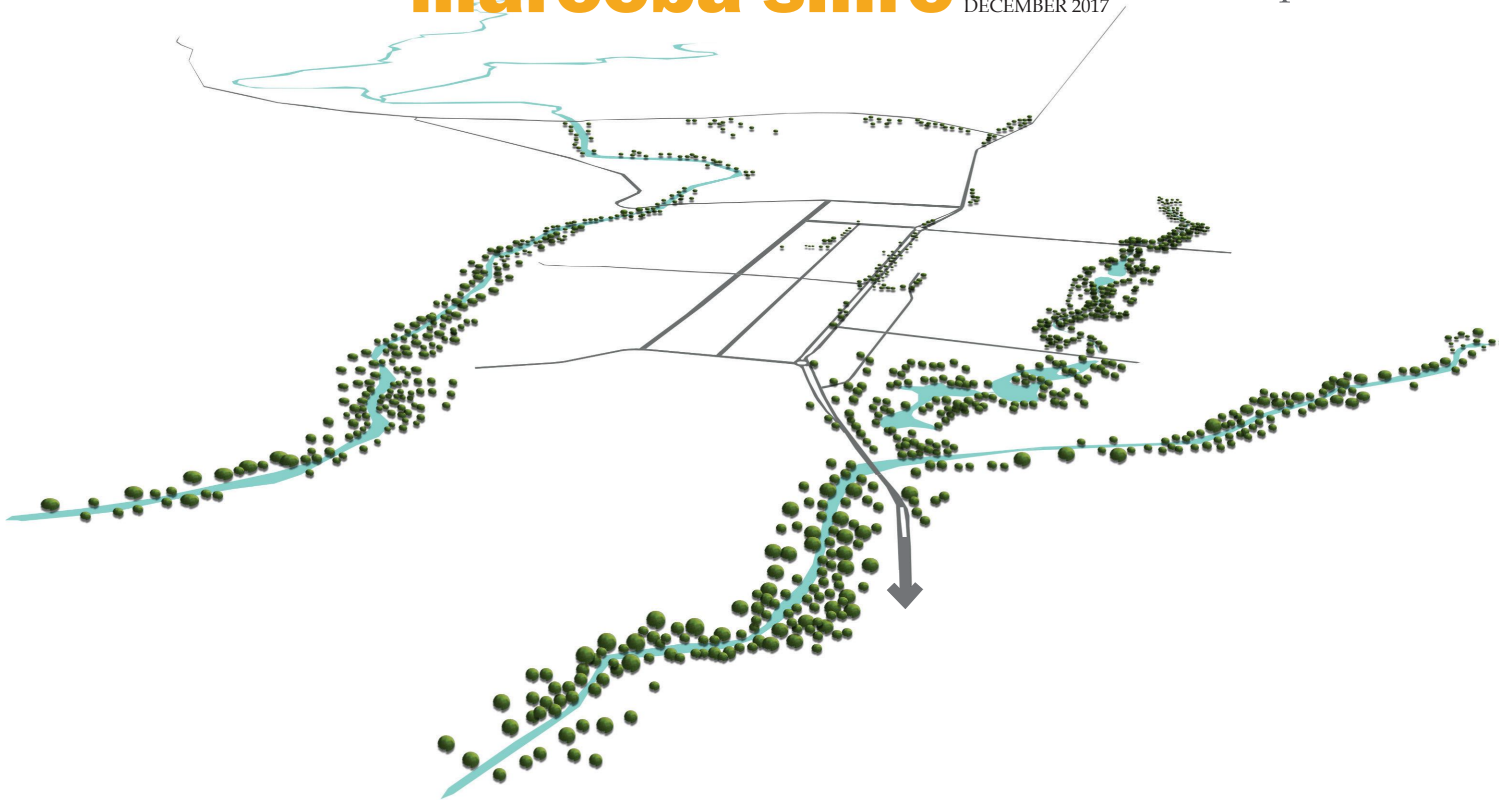


mareeba shire street tree master plan

DECEMBER 2017



LANDPLAN
LANDSCAPE ARCHITECTURE



Mareeba
SHIRE COUNCIL

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Version	Date	Purpose
Revision 3	06/12/2017	For Approval

Vision Statement

“Our vision is to ensure that our shire is attractive to both locals and the visitor, offering an oasis of colour and shade across the shire.”



The Vision

In 1999 the Mareeba Shire Council undertook a major project aimed at the beautification of the town of Mareeba, with the introduction of kerbside trees and the hedges which are now such a feature of the main street. After 20 years the project has now matured and the current Council has determined to continue this work with a view to ensuring that the streets of Mareeba serve as a welcome place with both shade and colour for years to come.

Funds have been appropriated in this current budget to begin this process which will include other towns and villages in the shire.

Our vision is to ensure that our shire is attractive to both locals and the visitor, offering an oasis of colour and shade across the shire.

Inevitably the community will observe change in the work that is to be done, including the removal of a number of trees which are at end of life and which will be replaced with trees representing the new face of our towns.

Our vision extends to streets within the CBD of Mareeba, providing avenues of visual appeal down both Atherton Street and Lloyd Street as extensions to in the first case Anzac Park, and secondly, to highlight St Thomas's Catholic Church as a significant feature of the town.

The northern and southern entrances to the town of Mareeba will be considered for the planting of avenues of attractive flowering trees, with a view to these entrances to our town being a welcoming and colourful sight.



Byrnes Street - Mareeba

I Vision for Mareeba Shire

I.1 Background

Trees are a vital part of the urban fabric that makes our communities unique. Trees provide more than just aesthetic appeal, they contribute to the comfort and well being of the people that make up these communities.

Trees can help provide a community with a 'sense of place'. There are many examples of cities and towns from around the world with unique avenues of trees that help people to create an overall visual impression. These are often the memories they hold and share about a place.

Trees need time to reach their full potential and their growth is exponential, therefore larger trees will provide greater benefit. However, trees have specific requirements to survive and ultimately thrive. A key requirement is adequate space. Streets provide a functional role of carrying vehicles and services to support an urban environment. There must be a balance reached between the potential benefit of a tree and its potential risk to infrastructure.

A thoughtful street tree master plan will reduce future maintenance and infrastructure problems and allow the tree population to grow into a legacy for future generations.



Bottle trees line the streets of Roma's CBD (QLD). Known as Heroes Avenue, each tree is named for a local man killed in World War 1.

I.2 Key Objectives

The purpose of this master plan is to guide street tree planting throughout the shire's major centres. The shire's landscape, although beautiful, can be harsh and its major centres should provide a welcoming oasis for residents and visitors alike. To achieve this requires;

- A thoughtful plan that fulfills this goal by describing how to place the right tree, in the right place, for the right reason and give it the right after care.
- The natural setting that surrounds this region and contributes to its character should be celebrated by bringing it into the town centres in the form of high quality canopy planting.
- The outcome should create colour, vibrancy and attraction. This will help to define gateways and give streets an individual identity.
- A Guide for Council's decision making and provide a transparent process for street tree planting, maintenance, customer requests and development assessment.
- Taking advantage of the borrowed scenery of gardens, parklands, reserves and backdrop planting
- Emphasising the key entry points, intersections, main streets and corridors.

I.3 Using the Master plan

The street tree master plan responds to and is integrally linked to all the elements in the planning schemes strategic direction including, settlement pattern, built form, natural resources, environment, community identity, transport, infrastructure and economic development. The plan sits outside the Mareeba Shire Council Planning Scheme. However, it should be used alongside SC6.7 Planning Scheme Policy 6 - Landscaping and Preferred Plant Species.

It should be understood that this plan is a long term vision that will be implemented over time. It will be a guide for both Council officers and the general community.

Council officers will use the plan for ongoing planning and management of trees in road reserve. They will also use it for programming capital works and maintenance budgets.

Developers and their design consultants will use it when considering on street works associated with a particular project within a major centre.

Community members will use the plan when they wish to contribute to their street character by planting in front of their house lot.



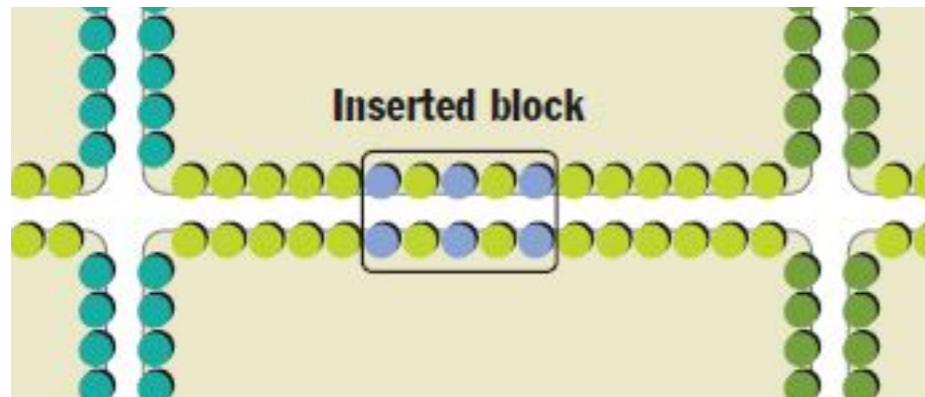
2 Street Tree Design Guidelines

2.1 Design Principles

One of the key design principles that will lead to a successful street tree outcome, is the provision of adequate space for tree growth. Trees need room for root growth, healthy soils and adequate water. It is critical that these things are designed for during the planning phase of any project involving street trees.

Once these biophysical design criteria are satisfied, there are a range of urban design principles that will help guide street tree progress.

- **Continuity and Unity** are fundamental principles of design that help to program a viewers perception of the arrangement of elements within a streetscape. Since the composition of the street tree population of any neighborhood or the whole community cannot be viewed in totality, except from an aerial view, planned unity of an overall street tree population is not a necessary measure of success. However, row plantings on a street or segment of a street (between cross-streets) can be easily viewed at a particular moment in time from a particular stationary or moving position, allowing the observer to perceive the desired and/or resulting unity of the composition on that street. Row plantings or linear groupings of trees constitute one of the oldest and simplest forms of composition, and unity is achieved only when the planting is perceived as a continuous row rather than as individual elements.
- The **Character** of each major centre in the Mareeba Shire should be celebrated and reinforced in its street tree plantings. The masterplan should approach each major centre on its own merits and seek to reinforce its distinct 'sense of place'.
- **Repetition, Sequence, Balance and Scale** are the relevant design principles that when carefully applied will create functional and pleasurable streetscapes. These principles will provide harmonious and complimentary relationships between the plantings resulting from the master plan and their surrounds. The application of these principles requires decisions to be made about the respective characteristics of the mature trees selected in terms of scale, form, foliage and colour. When trees are arranged uniformly spaced in rows, differences are highlighted and there is an increased sensitivity to mixing of species. Single species are the obvious choice for a uniform outcome, however most species are mutually complimentary, regardless of differences in physical characteristics. The exception to this is when species display an extreme difference in scale, form, colour or foliage. In these instances difference can be used to highlight key areas or establish repetitive modules to achieve consistency when infilling existing street plantings.



Infill planting used to highlight a mid block crossing

2.2 In Road Planting Opportunities

Many roads throughout the shire have opportunities for additional and larger street tree planting, if the planting is located within the vehicular carriage way or verge rather than the footpath. This also allows trees to be planted in streets that have narrow grass strips or where overhead wires would otherwise present great challenges to achieving successful tree planting.

Any in-road street planting proposed will need to take into consideration the existing traffic and signage visibility, lot access and parking issues, underlying soil conditions and services. Council will aim to minimise disruptions to, or excessive removal of parking spaces. Special attention will be paid to achieving appropriate drainage towards the tree planting together with adequate soil volumes, road pavement protection, and trunk protection where necessary via bollards or preferably barrier kerbs.

2.3 Footpath Street Tree Location

Locating street trees within footpath zones attracts a range of constraints. Distances from streetscape elements such as street lights, driveways, kerb inlet pits, intersections and overhead powerlines are important in determining final planting locations. Typically this will require individual site assessment and will be determined on a case by case basis.

Taking into account other relevant clearance requirements, street trees are to be typically planted as follows:

- small trees – spaced at a minimum of 7 to 10 metre intervals
- medium trees – spaced at a minimum of 10 to 15 metre intervals
- large trees – spaced at a minimum of 15 to 20 metre intervals

2.4 Distances from Infrastructure

The alignment and placement of street trees measured from the tree at the estimated ultimate size shall be in accordance with the following:

1. Greater than 4.0 metres from electricity or telecommunication poles or pillars.
2. Greater than 7.5 metres from streetlights to ensure effective street lighting.
3. Greater than 4.0 metre radius from high voltage transmission lines.
4. Greater than 2.0 metres from stormwater drainage pits.
5. Trees are to be placed a minimum of 800 mm and a maximum of 1000mm from the back of kerb.
6. Trees are to be placed a minimum of three (3) metres from driveways.
7. At intersections trees are to be placed a minimum of ten (10) metres back from the face of the kerb of the adjoining street.
8. Trees are to be located so as not to obstruct access to any services or signage.
9. Trees are to be located so as not to obstruct pedestrian or vehicular traffic, nor create traffic hazard or cause damage to existing trees.

2.5 Tree Removal

Incremental tree removal over time without replacement can lead to a long term loss of streetscape character and amenity and compromise urban design principles for the wider community. Where a development is likely to impact existing trees within the streetscape, it is recommended a qualified arborist be engaged to assess the health of the tree/s in question. The arborist's report will then inform any decisions for design and/ or potential removal of street trees. When assessing trees for removal, consideration needs to be given to the:

- Age of the tree
- Health of the tree
- Replacement value
- Time it will take to grow a replacement tree to a semi-mature size/same size of that being removed



View of Atherton Street, Mareeba showing in road planting opportunity

3 Street Tree Selection

3.1 Major Centres Approach

The Mareeba Shire Planning Scheme Strategic Framework states that;

Mareeba Shire thrives as a vibrant and diverse community comprising a range of urban, semi-urban, natural and rural settings, which together provide a unique local and regional character. Urban settlements have a distinct small town feel through features including prominent, wide main streets, character streetscapes and buildings that capture the evolution of Mareeba Shire. This existing character is maintained, promoted and enhanced by development in the shire, including sensitive redevelopment of activity centres.

This masterplan will reinforce this strategy by providing clear direction for street tree implementation in the Shire's major activity centres. Sections 6 to 9 provides specific detail on the trees to be installed at gateways, key nodes and major streets.

3.2 Selection Process

This section outlines the process to be taken when trees are to be planted in individual streets. The flow chart along with the master species list (section 4) and the Major Centre plans (section 6-9) should be used to guide species selection.

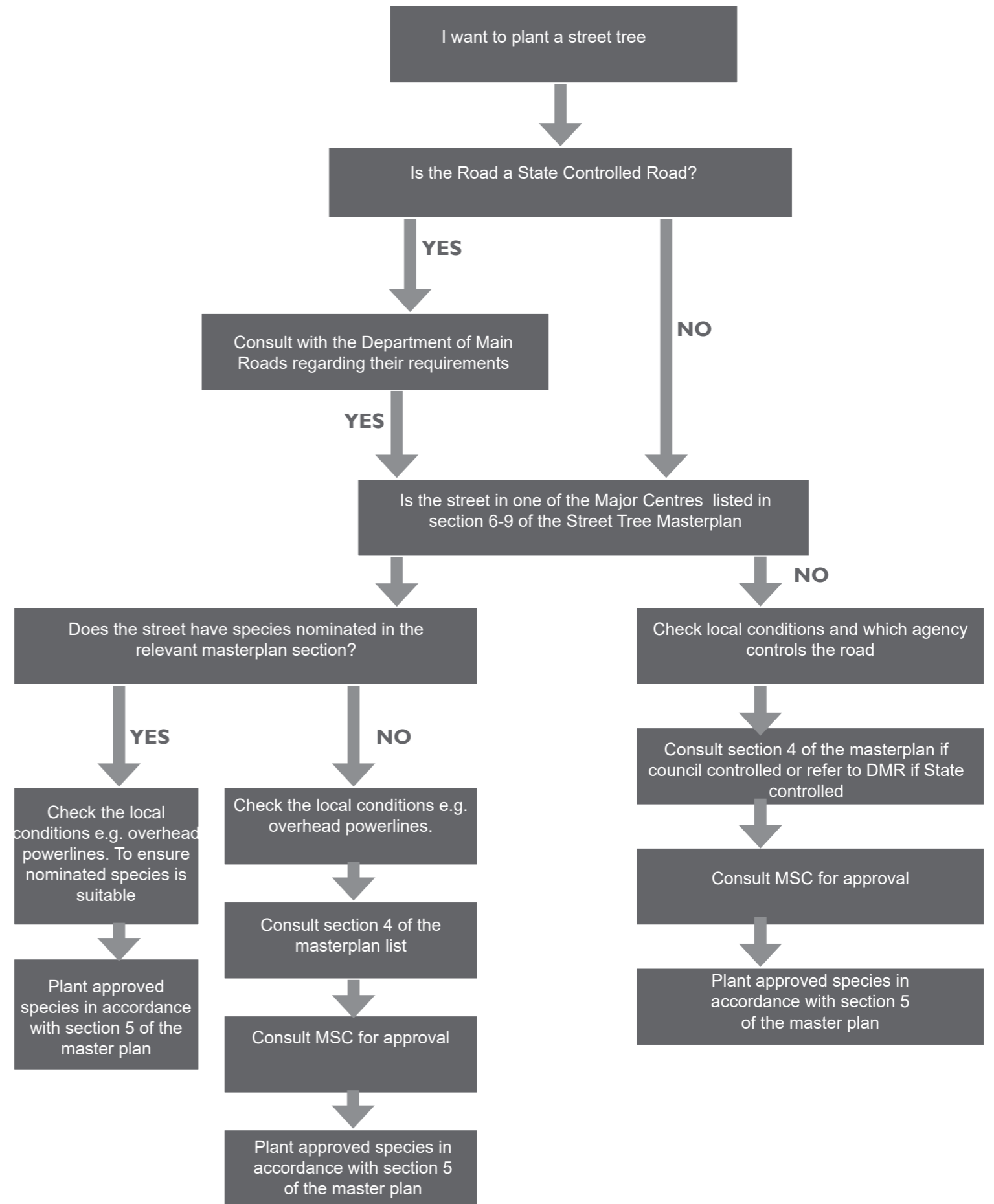
3.3 Selection Criteria

There are a number of factors that influence the decision to choose a particular street tree for a given street. The established species in a street should be a guide to the most suitable species for that street. Many of the species nominated in section 6-9 are based on existing species that are performing well. Some streets have a mix of different species, so it will take time to reach a point of consistency. The masterplan is not designed to be implemented immediately, but rather over time as the opportunity to replace or infill with new trees arises.

Species selection should consider the design guidelines outlined in section 2 while following this selection process.

3.4 Key Streets, Nodes, Gateways and Connectivity

Key nodes and gateways should be treated distinctly from the balance of the streetscape. These are opportunities to deviate from the continuity of the street tree palette in order to highlight town entries and improve legibility. Each major centre has been allocated a street tree palette for such key areas. Streets that provide connectivity between destinations have also been included in this allocation.



Street tree selection process

4 Master Species List

Scientific Name	Common Name	Height Category	Provenance	Drought Hardy	Under Powerlines	Wide Median/verge only
<i>Acmena hemilampra</i>	Blush satinash	M	N			
<i>Alloxylon flammeum</i>	Tree warratah	T	N			X
<i>Athertonia diversifolia</i>	Atherton Oak	M	N			
<i>Atractocarpus fitzalani</i>	Brown Gardenia	S	N		X	
<i>Barringtonia acutangula</i>	Freshwater mangrove	M	N			
<i>Barringtonia calyptrata</i>	Mango pine	M	N			
<i>Bauhinia x blakeana</i>	Hong Kong orchid tree	M	E			
<i>Bombax caiba</i>	Bombax	M	E			
<i>Buchananina arborescens</i>	Satinwood	M	N			
<i>Buckinghamia celsissima</i>	Ivory curl	M	N			
<i>Brachychiton populneus</i>	Kurrajong	M	N			
<i>Cassia brewsteri</i> ssp. <i>brewsteri</i>	Brewster's cassia	S	N	X	X	
<i>Cassia</i> sp. <i>paluma</i> range	Golden shower	S	N	X	X	
<i>Cupaniopsis anacardioides</i>	Tuckeroo	S	N	X	X	
<i>Corymbia ptychocarpa</i> x <i>ficifolia</i>	Smouldering red	M	N			
<i>Deplanchia tetraphylla</i>	Golden Bouquet	M	N			
<i>Flindersia ifflaiana</i>	Cairns hickory	M	N			
<i>Harpulia pendula</i>	Tulipwood	M	N			
<i>Melicope elleryana</i>	Butterfly tree	M	N			
<i>Melaleuca leucadendra</i>	Tea tree	T	N			X
<i>Melaleuca viridifolia</i> 'burgundy'	Burgundy weeper	M	N			
<i>Peltophorum pterocarpum</i>	Yellow flame tree	M	N	X		
<i>Stenocarpus sinuatus</i>	Firewheel	M	N			
<i>Sterculia shillinglawii</i>	Tulip sterculia	M	N			
<i>Syzygium australe</i>	Creek satinash	S	N		X	
<i>Syzygium bamaganse</i>	Bamaga satinash	T	N			X
<i>Syzygium canicortex</i>	Yellow satinash	T	N			X
<i>Syzygium cormiflorum</i>	Bumpy satinash	T	N			X
<i>Syzygium forte</i> ssp. <i>forte</i>	White apple	M	N			
<i>Syzygium forte</i> ssp. <i>potamophilum</i>	Flakey-barked satinash	M	N			
<i>Syzygium tierneyanum</i>	River cherry	T	N			X
<i>Xanthostemon chrysanthus</i>	Golden Penda	M	N			

Legend

Height category		Provenance	
T	Tall	N	Native
M	Medium	E	Exotic
S	Small		



Cassia sp. "paluma range"

5 Implementation

5.1 New tree planting

Successful street tree planting requires careful planning and consideration of a number of factors;

- The quality and type of species selected
- The size of the tree being installed
- The method of installation and the level of aftercare.

The other factor that will impact on the success of a street tree planting will be the time of year that the installation takes place. The best time of year to carry out planting works is between the months of November and April.

Considerable time, money and resources can be spent on the installation of street trees but there always remains the risk of tree fatality. Council can mitigate this risk by introducing a tree procurement strategy.

All mature plant stock supplied to council should be part of supply contracts with one or more local reputable nurseries. Any plant stock supplied should conform with the NATSPEC "Guide for assessing the quality of and purchasing of landscape trees" by Ross Clark 2003. Council should supplement this with an internal nursery for growing on smaller stock to ensure mature species are always on hand for infill planting.

The larger a new tree is when it is installed the better its chance of survival against impacts such as accidental damage or vandalism. However this needs to be balanced with the cost associated with supply and installation of large tree stock. Generally the minimum size for a suburban street tree should be 45L, this should increase to 100L for town centre streets and 400L for key streets and intersections.

The method of installation is a key factor in ensuring a successful outcome for a street tree.

- A site assessment should be conducted to ensure the tree does not have the potential to impact on surrounding infrastructure. Section 2 lists the parameters that should be followed here.
- The size of the pit excavated for a tree should be a minimum twice the diameter of the root ball. Where possible this should be increased to improve the opportunity for roots to divide, thus ensuring the diameter of roots is reduced before reaching kerbs or other infrastructure. Refer 5.3 technical drawings for planting requirements for tree pits. The installer should break up the base of the hole and loosen compacted sides of the hole to prevent confinement of root growth.
- The installer should cultivate and break up the subgrade to a depth of 200mm to each tree hole. Quality soil should be used to backfill the tree pits. 100mm of topsoil should be placed to the bottom of each hole, and thoroughly mix in the recommended quantity of fertiliser as specified eg. Osmocote (or equal as approved). Trees are then to be placed in the holes and backfilled with the specified topsoil. Ensure the topsoil is evenly compacted around the root ball and that trees are plumb vertically. Apply "Barmac Auxinone" (or equal as approved) root growth hormone to manufacturers recommendations. Finished levels of root balls and topsoil to suit depths of mulch.
- Soil conditioner such as 'Terracottem' should be used to provide the trees with the best opportunity for establishment.
- When mature nursery stock are supplied, their roots have generally

developed a radial formation. Prior to installation these roots need to be trimmed and trained to ensure they don't continue in this formation and stunting the growth of the tree.

- There are multiple proprietary options for reducing the impact of roots on infrastructure. These should be used particularly for median island planting.
- Mulch should be installed at the base of the tree to prevent weed growth and retain moisture.
- The trees should be exposed to a watering regime for the first 3 months of their establishment and formative pruning undertaken.
- Plants should be watered directly after planting prior to the spreading of mulch. The mulch shall be left just clear of the plant stem.
- After planting, damaged, dead, disease or crossing branches shall be removed by pruning.
- All street trees should be staked during establishment to provide some visual protection from accidental damage and also to prevent wind damage. Provide hardwood stakes that are straight, free from knots or twists, pointed at one end. Drive stakes into the ground at least one third of their length, avoiding damage to the root system. All stakes to be painted matt black. Staking as noted below takes precedence over drawing notes.

Stake Sizes

For plants > 2.5 m high: Three 50 x 50 x 2400 mm stakes per plant.



Formative pruning

- For plants 1 - 2.5 m high: Two 50 x 50 x 2400 mm stakes per plant.
- For plants < 1 m high: One 38 x 38 x 1200 mm stake per plant.
- Provide ties fixed securely to the stakes, one tie at half the height of the main stem, others as necessary to stabilise the plant.
- For plants > 2.5 m high: Two strands of 2.5 mm galvanised wire neatly twisted together, passed through reinforced rubber or plastic hose, and installed around stake and stem in a figure of eight pattern.
- For plants < 2.5 m high: 50 mm hessian webbing installed in a figure of eight pattern and stapled to the stake.
- For advanced ex-ground tree stock install a minimum of three (3) guys per tree, set at equal angles around the tree base.

5.2 Establishment

Formative pruning is an important part of after care for street trees. A successful street tree will ideally have a clear trunk with a dense canopy. To achieve this requires regular pruning while the tree is still young. This process can help avoid expensive problems as trees mature. Removing limbs when a tree is well established can be a costly exercise, it is far more economical for Council to undertake this process in the three to five years following planting installation. Trees that are supplied as mature bag stock will generally have been trained appropriately but this process must continue. Council should engage the services of a professional arborist to guide this process and train staff.

Where trees grow with a clear central-leading branch that grows upwards ahead of the other branches, it is important not to cut this central leader, as this could spoil the final shape of the tree.

Year one

1. Remove all side branches from the lower third of the main stem.
2. Shorten by half all the side-shoots on the middle third of the main stem.
3. Leave the side-shoots on the top third of the main stem unpruned, apart from the removal of dead, diseased or damaged growth.
4. Cut to outward facing buds, so that the resulting growth extends outwards rather than into the centre of the tree.

Year two

1. Remove completely the side-shoots that were shortened by half in year one (which should be now be in the lower third of the tree).
2. Shorten by half the side-shoots on the middle third of the tree.
3. Remove any crossing or misplaced branches in the upper third of the tree

Year three

1. Follow the same steps as for year two.

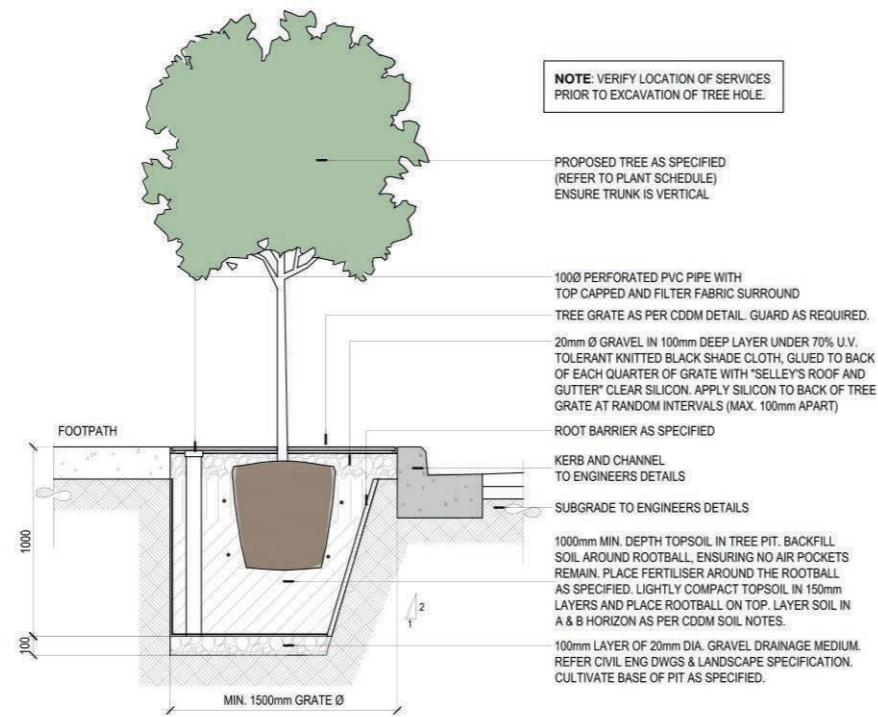
Years four and five

1. Clear the trunk of side branches to the height desired
2. Continue to remove any crossing, dead, diseased or misplaced branches from the canopy

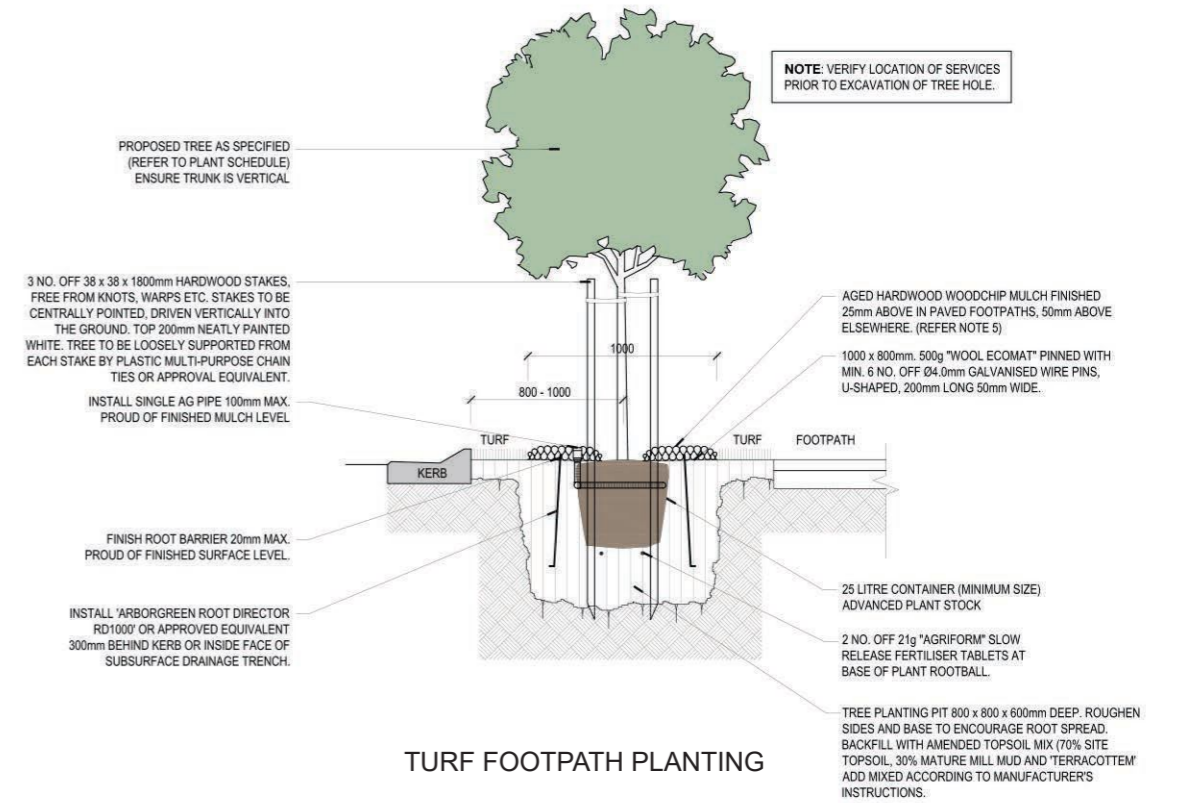
Watering - Allow for 10% of the planted container volume to be applied every 2 days for the first 2 weeks and then 20% of the container volume once per week for 3-4 months. Despite above guideline, installer is to monitor and maintain soil moisture ensuring the rootball does not dry out and cause wilting. Ensure the bottom of the tree planting hole does not become saturated.

5.3 Technical Drawings

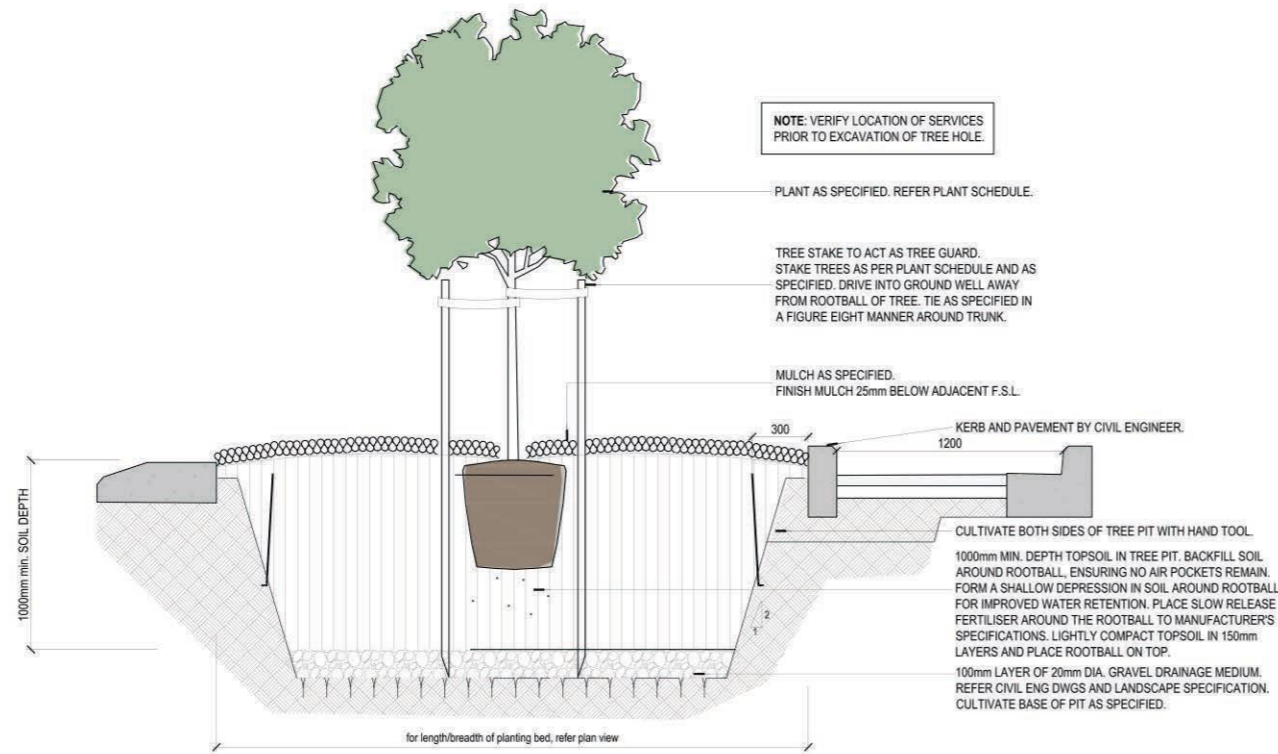
The following drawings provide standard details for street tree planting throughout the shire;



PAVED FOOTPATH PLANTING



TURF FOOTPATH PLANTING



ISLAND PLANTING

NOTES:

1. FOR LOCATION AND SPECIES OF TREES REFER PROJECT DRAWINGS.
2. PRIOR TO PLANTING ALL WEEDS SHALL BE KILLED BY SPRAYING A SUITABLE GLYPHOSATE BASED HERBICIDE. SPRAYED AREA SHALL REMAIN UNDISTURBED FOR TWO WEEKS.
3. EXCAVATED PLANTING HOLE SHALL ALLOW FOR A MINIMUM 100mm CLEARANCE AROUND THE ROOTBALL. BASE OF HOLE TO BE RIPPED TO 150mm DEPTH TO PROMOTE DRAINAGE.
4. TOP OF ROOTBALL TO BE FINISHED FLUSH WITH EXISTING GROUND LEVEL.
5. MULCH TO BE 75mm THICK IN PAVED FOOTPATHS. 125mm THICKNESS ELSEWHERE.
6. REFER STANDARDS SPECIFICATION FOR MAINTENANCE AND WATERING REQUIREMENTS.
7. ALL DIMENSIONS ARE IN MILLIMETRES.

6 Mareeba

6.1 Opportunities and Constraints

Entry and Approaches

When approaching Mareeba from Cairns the driver's arrival experience is generally undefined, and could benefit from additional tree planting to form a gateway. There are some properties adjacent to the road whose boundary plantings do assist however these need to be bolstered. Existing natural bushland vegetation also adds to the arrival experience but again this could be added to with clusters of native vegetation.

Large open spaces between roads and parkland areas adjacent to the entry roads provide an opportunity for defining the approach to the town centre. By opening up views to these parkland areas and key sites, such as the Museum, it improves legibility and helps convey the experience of entering an oasis.

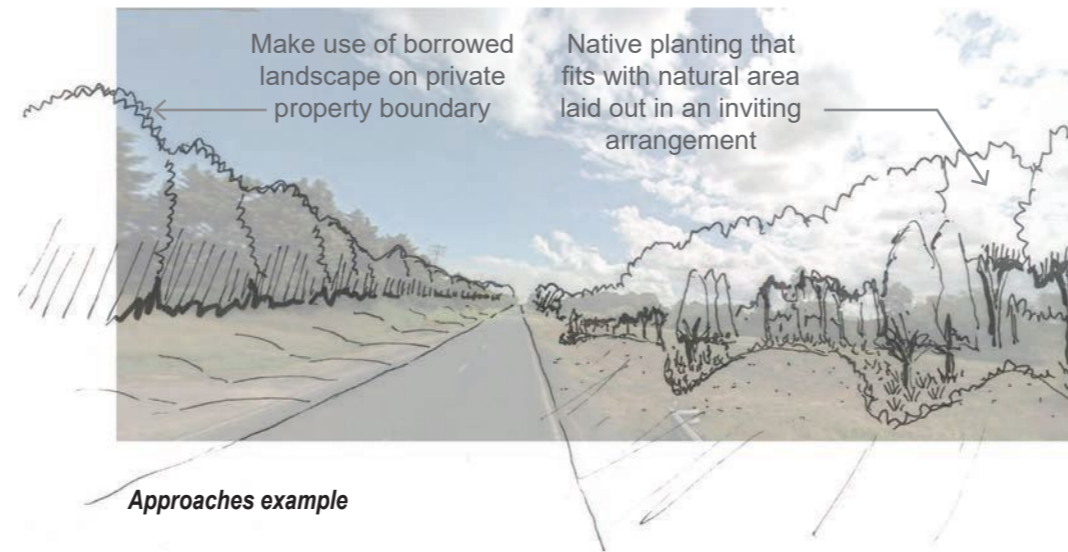
The opportunity for a gateway treatment on Byrnes Street at both ends of the town centre, is present. This could be in the form of flowering trees, vertical signage elements or a combination of both.

Connectivity

To the east and west of Byrnes Street, two river systems run parallel and are flanked by significant bands of vegetation. By linking these two corridors with a pathway system and complimentary tree planting, linking open space pockets along the way, a valuable pedestrian network would result. The same concept can be applied to major activity nodes in the town. The introduction of street trees in such a way will provide, visual appeal, shading, sustainability and increased amenity.

Significant Views

The Mareeba township has a number of landmarks both natural and man made that are considered to be part of several significant view corridors.



Approaches example



Gateway treatment example



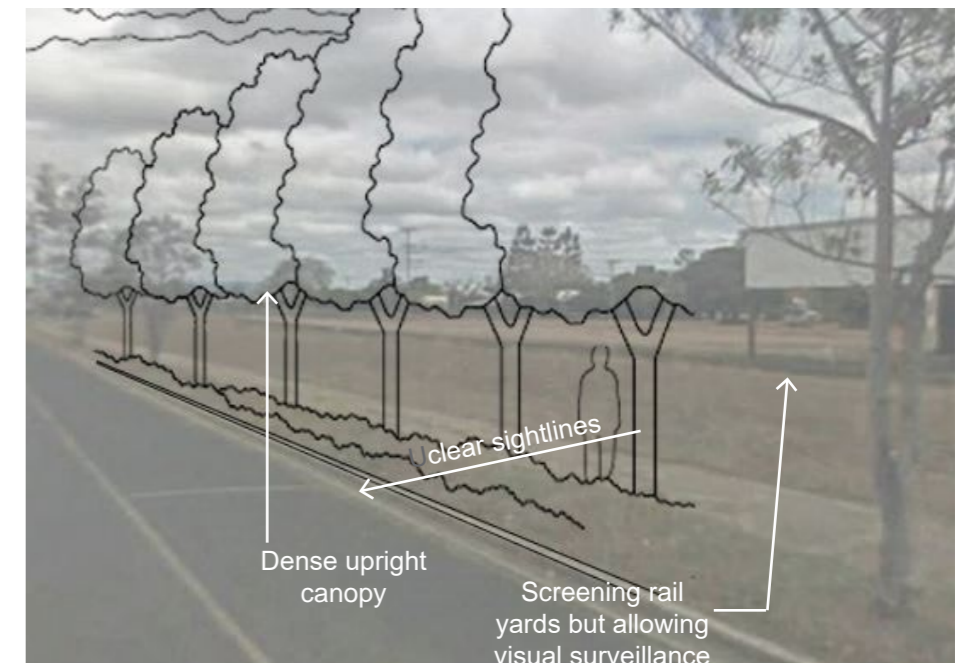
Hort Street potential outcome

These views should be preserved and enhanced. Street trees can play a significant role in framing such views. The introduction of street trees along Hort Street would not only provide shade and amenity but would frame the view to St Thomas' Church. Most of the streets that run perpendicular off Byrnes street would benefit from this type of treatment. Views to Granite Creek from the Main Road could be enhanced with some clearing of weed species and revegetation with native grasses and trees.

The view to the rail yards from Railway Avenue and several parts of Byrnes Street could be screened to create a more pleasant outlook. This treatment could be an extension of an upgrade to the railway station precinct and assist with providing a stronger connection to Atherton Street.



Byrnes Street northern entry potential outcome

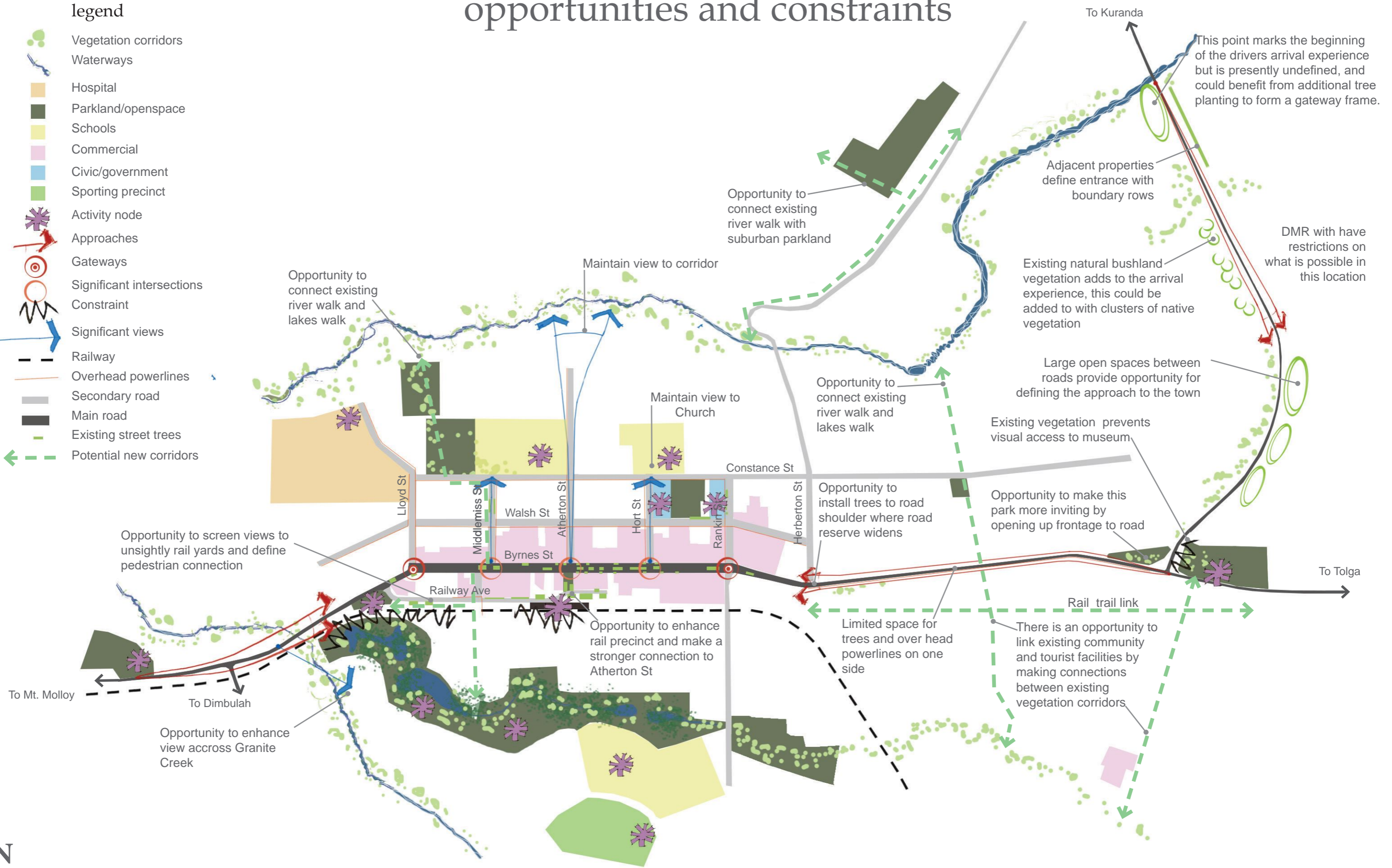


Railway Avenue potential outcome

opportunities and constraints

legend

- Vegetation corridors
- Waterways
- Hospital
- Parkland/openspace
- Schools
- Commercial
- Civic/government
- Sporting precinct
- Activity node
- Approaches
- Gateways
- Significant intersections
- Constraint
- Significant views
- Railway
- Overhead powerlines
- Secondary road
- Main road
- Existing street trees
- Potential new corridors



6.2 Civic Centre Masterplan

Trees in the public realm contribute to the social, cultural, economic and environmental well being of a community and are therefore important and highly valued by residents and visitors alike. The Civic Centre of Mareeba is bounded by Byrnes and Walsh streets to the west and east respectively, and Lloyd and Rankine to the north and south. The focus of this masterplan will be within in these streets and those that pass between them.

Due to the constraints of overhead powerlines, underground services, building awnings and limited space requirements no tree planting has been nominated for footpath areas. The road reserves in the Civic Centre have a generous width allowing opportunity for the introduction of island planters in both the median strip and the road shoulder.

There are some existing island planters that will be suitable for replanting or retention with current plantings. However there are several island planters that have been constructed with insufficient space to allow the tree planted to reach its potential. Some of these trees may be retained if it is deemed

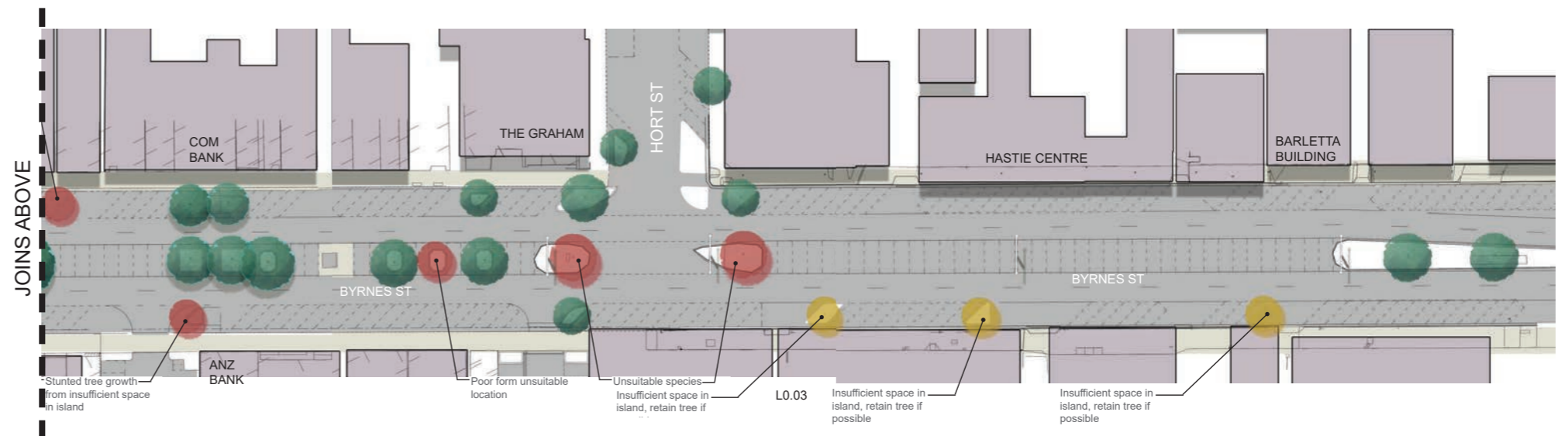
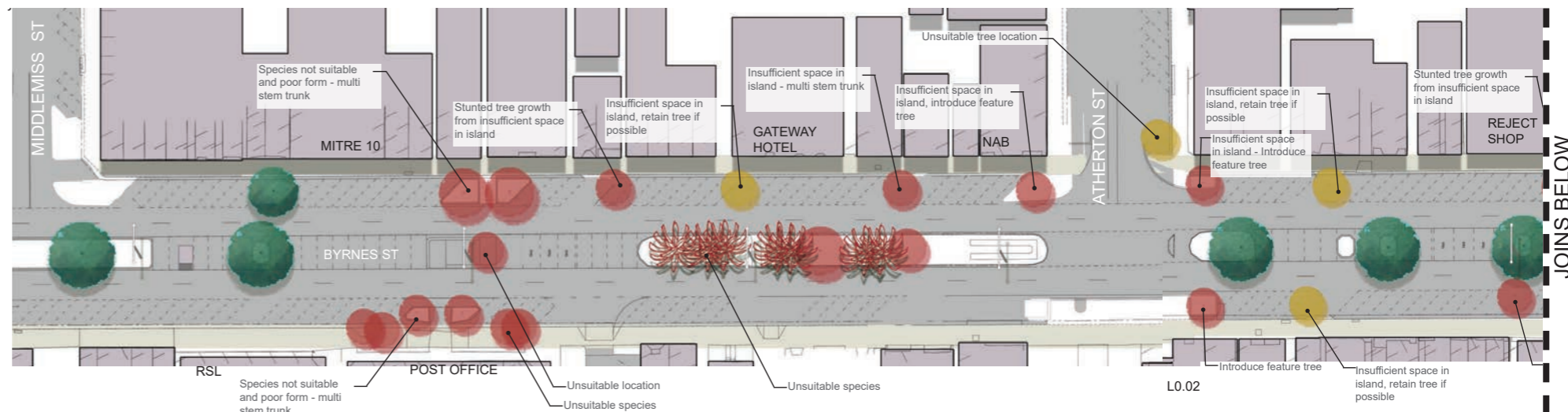


Example of island providing insufficient space in Byrnes Street

possible by a qualified arborist, however the island planters will be required to be increased in size and in order to do this, the excavation process may damage the tree root systems.

Some existing tree species have been determined to be unsuitable in terms of location or species. Those trees that are stunted, have poor form, don't contribute to the character and amenity of the streetscape or impact on services, pedestrians, vehicles or pose unreasonable maintenance demand, have been earmarked for removal. In most cases these will be replaced with more suitable species.

The trees shown in the following diagrams are located on Byrnes Street between Middlemiss and Rankine Streets and are nominated for removal (red), retention (green) or retention if possible (orange).



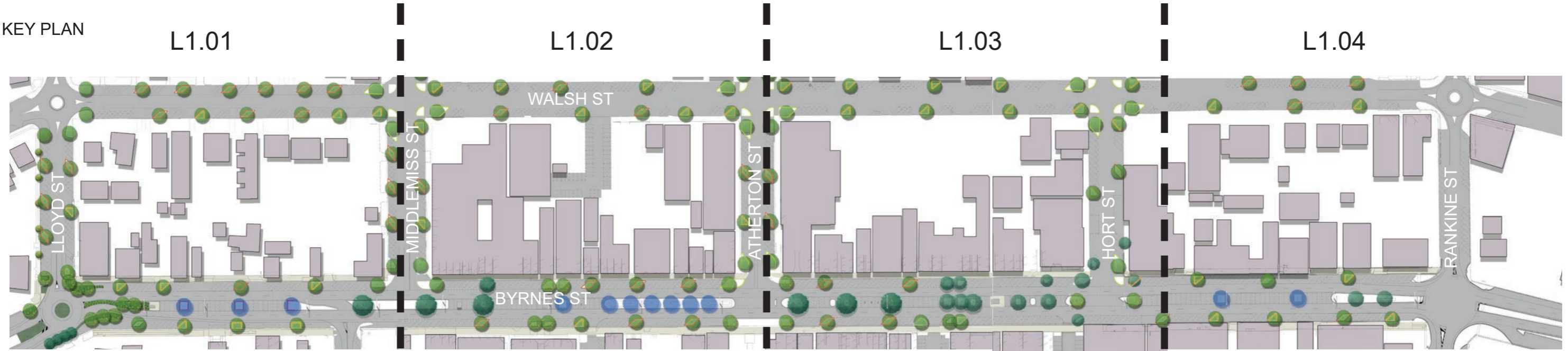
Example of unsuitable location for tree in Byrnes Street

The following pages set out the proposed locations and types of new island planters for the Civic Centre. The large islands will generally replace the space required for two parking bays. The medium planters will generally replace the dead space found between parking bays and driveways. The intersection islands are located as expected in locations not suitable for parking. The number of parking bays estimated to be lost is listed below, however this is only a conservative estimate and may reduce during a detailed design process;

- Lloyd St – 8 spaces
- Walsh St (Lloyd-Middlemiss) – 20 spaces
- Walsh St (Middlemiss - Atherton) – 5 spaces
- Walsh St (Atherton-Hort) – 7 spaces
- Walsh St (Hort -Rankine) – 8 spaces
- Hort St – 3 spaces
- Atherton St – 8 spaces
- Middlemiss St – 6 spaces
- Byrnes (Lloyd-Middlemiss) – 6 spaces + 2 RV parks reduced to 1 regular space
- Byrnes (Middlemiss – Atherton) – 7 spaces + 1 taxi space
- Byrnes (Atherton-Hort) – 5 spaces
- Byrnes (Hort-Rankine) – 15 spaces

A schedule of proposed tree species and an indicative picture are provided for reference.

KEY PLAN



LEGEND

- Feature Tree
- Shoulder island Tree
- Median Tree
- Existing tree to be retained



Large Median Island (LM)



Medium Shoulder Island (MS)



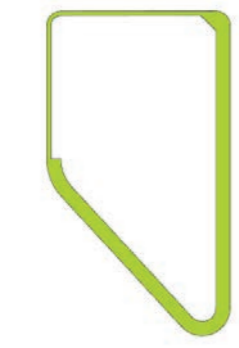
Large Shoulder Island (LS)



Small Shoulder Island (SS)



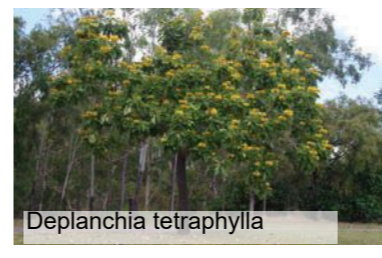
Small Intersection Island (SI)



Large Intersection Island (LI)



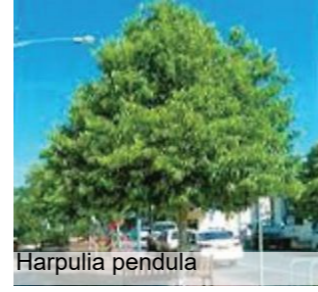
Cassia sp. paluma range



Deplanchia tetraphylla



Acmena hemilampra



Harpulia pendula



Buckinghamia celsissima



Syzygium cormiflorum



Buchanania arborescens



Melaleuca viridifolia



Stenocarpus sinuatus







Syzygium bamaganse

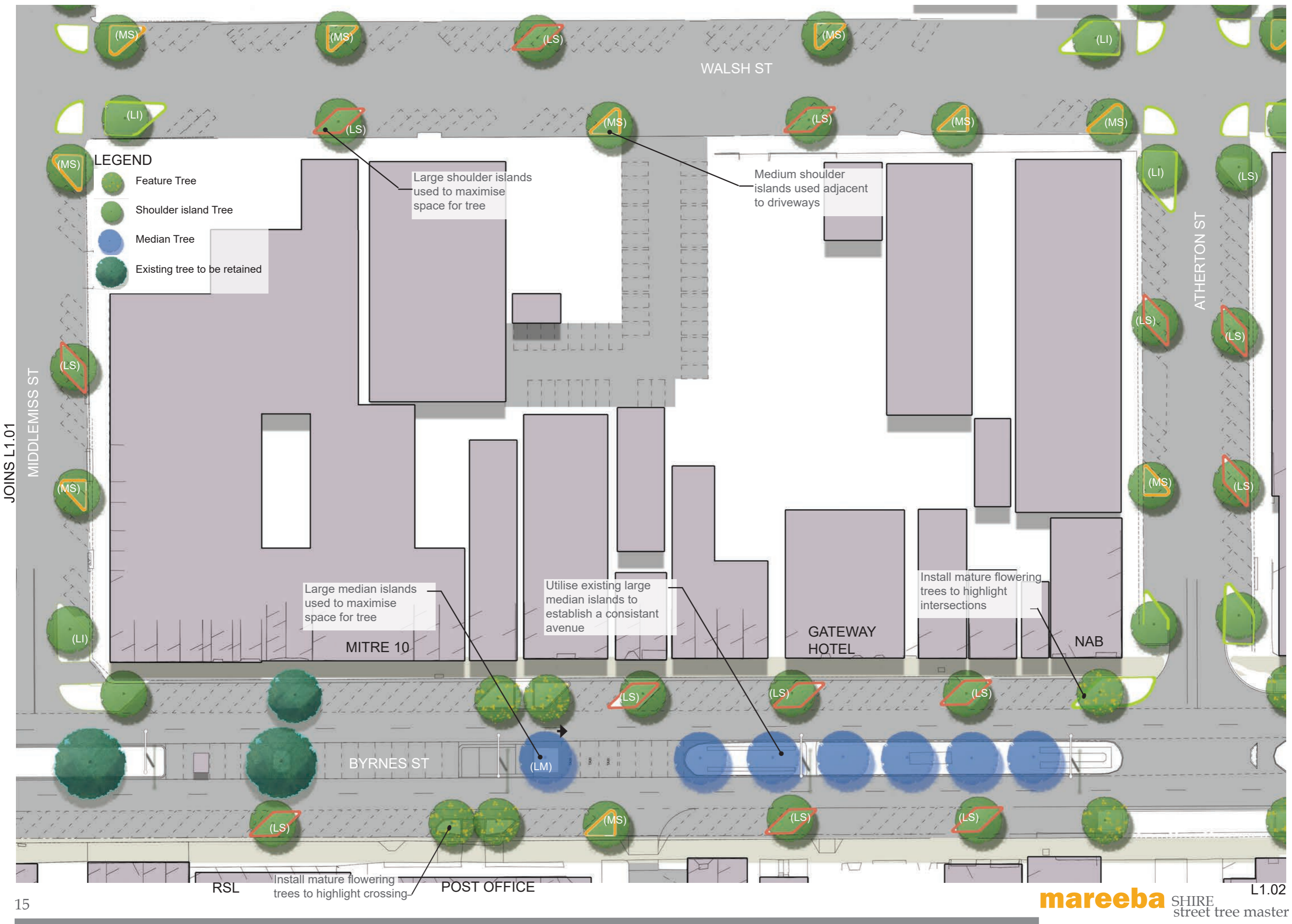
STREET TREE SCHEDULE

Scientific Name	Common Name	STREET TREE SCHEDULE						
		BYRNES STREET	LLOYD STREET	WALSH STREET	MIDDLEMISS STREET	ATHERTON STREET	HORT STREET	RANKINE STREET
FEATURE TREE	Golden shower							
Cassia sp. paluma range		X						
SHOULDER ISLAND TREE								
Acmena hemilampra	Blush Satinash	X						
Buckinghamia celsissima	Ivory curl						X	
Buchanania arborescens	Satinwood		X					
Deplanchia tetraphylla	Golden Bouquet				X			
Harpulia pendula	Tulipwood							
Syzygium cormiflorum	Bumpy satinash			X				
Melaleuca viridifolia 'burgundy'	Burgundy weeper					X		
Stenocarpus sinuatus	Firewheel							X
MEDIAN ISLAND TREE								
Syzygium bamaganse	Bamaga satinash	X						

LEGEND

-  Feature Tree
-  Shoulder island Tree
-  Median Tree
-  Existing tree to be retained





- LEGEND**
- Feature Tree
 - Shoulder island Tree
 - Median Tree
 - Existing tree to be retained

JOINS L1.01

JOINS L1.03



- LEGEND**
- Feature Tree
 - Shoulder island Tree
 - Median Tree
 - Existing tree to be retained

JOINS L1.02

JOINS L1.04



JOINS L1.03

7 VISUALISATIONS



Byrnes Street - BEFORE



Byrnes Street - AFTER



Walsh Street - BEFORE



Walsh Street - AFTER



Hort Street - BEFORE



Hort Street - AFTER

8 References

Towoomba Regional Council, Street Tree Masterplan, 2011

City of Botany Bay, Street Tree Masterplan, 2014

City of Newcastle, Street Tree Masterplan, 2011

City of Cairns, City in a Garden Masterplan, 2007

City of Wanneroo, Street Tree Masterplan, version 2 2005

The Road to a Thoughtful Street Tree Masterplan, Ken Simons & Gary R Johnson, 2008

Coffs Harbour, Street Tree Masterplan, 1999

Mareeba Shire Planning Scheme, 2009