



STREET TREE MANAGEMENT PROGRAM

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DRAFT District Council of the Copper Coast Street Tree Management Program

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1. Executive Summary

The District Council of the Copper Coast is seeking to enhance its street tree provision and amenity, and provide a program for future planting and maintenance that is sympathetic to new and existing development.

Street trees and streetscapes contribute strongly to the image of a region and provide one of the first impressions that both visitors and residents form.

The Street Tree Management Program will be used to formulate the future planning, management and enhancement of streetscape amenity within the District Council of the Copper Coast. It will provide direction for street tree provision throughout urban areas of the Council and will assist residents, developers and external agencies in understanding Council's vision to achieve cohesive and sustainable streetscapes.

The aim of the strategy is the development of a long term Street Tree Management Program that includes:

- Street Tree Planting
 - a target of a minimum of one street tree in front of each property
 - the replanting of complete streets
 - the replacement of inappropriate species
 - the planting of native trees where possible to encourage biodiversity and to attract and support native wildlife
 - establishment of a preferred tree species list that considers; suitability to local environmental conditions, (current and future eg climate change), the ability to enhance the landscape and neighborhood character, the ability to perform as a street tree and minimise ongoing maintenance requirements.
- regular review of the Street Tree Policy
- street Tree Inspection Schedule
- audit of existing street trees, (Asset Information Management System)
- planning for the capture and utilisation of storm water
 - passive irrigation of street trees

The Street Tree Management Program will involve consultation with;

- the community
- SA Water
- ETSA

The creation of a long-term program and selected tree species for street tree planting will enable greater efficiencies in the allocation and programming of Council resources.

The Tree Management Program will require the dedicated allocation of funds in the annual budget for street tree maintenance.

The positive environmental implications of the Tree Management Program include:

- increased biodiversity and an increase in the use of native species
- the reduction of air pollution and opportunities for carbon capture
- the reduction of higher temperatures in built up urban areas
- provision of habitat

- interception and treatment of stormwater including opportunities for Water Sensitive Urban Design.

The positive impact that street trees have on property values and the amenity of an area to attract new residents and businesses is well documented.

The Street Tree Management Program will rely on input from existing Council staff, and from external consultants. External resources currently available include;

- Treenet – an independent non-profit organisation dedicated to improving the urban forest (Council is an Institutional Member)
- Metro Trees Handbook – a comprehensive list of proven street trees for Australian conditions

2. Introduction

Street trees play a major role in the amenity and character of our towns. They provide a number of tangible and intangible benefits:

- image and identity at neighbourhood and regional level
- contribution to urban waste water management
- biodiversity
- reduction of air pollution
- the capture of carbon
- improved visual amenity
- reduction of high temperatures in built up areas
- improvements in the quality of life
- provision of a sense of wellbeing
- traffic calming
- habitat for birds and other animals
- positive effect on property value

Council also recognises the problems associated with providing and managing trees within the urban environment:

- conflict with above and below ground services
- the need for pruning and ongoing maintenance
- the selection of the correct species, (exotic versus native, deciduous versus evergreen)
- the variable environment, (soil, microclimate, moisture, climate change)
- safety considerations, (sight distances, trip and slip hazards, limb drop, etc)

The Street Tree Management Program will aim to maximise the positive contributions whilst minimising the associated problems.

2.1 Links to Key Council Strategic Documents

The Street Tree Management Program is aligned with the District Council of the Copper Coast Strategic Plan – Moving Towards 2020 and its five major objectives:

- Social Objective – Wellbeing
- Environmental Objective – Sustainability

- Economic Objective – Prosperity
- Cultural Objective – Opportunity
- Governance Objective – Leadership

The streetscapes and associated street trees of the Copper Coast are vital in achieving this vision

2.2 Street Tree Management Program Review

The Street Tree Management Program, like its primary topic, is a dynamic and living document. This enables the provision of street trees to respond to a changing environment, changing community needs and changing standards, technologies and materials. It is envisaged that this program will be updated as the need arises to cater for these changes.

3. Street Tree Management Program Vision

That the District Council of the Copper Coast will be recognised for its street trees, which provide amenity and character throughout the Council area and within its individual neighbourhoods.

The Copper Coast's streets will enhance amenity and character, increase biodiversity, respond to climate change, offer relief to the increased temperature of urban areas, and utilise stormwater wherever practical.

Where possible, (within the requirements of the Street Tree Policy), each property will have at least one street tree on each frontage, and potentially more where there is adequate space, to assist in achieving this vision.

4. Street Tree Considerations

For trees to function in the urban environment to their maximum potential, the requirements of the trees, the community and the Council must be taken into account.

There is no such thing as the perfect street tree that meets the needs of all concerned.

4.1 Street Trees as an Asset

Council expends a lot of time and money to provide and maintain street trees. It is therefore appropriate that street trees are classed as assets with a financial value.

During urban development a number of trees are removed to make way for the new development. This results in the associated amenity and benefit of those trees being lost until a replacement tree(s) is planted and over time managed to provide a similar amenity.

As an example, a single allotment is split into two allotments. As the existing tree is often where the driveway is planned to go, it is removed. Currently the removal if approved is undertaken at a cost to Council with no requirement for a replacement tree.

In line with the revised Street Tree Policy the applicant will be required to compensate Council for the cost of a replacement tree(s). However the replacement can never match the size and aesthetics that the original tree offered due to the many years of growth and maintenance so a value will be given to the tree to be removed based on an accepted method of valuation. Council will be compensated for this value, and for the removal costs of the original tree.

These costs will only apply if a tree is removed for aesthetic or property development.

There are various models to establish a financial value of a tree. Two of the most widely used and easily applied are the Thyer Tree Valuation Method and the Modified Burnley Method. The Modified Burnley Method uses the base value of a replacement from a supplier, (at a specified size including installation), and multiplies it as a ratio of the size of the existing tree, its form and vigour, and life expectancy.

The applicant then agrees to pay the calculated value as part of the development approval process.

This concept of negotiation and agreement during the development assessment process will form part of the Program review

Good tree canopy cover also provides an identified benefit to other Council assets. Road surfaces and associated infrastructure have been found to last longer due to sun protection offered by appropriately planted and managed street trees. This has substantial benefits to Council from an asset management and financial point of view.

4.2 Image and Identity

Street trees provide a strong sense of identity to a street, especially where avenues of a single species are used. Street trees are often the element that people associate with particular streets or even suburbs, and are a proven method of reinforcing an existing neighbourhood character or establishing a new one.

4.3 Contribution to Urban Water Management

Trees are known to intercept and slow stormwater, which in turn decreases the likelihood of flooding and erosion. Appropriately selected trees can assist in improving water quality.

There exists an opportunity to utilise stormwater for passive irrigation of street trees and other vegetation.

This Water Sensitive Urban Design approach has the potential benefit of reducing peak stormwater flows, improving stormwater quality and relieving pressure on existing or new infrastructure.

4.4 Biodiversity

The use of a range of native and indigenous species will assist in increasing biodiversity in an environmentally positive way.

4.5 Reduction of Air Pollution and Carbon Capture

Trees are known for their ability to convert carbon-dioxide into oxygen. They are also an effective way to remove other air-borne pollutants.

It is estimated that 30 to 40 mature trees are required to store the carbon produced by one person, or 500 trees are required to absorb the 5 tonnes of greenhouse gas emitted by a 4 cylinder car driven 20,000 kilometres per year. In general, two mature trees are needed to supply the oxygen needs of each person.

4.6 Improve Visual Amenity

Trees are known to improve the visual amenity of a place. Studies have concluded that the 'greener' a location the more visually appealing it is.

4.7 Reduction of High Temperatures in Built Up Areas

Good tree canopy cover, particularly over hard impermeable surfaces, drastically reduces heat being reflected and/or build up of heat within the various surfaces. Trees can reduce asphalt temperatures by as much as 13° C and the inside temperature of a car in a car park by 17° C.

The Urban Heat Island Effect or build up of heat in constructed materials has been linked to health problems, particularly in the young and elderly during summer months.

The reduction of heat build up also reduces the demand for artificial cooling. This has a positive impact on reducing power generation and consumption, which in turn reduces carbon emissions.

4.8 Provide a Sense of Wellbeing

Vegetation and natural surroundings are proven to improve and enrich health and wellbeing. In one study, patients that were exposed to views of nature required less medication and healed faster than those who did not have natural views.

4.9 Traffic Calming

Tree lined streets are perceived as being narrower. This narrowing effect, at a subconscious level, generally reduces the speed at what people drive.

Street trees also provide an effective buffer between pedestrians and vehicles.

4.10 Habitat for Birds and Other Animals

Large mature street trees are important in attracting and supporting our native wildlife. They provide food and habitat and establish corridors for movement between natural areas for many species of insect, bird and other animal life.

4.11 Positive Effect on Property Value

It is documented that large healthy street trees add to the value of an adjoining property. Some sources report that the value of property can be up to 20% higher in areas planted with mature street trees compared with similar areas that have few trees.

4.12 Services

The planting of inappropriate trees near services, including overhead and underground services is a serious concern from both the Council perspective and from the service providers.

Inappropriately chosen, planted and maintained trees can cause service disruptions and damage to infrastructure. Appropriate selection, placement and maintenance of trees can minimise the risk of these events occurring.

Maintenance needs to be undertaken carefully and professionally to ensure that the health and amenity of the tree is considered. This should be done in collaboration with the service provider to ensure that all needs are considered.

4.13 Pruning and Maintenance

Most trees require some level of formative and ongoing pruning to ensure good form, maximum tree health and to reduce risk.

4.14 Deciduous versus Evergreen

The use of deciduous or evergreen street trees is often discussed. One of the primary benefits of deciduous trees, apart from the stunning autumn displays, is that of the warmth of the sun being able to penetrate during the winter months, making it a much more pleasant pedestrian environment and reducing the reliance on artificial heating. This has a positive impact on reducing power generation and consumption, which in turn reduces carbon emissions. However it is also important that we avoid planting deciduous trees where stormwater runoff is directed into water courses or drains that flow directly into the marine environment.

Council's Street Tree Management Program recognises the benefits of deciduous and evergreen species and agrees that each type has a role to play in establishing or strengthening neighbourhood character and providing environmental benefits.

4.15 Site Conditions

Each tree planting site is different. The width of the verge varies from location to location, soil type varies, services may be present, the site may be fully exposed to coastal elements, and the ground may be constantly moist or free draining.

Similarly, each tree species is different in regards to the site conditions that can be tolerated in order for the tree to thrive.

Tree species selection should be undertaken by qualified staff to ensure that the species selection always matches the tree to the site and its respective conditions.

4.16 Safety

The selection and placement of trees is essential in minimising risk and maximising public safety.

Many trees are known for their habit of dropping limbs, (large or small), the dropping of fruit or nuts and leaves that can cause slip or trip issues.

Knowledge of these issues as they relate to individual species means that the risk can either be eliminated or suitably managed.

4.17 Climate Change

Climate change and its likely effects are well documented. From a street tree provision perspective, two primary factors must be considered in selecting appropriate species:

- the ability of the tree to reduce the impacts of the cause of climate change; and
- the effect of climate change itself on the suitability of certain tree species.

4.18 Public Consultation

Local Government Act Section 232—Trees

Before a council plants vegetation, or authorises or permits the planting of vegetation on a road, the council must (in addition to complying with any other statutory requirement)—

- (a) give consideration to whether the vegetation is, on balance, appropriate to the proposed site taking into account:
 - environmental and aesthetic issues
 - the use and construction of the road (including the potential for interference with the construction of the road or with structures, (including pipes, wires, cables, fixtures, fittings or other objects) in the road)
 - road safety matters
 - other matters (if any) considered relevant by the council; and
- (b) if the vegetation may have a significant impact on residents, the proprietors of nearby businesses or advertisers in the area, follow the relevant steps set out in its public consultation policy.

5. Enquiries

a. Enquiries

For general comments or enquiries regarding the contents of the Street Tree Management Program please contact:

Projects & Property Officer
Phone 08 8821 1600
Fax 08 8821 2735
Email: awest@coppercoast.sa.gov.au

b. Additional Copies

This Street Tree Management Program is available in hard copy or is available on line at: www.coppercoast.sa.gov.au

6. Selected References

- The City of Marion
- Amenity Tree Evaluation: A Revised Method – G.M. Moore
- The City of Tea Tree Gully
- The City of Salisbury
- Alexandrina Council
- Campbelltown City Council
- City of Burnside
- City of Onkaparinga
- Treenet. Treenet information is available at:
 - <http://www.treenet.org.au>
- Treeworld. An online tree valuation system is available at:
 - <http://www.treeworld.info/revisedburnleymethodtreeevaluation.html>
- Metropolitan Tree Growers information is available at:
 - www.metrotrees.com.au