application. Innovation in tree management is required to withstand climatic extremes and changing environments.

5. **Prioritisation of new asset investments and asset disposal decisions are based on an evaluation of potential public value, encompassing consideration of such criteria as asset utilisation potential, benefits, risks, ownership and management options, life cycles and costs.**

   Council is responsible for the planning, establishment, maintenance and removal of trees located within the City's streets properties and reserves. It aims to prolong the benefits that trees provide to the community and environment. The primary focus of tree renewal and enhancement will be to increase tree age and species diversity toward improving resilience against pests, diseases and weather extremes.

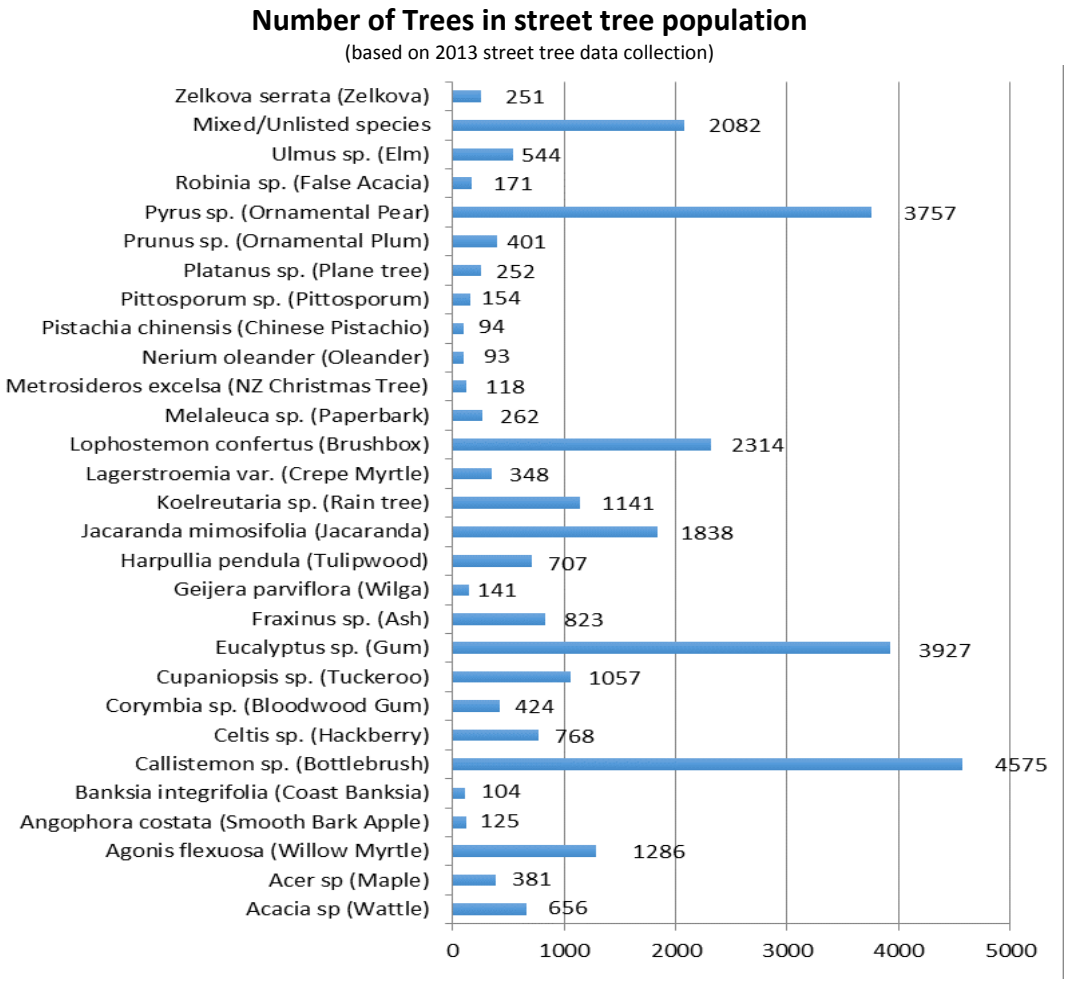
6.0 THE CURRENT SITUATION

Street tree species analysis

An action of the 2012 Framework was to undertake an audit of street trees. A collection of tree data occurred between 2013 and 2015 indicating a population of 28,898 street trees. The audit focused on the species distribution and condition of the population, information critical to proactive tree management and planning. The chart below illustrates the dominant species within the city (excluding tree species with numbers less than 90.)

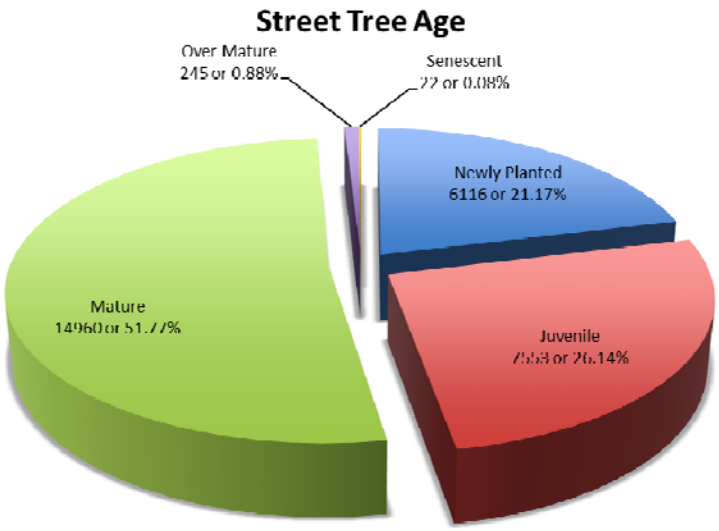
The chart clearly shows that five genera, *Pyrus* (Ornamental Pear), *Lophostemon* (Brush box), *Jacaranda* (Jacaranda), *Eucalyptus* (Gum) and *Callistemon* (Bottlebrush) represent more than 55% of the street tree population. In the urban forest, a diverse population of species leads to a lesser fall out should it experience pest and disease challenges and or inevitable extreme weather conditions and events.

In the City of Marion context, the challenge is to future proof the tree population over time by increasing tree species diversity so that future challenges do not significantly affect large portions of the population.



Street tree and community request analysis

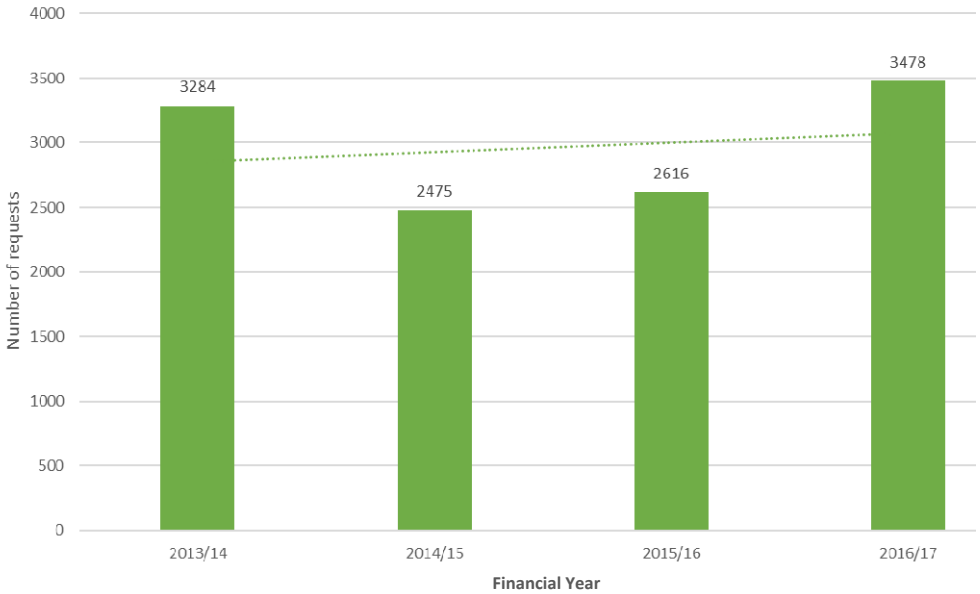
An objective for sustainability is a wide age distribution of trees to create a continuous cycle of succession. The adjacent graph illustrates the City of Marion's street tree population age spread, demonstrating that more than half of the trees are mature, potentially providing a time lag that could result in the replacement of many trees in a short period. A key objective of the Tree Management Framework is to increase tree age spread within the City to temper the effect of this time lag.



Trees provide numerous functional characteristics, including absorbing carbon, improving air quality, conserving habitats and helping people connect with nature. These benefits do not come free, establishing and maintaining trees in the urban environment requires high levels of management in order to minimize hazards to infrastructure or the public. In the City of Marion context, they also rank highly in community generated service requests as shown in the chart below. In recent years, Council has received in excess of 3,000 tree-related community requests per annum.

Each request varies and requires visual inspection to understand Council's liability and adequately service the customer's request, often resulting in maintenance such as pruning. The challenge into the future is to ensure equality while managing Council's tree population in an environment of increasing community requests. A key objective of the Tree Management Framework is to introduce efficient tree management programming that will be underpinned by detailed tree management procedural documents.

Number of tree related customer requests received 2013 to 2017



Street tree density analysis

Annual tree removals and planting programs effect tree population maintenance. For example, to maintain the City's current street tree population at 30,000 trees, continued planting efforts would need to remain at approximately 750 trees annually.

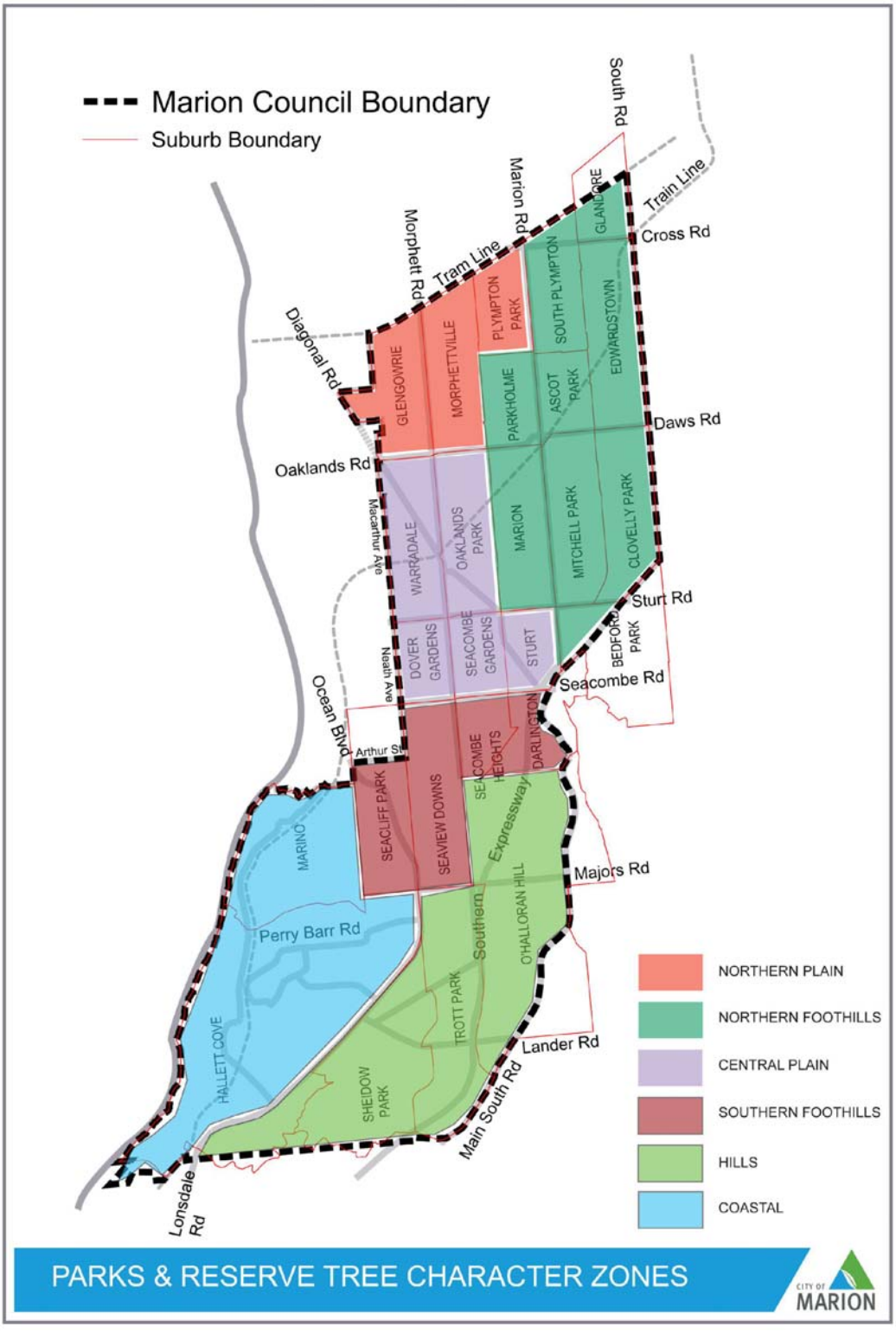
The average street tree density of twelve metropolitan Adelaide Councils is approximately 1,000 street trees per square kilometre. A further 2014 canopy cover assessment by the Institute of Sustainable Futures indicates that the average urban tree canopy coverage of these same twelve Council's is 21.4 percent. In comparison, the City of Marion's street tree density is approximately 535 street trees per square kilometre with an average urban tree canopy coverage of 15.3 percent.

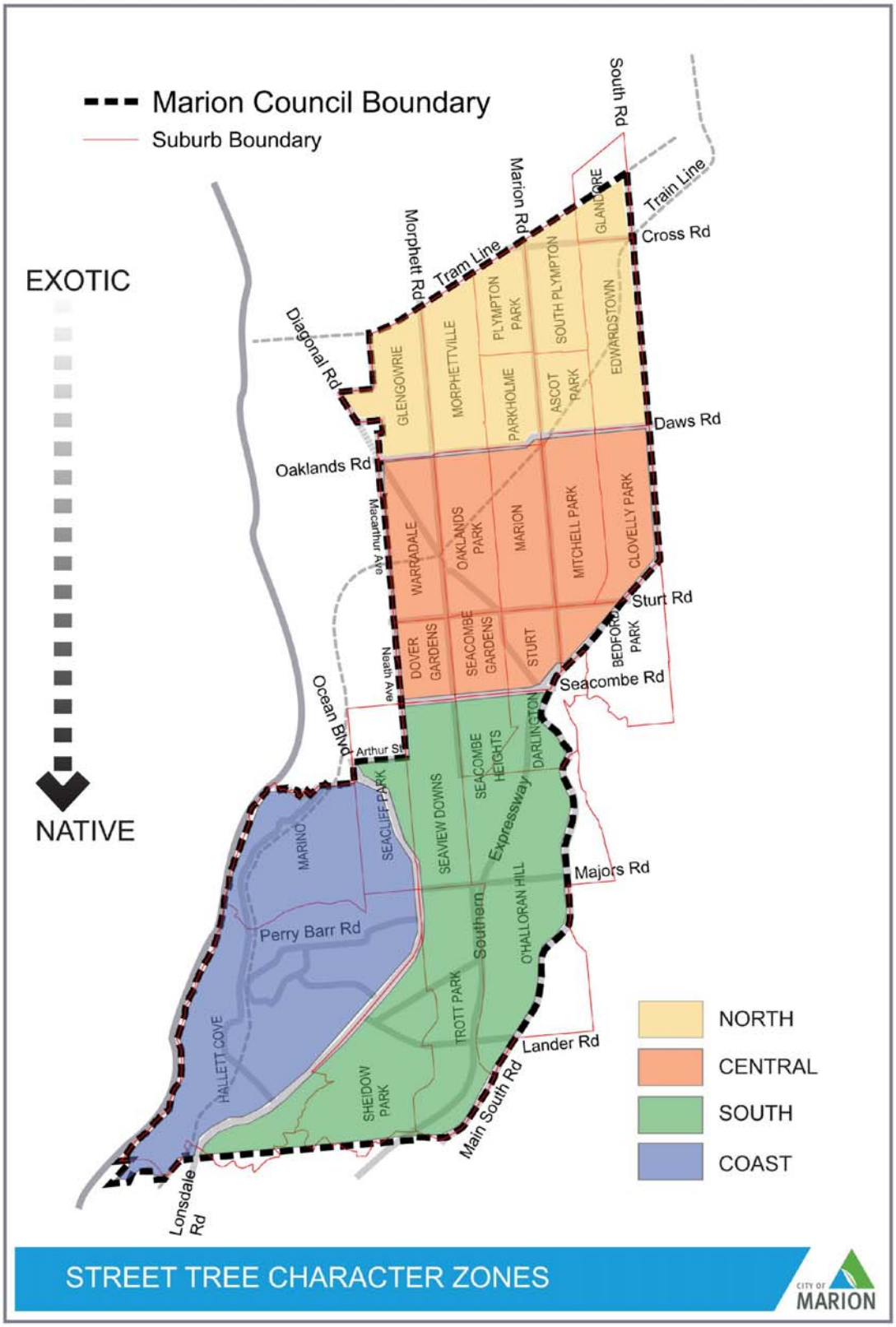
To achieve a similar average tree density to the twelve metropolitan Adelaide Councils, City of Marion would need to support a street tree population of 50,000 - 55,000 trees. Increased canopy coverage is estimated over time to that similar of the survey Council areas (21.4 percent). To accomplish similar tree numbers and estimated canopy coverage, tree planting efforts would need to increase to 3,000 trees annually for ten years to increase the City of Marion street tree population to 52,500 trees.

Targeted increases in tree numbers will attribute to increased canopy coverage. However, respective percentages are estimates only. Canopy coverage from newly planted trees will continue to increase as the trees mature. A greater understanding of the City of Marion's contribution to metropolitan Adelaide's canopy coverage and the impact of targeted tree planting will be available through the next tree data analysis (see Street tree direction D9.1).

Existing Tree Character Zones

The Framework aims to build upon existing tree character across the City, guided by the 'tree character plan' diagrams on the following pages and the suggested species lists (Appendix 1 and 2). These suggest tree species to complement and strengthen local character. The suggested street tree species list (Appendix 2) aligns with tree species recommendations within the City of Marion Streetscape Design Guidelines 2016.




Marion Council Boundary
Suburb Boundary
EXOTIC
NATIVE
South Rd
Marion Rd
Train Line
Morphett Rd
Tram Line
Cross Rd
Diagonal Rd
GLENGOWRIE
MORPHETTVILLE
PLYMPTON PARK
SOUTH PLYMPTON
GLANDORE
EDWARDSTOWN
PARKHOLME
ASCOT PARK
Daws Rd
Oaklands Rd
Macarthur Ave
WARRADALE
OAKLANDS PARK
MARION
MITCHELL PARK
CLOVELLY PARK
Sturt Rd
Ocean Blvd
Nash Ave
DOVER GARDENS
SEACOMBE GARDENS
STURT
BEDFORD PARK
Seacombe Rd
Arthur St
SEACOMBE HEIGHTS
DARLINGTON
SEACLIFF PARK
SEAVIEW DOWNS
Expressway
MARINO
Majors Rd
Perry Barr Rd
Southern
O'HALLORAN HILL
TROTT PARK
HALLETT COVE
SHEIDOW PARK
Lander Rd
Main South Rd
Lonsdale Rd
NORTH
CENTRAL
SOUTH
COAST
STREET TREE CHARACTER ZONES
CITY OF MARION

7.0 TREE MANAGEMENT PRINCIPLES

Principles

The management of trees contained within the City of Marion's boundaries fit into one of the following three key principles:

- TREES IN PARKS AND RESERVES
- STREET TREES
- PRIVATE TREES AND DEVELOPMENT

Each principle captures trees under Council's care and control or where it influences tree management decisions. The tree management directions specific to each principle work toward the most appropriate management approaches for the future success of street and reserve trees.

Directions

Directions are set to guide the future planning and management of trees contained within each key Principle. Many link to current standards or require the development of City of Marion procedures (refer to 8.0 Implementing the Tree Management Framework) and technical documents that will instruct best management practice.

Targets

A number of framework targets are set to meet the directions within each key Principle. The targets will form a Target/Action plan to implement over the life of the Framework. Some targets will meet more than principle and direction within the Tree Management Framework

7.1 PRINCIPLE ONE – TREES IN PARKS AND RESERVES

The need to develop and improve the urban green spaces within the City of Marion is essential to meet the needs of the local community. Urban green spaces are an integral part of the local landscape and provide areas for community use. The provision of open spaces are shown to increase social, economic and community values, whilst moderating the actions of development and suburban activity. Public open space has significant value to local neighbourhoods especially during increased urban consolidation within metropolitan Adelaide.

An emphasis will be placed on strengthening the Pre European landscape in those reserves with the Open Space Policy classification of culture, nature conservation, wetlands, watercourse or coastal. This will include collaborating with Council's Remnant Native Vegetation Plan to increase the areas of Grey Box woodland in the Southern parts of the City, especially adjacent Glenthorne Farm and O'Halloran Hill Recreation Park. Similarly, large and established character or specimen trees will be planted in reserves with the Open Space Policy classification of recreation, dog park, formal gardens, play and sport. The parks and reserve element of the tree management framework will play an important role in providing landscape connections and habitat provisions across the city.

Directions

Tree Selection and Planting Location

D1.1	Reinforce the current pattern of tree species and select new species that reflect the character zone in which each park and reserve is located.
D1.2	Aim to plant trees in all reserves where there is suitable space to enable proper establishment and allow them to develop to their full potential.
D1.3	Prioritise reserve planting where shade is required in accordance with Council's natural shade program.
D1.4	While respecting the current palette of trees within parks and reserves, seek to provide a diversity of species elsewhere, which enhances ecological value and arboricultural interest.

Tree Replacement

D2.1	Ensure that all tree replacement reflects the species selection identified for each identified character zone.
D2.2	To improve new planting stock, specify tree procurement in line with the current best practice of Australian Standard 2303 – 2015 Tree stock for landscape use.
D2.3	Identify key suppliers throughout the nursey industry, and develop programs and methods for the supply of plants consistent with the species framework developed for the character zones.
D2.4	Increase species diversity and combat the creation of monocultures by increasing the species palette contained within the Suggested Parks and Reserves Species List.
D2.5	Aim to achieve a procurement plan for tree stock to meet identified deadlines and ensure stock is available in the right quantities, and quality.

Planting and Establishment

D3.1	Work towards proactive tree planting in reserves that considers the most appropriate tree species based on site suitability, aesthetics, functional and biological attributes, performance and the potential to contribute to the landscape character of the park or reserve.
D3.2	Ensure a consistent approach to planting that will provide trees with the best possible potential to establish within the park or reserve.
D3.3	Maintain and improve tree watering and aftercare consistency that meets new tree planting requirements.

Tree Removal

D4.1	Tree removals within parks and reserves are guided by procedure that includes correct arboriculture assessment criteria underpinned by the framework vision, objectives and strategic direction.
D4.2	Aim to achieve a proactive approach to identifying trees within its parks and reserves, for removal that are poorly performing, declining and provide limited environmental benefit.
D4.3	Address trees classified as environmental weed species, considering the impacts removal will have on the overall aesthetic appearance of the park or reserve.

Maintenance

D5.1	Ensure ongoing auditing of trees contained within parks and reserves, which includes ongoing maintenance and assessment protocols to minimise risks to park and reserve users.
D5.2	Oversee the implementation of appropriate Australian Standards to achieve best practice maintenance of the trees within parks and reserves.
D5.3	Develop appropriate levels of staff and contractor competency to ensure all works undertaken achieve best management practices.
D5.4	Actively encourage the professional development of staff to achieve the identified industry standard for arboriculture.
D5.5	Ensure a consistent approach to ongoing maintenance that clearly reflect current best practices and provides a methodology for all maintenance activities including the care of trees that are contained within areas described within Council's Natural Landscape Guidelines document.
D5.6	Council will generally not undertake the treatment of termites/pests in trees within parks or bushland reserves as they are considered a natural part of the environment and the treatment of termites/pests in trees/logs will not stop them invading from other sources or properties. It is the landowner's responsibility to take the appropriate action to adequately protect their property from the invasion of termites/pests.

Community Consultation

D6.1	Ensure that each reserve tree-related customer request is inspected to understand Council's liability and determine the most appropriate course of action.
D6.2	Where large scale plantings or tree removal projects are proposed, the council will engage the local community in accordance with community engagement guidelines.
D6.3	The council will inform the community on the benefits of trees and the management requirements, and assist community participation in the greening of the city.

Framework targets for Trees in Parks and Reserves

Target Number	Target description
1	Develop and implement a reserve tree planting program in accordance with Council's reserve shade program and seek to meet a renewal target of an additional 1,000 reserve trees planted over the next 5 years
2	Develop a City of Marion tree planting specification and procedure
3	Develop and implement a reserve tree risk and tree amenity audit and management plan for trees within Council's parks and reserves
4	Develop and maintain a staff competency matrix and identify training opportunities that will effectively benefit tree care in the City of Marion.
5	Develop and implement a program for the appropriate after care of newly planted trees.
6	Develop a suite of procedural documents relevant to tree management in the City of Marion that guide best practice management of all public trees.
7	Develop and implement a targeted woody weed control plan for City of Marion reserves
8	Develop and implement a tree procurement specification and quality control procedure in line with AS2303 - 2015 and identify key suppliers to ensure quality tree stock for the City of Marion into the future.
9	Maintain the management of current tree-related customer requests to the requirements of the COM Customer service Charter.
10	In consultation with the Community Engagement Team Develop a local community consultation and notification suite of documents and procedures for community engagement.

7.2 PRINCIPLE TWO – STREET TREES

Street trees play an important role in improving the character and amenity and managing microclimates and the overall liveability of the city. The ongoing management of the current street trees asset is key to achieving the sustainability of local streetscapes that reflect the nature and history of the City of Marion.

Directions

Tree Selection and Planting Location

D7.1	Ensure site-specific indicators, such as above and below ground infrastructure are addressed when determining tree species selection including its suitability to local environmental conditions, and its ability to enhance the landscape and neighbourhood character.
D7.2	Select only species suitable for street tree planting, considering the various character zones and increasing species diversity in relation to the existing street tree population.

Planting and Establishment

D8.1	Work towards programmed tree planting to reflect the City of Marion's direction and in line with the streetscape guidelines.
D8.2	Street tree planting priorities are determined by data analysis and will target areas in order of poor canopy coverage, capital funded programs, street rejuvenation and densification, replace those removed during the year and then individual requests from the community.
D8.3	Ensure a consistent approach to planting that will provide trees with the best potential to establish within typical street environments.
D8.4	Maintain and improve aftercare consistency that meets new tree planting requirements.

Maintenance

D9.1	Implement sound data collection of all street trees on average every ten years. Data analysis should enhance an understanding of Council's tree asset so that maintenance and planting can be effective and tailored.
D9.2	Aim to achieve a proactive approach to the management of the risks of a large street tree population.
D9.3	Oversee the implementation of appropriate Australian Standards to achieve best practice maintenance of the City's trees.
D9.4	Develop appropriate levels of staff and contractor competency and skill levels to ensure all works undertaken achieve best management practices.
D9.5	Actively encourage the professional development of staff to achieve the identified industry standard for arboriculture.
D9.6	Council will generally not undertake the treatment of termites/pests in trees within road reserves as they are considered a natural part of the environment and the treatment of termites/pests in trees/logs will not stop them invading from other sources or properties. It is the landowner's responsibility to take the appropriate action to adequately protect their property from the invasion of termites/pests.

Tree Removal

D10.1	Street tree removals are guided by robust procedure that includes correct arboriculture assessment criteria underpinned by the framework vision, objectives and strategic direction.
D10.2	Utilize street tree data to identify appropriate street tree removal programs.
D10.3	Target weed species for removal when deemed to be inappropriately located or causing issues to public or private property.

Tree Replacement

D11.1	Ensure that all tree replacement programs reflect the species selection identified for each character zone. Consistent species use in streets will strengthen character in these zones.
D11.2	To improve new planting stock, specify tree procurement in line with the current best practice of Australian Standard 2303 – 2015 Tree stock for landscape use.
D11.3	Identify key suppliers throughout the nursery industry, and develop programs and methods for the supply of plants consistent with the species framework developed for the character zones.
D11.4	Increase species diversity and combat the creation of monocultures by increasing the species palette contained within the Suggested Street tree Species List.
D11.5	Aim to achieve a procurement plan for tree stock to meet identified deadlines and ensure stock is available in the right quantities, and quality.

Community Consultation

D12.1	Ensure that each street tree-related customer request is inspected to understand Council's liability and determine the most appropriate course of action.
D12.2	Where large scale plantings or street tree removal projects are proposed, the council will engage the local community in accordance with community engagement guidelines.
D12.3	The council will inform the community on the benefits of trees and the management requirements, and assist community participation in the greening of the city.

Framework Targets for Street trees

Target Number	Target description
11	Develop a street tree planting program based on sound data and seek to achieve a street tree planting target of 1,400 trees in year 1 and 3,000 trees per annum in years 2-5 (i.e. 13,400 trees over the next 5 years).
12	Gather and analyse street based tree-scape data to assist the development of a 5 year street tree planting program
13	Review tree populations by suburbs to inform equitable planting locations throughout the City.
14	Introduce and plant five tree species to increase diversity and lessen the dependency of those that make up 55% of the street tree population.
15	Integrate a program that targets the removal and replacement of environmental weed species growing as street trees adjacent environmentally sensitive areas.
16	Maintain and seek to improve Council's current proactive street tree pruning program.

7.3 PRINCIPLE THREE – PRIVATE TREES AND DEVELOPMENT

The diverse landform areas throughout the City of Marion have resulted in a large population of mature trees situated on land under private ownership. Retaining trees that have a high amenity value or special botanic interest is for the benefit of the local community and residents within the city.

The impacts of urban consolidation have placed significant pressures on the retention of trees in private ownership as development increases. The management of urban consolidation needs to be balanced with appropriate tree retention where they provide landscape and amenity value.

The inclusion of regulated trees within the Planning, Development and Infrastructure Act 2016 and Development Regulations 2008 has placed a development requirement on landholders where they have large trees on their property. The City of Marion should develop and implement strategies and actions to retain trees that have high amenity value, good health and structure.

Council Trees and Development

D13.1	Ensure that development applications include all necessary information so that a full assessment can be carried out of the potential impacts the development may have on Council owned trees.
D13.2	Council owned tree assets impacted by any new forms of development will be subject to Council's arboricultural assessment that includes industry best practice criteria underpinned by the framework vision, objectives and strategic direction.
D13.3	Develop procedures for determining crossover or services access to ensure the valuable tree asset is maintained in a healthy and vigorous state.
D13.4	Develop a method of applying an appropriate dollar valuation to trees that are identified suitable for removal to facilitate private development. All costs associated with tree value, tree removal and replacement and aftercare will be borne by the developer/resident applying for tree removal.
D13.5	Examine the Marion Council Development Plan to ensure adequate consideration to council owned trees where they conflict with proposed development.

Private Trees

D14.1	Assess Development applications that propose to remove or impact private Regulated trees within the Council area lead to appropriate outcomes in accordance with the Development Regulation 2008.

Framework Targets for Private trees and Development

Target Number	Target description
17	Review current documents and procedures that address the appropriate management of public trees in relation to private development.
18	Ensure public tree removal and replacement costs related to private development are maintained in Council's Fees and Charges register and develop a transparent procedure for applying these fees.
19	In consultation with Council's Planning, Development and Regulatory Services Department, maintain the current assessment process for development applications that affect private regulated and significant trees.

8.0 IMPLEMENTING THE TREE MANAGEMENT FRAMEWORK

Approach to Implementing the Framework

The Tree Management Framework 2018 reflects the changes in local government tree management since its 2012 endorsement. The clear direction that this document delivers will help protect and enhance the many benefits that trees provide the community. The 2018 Framework calls for a number of targets to be met, these are collated in the Target/Action Plan on the next page, informing timing and responsibilities over the life of the framework.

Ongoing Review

The Target/Action Plan be reviewed annually, with stakeholder input. The Tree Management Framework will be reviewed in full every five years as the broad principles and directions could change over time.

Tree Managemnent Framework Target/Action Plan

Target number	Target	Adresses Direction number						Implementation (Yrs)
1	Develop and implement a reserve tree planting program and seek to meet a renewal target of 1,000 reserve trees planted over the next 5 years.	D1.2	D1.3	D2.4	D3.2			1 - 5
2	Develop a City of Marion tree planting specification and procedure.	D1.1	D1.3	D2.1	D2.4	D3.2	D8.2	2
3	Develop and implement a reserve tree risk and tree amenity audit and management plan for trees within Council's parks and reserves.	D3.1	D4.1	D4.2	D4.3	D5.1		1 - 5
4	Develop and maintain a staff competency matrix and identify training opportunities that will effectively benefit tree care in the City of Marion.	D5.2	D5.3	D5.4	D9.4	D9.5		1 - 5
5	Develop and implement a program for the appropriate after care of newly planted trees.	D1.2	D2.2	D3.3	D5.2	D5.5		2
6	Develop a suite of procedural documents relevant to tree management in the City of Marion that guide best practice management of all public trees.	D2.2 D4.1	D2.3 D5.2	D2.4 D8.3	D3.2 D9.3	D3.3 D10.1		2
7	Develop and implement a targeted woody weed control plan for City of Marion reserves.	D4.2	D4.3					1 - 5
8	Develop and implement a tree procurement specification and quality control procedure in line with AS2303 - 2015 and identify key suppliers to ensure quality tree stock for the City of Marion into the future.	D2.2	D2.3	D2.5	D11.2	D11.3	D11.5	1
9	Maintain the management of current tree related customer requests to the requirements of the City of Marion Customer service Charter.	D6.1	D12.1					1 - 5
10	In consultation with the Community Engagement Team develop a local community consultation and notification suite of documents and procedures for community engagement.	D6.2	D6.3	D12.3	D12.2			2
11	Develop and implement a street tree planting program based on sound data and seek to achieve a street tree planting target of 13,400 trees over the next 5 years.	D7.1	D8.1	D8.2	D11.5			1 - 5
12	Gather and analyse street based treescape data to assist the development of a 5 year street tree planting program.	D9.1	D9.2	D10.2	D10.3			1
13	Review tree populations by suburbs to inform equitable planting locations throughout the City.	D7.1	D8.1	D8.2	D11.5			1
14	Introduce and plant five tree species to increase diversity and lessen the dependency of those that make up 55% of the street tree population.	D7.1						1 - 5
15	Integrate a program that targets the removal and replacement of environmental weed species growing as street trees adjacent environmentally sensitive areas.	D10.3						1 - 5
16	Maintain and seek to improve Council's current proactive street tree pruning program.	D9.2	D9.3					1 - 5
17	Review current documents and procedures that address the appropriate management of public trees in relation to private development.	D13.1						1
18	Ensure public tree removal and replacement costs related to private development are maintained in Council's Fees and Charges register and develop a transparent procedure for applying these fees.	D13.2	D13.3	D13.5				1
19	In consultation with Council's Planning, Development and Regulatory Services Department, maintain the current assessment process for development applications that affect private regulated and significant trees.	D14.1						1 - 5

Directions for trees in parks and reserves

Directions for street trees

Directions for private trees

9.0 APPENDICES

APPENDIX 1 SUGGESTED PARK & RESERVE SPECIES LISTS
City of Marion - Tree Species Listing for Parks & Reserves

Division of Areas	Suburb	Soil Description	Landscape Description	Average Annual Rainfall	Pre-European Vegetation Potential Directions	Specimen tree potential Directions
NORTHERN PLAIN	**Glengowrie**	Red brown earths (red brown clay to red brown sandy clay)	Plains Grasslands	445.9 mm	*Acacia pycnantha* (Golden Wattle) *Allocasuarina verticillata* (Drooping Sheoak) *Callitris gracilis* (Southern Cypress Pine) *Eucalyptus porosa* (Mallee Box) *Eucalyptus leucoxylon ssp. leucoxylon* (SA Blue Gum) *Eucalyptus camaldulensis* (River Red Gum)	*Pinus canariensis* (Canary Island Pine) *Fraxinus angustifolia 'Raywood'* (Claret Ash) *Quercus sp.* (Oaks) *Ficus sp*. (Figs) *Acer sp.* (Maples) *Corymbia sp*. (Bloodwoods) *Cedrus sp.* (Cedars) Araucaria sp.(Southern conifers)
	Morphettville	Red brown earths, Alluvial soils (through Sturt River)	Plains, Watercourse	445.9 mm		
	Plympton Park	Red brown earths, (red brown clay to red brown sandy clay)	Footslopes, Plains Grasslands	445.9 mm		

NORTHERN FOOTHILLS	**South Plympton**	Red brown earths	Footslopes	445.9 mm	Acacia melanoxylon (Blackwood) *Acacia pycnantha* (Golden Wattle) *Allocasuarina verticillata* (Drooping Sheoak) *Callitris gracilis* (Southern Cypress Pine) *Eucalyptus camaldulensis* (River Red Gum) *Eucalyptus leucoxylon ssp. leucoxylon* (SA Blue Gum) *Eucalyptus microcarpa* (Grey Box) *Eucalyptus porosa* (Mallee Box) *Pittosporum angustifolium* (Native Apricot)	*Acer sp.* (Maples) *Angophora sp.* (Angophora) Araucaria sp.(Southern conifers) *Cedrus sp.* (Cedars) *Corymbia sp*. (Bloodwoods) *Ficus sp*. (Figs) *Fraxinus angustifolia 'Raywood'* (Claret Ash) *Pinus canariensis* (Canary Island Pine) *Quercus sp.* (Oaks)
	Glandore	Red brown earths, (red brown clay to red brown sandy clay)	Footslopes, Plains Grasslands	445.9 mm		
	Edwardstown	Red brown earths	Footslopes	445.9 mm		
	Parkholme	Red brown earths	Footslopes	445.9 mm		
	Ascot Park	Red brown earths	Footslopes	445.9 mm		
	Marion	Red brown earths, Alluvial soils (through Sturt River)	Footslopes, Watercourse	445.9 mm		
	Mitchell Park	Red brown earths	Footslopes	445.9 mm		
	Clovelly Park	Red brown earths	Footslopes	445.9 mm		
	Bedford Park	Heavy red brown clay to red brown clay	Footslopes	445.9 mm		

CENTRAL PLAIN	**Dover Gardens**	Terra rossa	Plains	445.9 mm	*Acacia pycnantha* (Golden Wattle) *Allocasuarina verticillata* (Drooping Sheoak) *Callitris gracilis* (Southern Cypress Pine) *Eucalyptus camaldulensis* (River Red Gum) *Eucalyptus microcarpa* (Grey Box) *Eucalyptus porosa* (Mallee Box) *Pittosporum angustifolium* (Native Apricot)	*Pinus canariensis* (Canary Island Pine) *Quercus sp.* (Oaks) *Ficus sp*. (Figs) *Acer sp.* (Maples) *Corymbia sp*. (Bloodwoods) *Cedrus sp.* (Cedars) *Araucaria sp.*(Southern conifers) *Brachychiton sp.* (Kurrajongs)
	Seacombe Gardens	Terra rossa	Plains	445.9 mm		
	Sturt	Terra rossa	Plains	445.9 mm		
	Warradale	Red brown earths (red brown clay to red brown sandy clay)	Plains Grasslands	445.9 mm		
	Oaklands Park	Red brown earths (red brown clay to red brown sandy clay)	Plains Grasslands	445.9 mm		
SOUTHERN FOOTHILLS	**Darlington**	Shallow red-brown to grey-brown soils with shale and limestone deposits	Footslopes	445.9 mm	*Acacia pycnantha* (Golden Wattle) *Allocasuarina verticillata* (Drooping Sheoak) *Callitris gracilis* (Southern Cypress Pine) *Eucalyptus camaldulensis* (River Red Gum) *Eucalyptus microcarpa* (Grey Box) *Eucalyptus porosa* (Mallee Box) *Melaleuca lanceolate* (Dryland Tea-tree) *Pittosporum angustifolium* (Native Apricot)	*Pinus canariensis* (Canary Island Pine) *Ficus sp*. (Figs) *Cedrus sp.* (Cedars) *Araucaria sp.*(Southern conifers)
	Seacombe Heights	Shallow red-brown loams over limestone	Plains	445.9 mm		
	Seaview Downs	Shallow red-brown loams over limestone	Plains	445.9 mm		
	Seacliff Park	Shallow red-brown loams over limestone	Plains	445.9 mm		

HILLS	**O'Halloran Hill**	Shallow red-brown to grey-brown soils with shale and limestone deposits	Footslopes	441.7 mm	*Acacia pycnantha* (Golden Wattle) *Allocasuarina verticillata* (Drooping Sheoak) *Eucalyptus porosa* (Mallee Box) *Eucalyptus camaldulensis* (River Red Gum) *Callitris gracilis* (Southern Cypress Pine) *Melaleuca lanceolate* (Dryland Tea-tree) *Pittosporum angustifolium* (Native Apricot)	*Pinus canariensis* (Canary Island Pine) *Ficus sp*. (Figs) *Cedrus sp.* (Cedars) *Araucaria sp.*(Southern conifers)
	Trott Park	Shallow red-brown loams over limestone	Plains	441.7 mm		
	Sheidow Park	Shallow red-brown loams over limestone	Plains	441.7 mm		
COAST	**Marino**	Brown sandy to clayey soils often calcareous	Coastal Cliffs	445.9 mm	*Eucalyptus porosa* (Mallee Box) *Eucalyptus camaldulensis* (River Red Gum) *Acacia pycnantha* (Golden Wattle) *Allocasuarina verticillata* (Drooping Sheoak) *Pittosporum angustifolium* (Native Apricot) *Melaleuca lanceolate* (Dryland Tea-tree) *Callitris gracilis* (Southern Cypress Pine)	*Pinus canariensis* (Canary Island Pine) *Ficus sp*. (Figs) *Cedrus sp.* (Cedars) *Araucaria sp.*(Southern conifers)
	Hallett Cove	Shallow red-brown loams over limestone	Plains Footslopes & Swamp flats	441.7 mm		

*** Please Note:** Suggested species will make up the majority of plantings within the described zones, but may not be exclusive to. Tree species selection throughout the reserve network is guided by the Open Space policy and its reserve classifications. Refer to Page 16 of this document for further details.

APPENDIX 2 SUGGESTED STREET TREE SPECIES LISTS
City of Marion - Tree Species Listing for street planting

Division of Areas	Suburb	Existing Dominant Species	Suburb Visual Character Consideration	Soil Description	Landscape Description	Annual Rainfall (mm)	Potential Species Directions
North	**Glengowrie**	Lophostemon confertus	Tree species have been selected in response to the built and historical form of the Northern suburbs. The Tree Character theme for this area will provide legibility of streets and street networks. Scaled deciduous plantings will provide sustainable solar gains through Winter and the provision of shade through the Summer months.	Red brown earths (red brown clay to red brown sandy clay)	Plains Grasslands	445.9 mm	*Agonis flexuosa* (Willow Myrtle) *Angophora costata* (Smooth barked apple) *Celtis sp.* (Hackberry) *Corymbia maculata* (Spotted Gum) *Eucalyptus lecoxylon megalocarpa* (Large fruited SA Blue Gum) *Fraxinus angustifolia 'Raywood'* (Claret Ash) *Jacaranda mimosifolia* (Jacaranda) *Koelreuteria sp.* (Rain tree) *Lagerstromia sp.* (Crepe Myrtle) *Lophostemon confertus* (Brushbox) *Platanus x acerifolia* (London Plane Tree) *Pyrus chantcleer* (Flowering Pear) *Quercus palustris* (Pin Oak) *Sophora japonica* (Japanese Pagoda) *Tilia rubra* (Red Cottonwood) *Triadica sebiferum* (Chinese Tallowtree) *Ulmus parvifolia* (Chinese Elm) *Zelkova serrata* (Zelkova)
	Morphettville	Callistemon 'Kings Park Special'		Red brown earths, Alluvial soils (through Sturt River)	Plains, Watercourse	445.9 mm	
	Plympton Park	Callistemon 'Kings Park Special'		Red brown earths, (red brown clay to red brown sandy clay)	Footslopes, Plains Grasslands	445.9 mm	
	South Plympton	Callistemon 'Kings Park Special'		Red brown earths	Footslopes	445.9 mm	
	Glandore	Callistemon 'Kings Park Special'		Red brown earths, (red brown clay to red brown sandy clay)	Footslopes, Plains Grasslands	445.9 mm	
	Edwardstown	Callistemon 'Kings Park Special'		Red brown earths	Footslopes	445.9 mm	
	Parkholme	Eucalyptus leucoxylon Lophostemon confertus		Red brown earths	Footslopes	445.9 mm	
	Ascot Park	Agonis flexuosa		Red brown earths	Footslopes	445.9 mm	

Central	**Warradale**	Callistemon 'Kings Park Special'	As the heart of the City the Central Tree Character theme will provide links through to its cultural heritage with connections through to the Northern precincts. A variety of evergreen and deciduous species will compliment the Central ward, allowing planting allocations to be sensitive to its surrounds. Scale plantings will offset the densification of the surrounding urban form and provide colourful corridors.	Red brown earths (red brown clay to red brown sandy clay)	Plains Grasslands	445.9 mm	*Agonis flexuosa* (Willow Myrtle) *Angophora costata* (Smooth barked apple) *Celtis sp.* (Hackberry) *Corymbia maculata* (Spotted Gum) *Eucalyptus lecoxylon megalocarpa* (Large fruited SA Blue Gum) *Eucalyptus torquata* (Coral Gum) *Geijera parvifolia* (Wilga) *Lagerstromia sp.* (Crepe Myrtle) *Lophostemon confertus* (Brushbox) *Pistachia chinensis* (Chinese pistachio) *Platanus x acerifolia* (London Plane Tree) *Pyrus chantcleer* (Flowering Pear) *Tilia rubra* (Red Cottonwood) *Triadica sebiferum* (Chinese Tallowtree)
	Oaklands Park	Eucalyptus leucoxylon		Red brown earths (red brown clay to red brown sandy clay)	Plains Grasslands	445.9 mm	
	Marion	Eucalyptus leucoxylon		Red brown earths, Alluvial soils (through Sturt River)	Footslopes, Watercourse	445.9 mm	
	Mitchell Park	Eucalyptus leucoxylon		Red brown earths	Footslopes	445.9 mm	
	Clovelly Park	Callistemon 'Kings Park Special'		Red brown earths	Footslopes	445.9 mm	
	Dover Gardens	Eucalyptus sp.		Terra rossa	Plains	445.9 mm	
	Seacombe Gardens	Eucalyptus sp.		Terra rossa	Plains	445.9 mm	
	Sturt	Eucalyptus sp		Terra rossa	Plains	445.9 mm	
	Bedford Park			Heavy red brown clay to red brown clay	Footslopes	445.9 mm	

South	**Darlington**	Koelreutera paniculata	The Southern Tree Character theme will promote its open spaces and newly development form. Evergreen species will enhance the integration of its built form and its surrounds. Green leafy corridors will support the existing infrastructure and provide sustainable links through to open areas.	Shallow red-brown to grey-brown soils with shale and limestone deposits	Footslopes	445.9 mm	*Agonis flexuosa* (Willow Myrtle) *Celtis sp.* (Hackberry) *Cupaniopsis anacardioides* (Tuckeroo) *Eucalyptus lecoxylon megalocarpa* (Large fruited SA Blue Gum) *Eucalyptus sp. (*Gum*)* *Eucalyptus torquata* (Coral Gum) *Fraxinus angustifolia 'Raywood'* (Claret Ash) *Geijera parvifolia* (Wilga) *Koelreuteria sp.* (Rain tree) *Platanus x acerifolia* (London Plane Tree) *Sophora japonica* (Japanese Pagoda) *Ulmus parvifolia* (Chinese Elm)
	Seacombe Heights	Eucalyptus sp. Agonis flexuosa		Shallow red-brown loams over limestone	Plains	445.9 mm	
	Seaview Downs	Eucalyptus sp.		Shallow red-brown loams over limestone	Plains	445.9 mm	
	Seacliff Park	Eucalyptus sp.		Shallow red-brown loams over limestone	Plains	445.9 mm	
	O'Halloran Hill	Celtis australis Ulmus parvifolia		Shallow red-brown to grey-brown soils with shale and limestone deposits	Footslopes	441.7 mm	
	Trott Park	Acer negundo Cupaniopsis sp. Koelreuteria sp. Pyrus sp.		Shallow red-brown loams over limestone	Plains	441.7 mm	
	Sheidow Park	Koelreuteria sp. Pyrus sp. Ulmus sp.		Shallow red-brown loams over limestone	Plains	441.7 mm	

Coastal	**Marino**	Callistemon sp. Eucalyptus sp.	The Characteristics of species suited to the Coastal theme include Trees that are sustainable and enhance the natural surrounding ecosystem. Species have been selected that will establish and thrive within surrounding conditions. Scaled plantings will compliment but be sensitive to panoramic views.	Brown sandy to clayey soils often calcareous	Coastal Cliffs	445.9 mm	*Agonis flexuosa* (Willow Myrtle) *Allocasuarina verticillata* (Drooping Sheoak) Araucaria sp.(Southern conifers) *Celtis sp.* (Hackberry) *Cupaniopsis anacardioides* (Tuckeroo) *Eucalyptus lecoxylon megalocarpa* (Large fruited SA Blue Gum) *Eucalyptus porosa* (Mallee Box) *Eucalyptus sp. (*Gum*)* *Eucalyptus torquata* (Coral Gum) *Fraxinus angustifolia 'Raywood'* (Claret Ash) *Geijera parvifolia* (Wilga) *Koelreuteria sp.* (Rain tree) *Platanus x acerifolia* (London Plane Tree) *Sophora japonica* (Japanese Pagoda) *Ulmus parvifolia* (Chinese Elm)
	Hallett Cove	Callistemon sp. Eucalyptus sp. Ulmus parvifolia		Shallow red-brown loams over limestone	Plains Footslopes & Swap flats	441.7 mm	

***Please Note:** Suggested species will make up the majority of plantings within the described zones, but may not be exclusive to. A number of relevant factors including parameters within the street will determine street tree species selection. Data from targets implemented in year 1 will also inform appropriate species selection. Streetscape changes will always include a resident notification period prior to tree planting.