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7.0 LANDSCAPING

7.1 PURPOSE

This chapter is intended to provide supplementary information to expand on some of the elements specified in the Operational Works Code of the *Brisbane City Plan*. For example, Performance Criteria P1.1 of the Operational Works Code states “The pavement, edging and landscaping must support the specified functions and amenity of the road.” Therefore **the user must read this chapter in conjunction with the *Brisbane City Plan* to ensure that the development proposal complies in its entirety with the relevant codes, provisions and planning scheme policies.** The integration of well-designed landscape treatments is essential in the development of Brisbane as a livable city.

7.2 GENERAL

The planting details that are provided in this chapter are only a guide. As each site has individual and unique characteristics, these must be considered in the landscaping design. Landscaping proposals must generally conform to the following documents:

1. *Street Tree Policy* (Brisbane City Council).
2. Planting Species Planning Scheme Policy of the *Brisbane City Plan*.
3. *Centres Detail Design Manual* (Brisbane City Council).
4. *CBD Detail Design Manual* (Brisbane City Council).
5. *Street Tree Management Plans* (Brisbane City Council).
6. *Native Plants of Brisbane Lists* (Joint Council/Greening Australia publication).

7.3 LANDSCAPE DRAWINGS

Fully detailed landscape drawings must be prepared by a suitably qualified Landscape Architect or Designer, and submitted to the Landscape Architect Development & Regulatory Services for approval.

7.4 PLANTING AREAS AND STREET TREES

7.4.1 Planting Areas

Planting areas (or garden beds) on the verge/footpath will only be approved at feature locations or where the design of the site lends itself to a planting area or landscaped area. High maintenance plants will not be accepted. The planting area will usually consist of small shrubs and ground covers. Small planting areas are permitted around the trunk of street trees.

Planting areas within the verge must usually not exceed 1.0 metre in width. A 140 mm x 100mm extruded concrete mowing strip or approved equivalent must be constructed around all planting areas excluding street trees.



7.4.2 Plant Characteristics

The form, texture and colour of plants play an essential role in creating character and interest within a landscape. Plants with structured geometric shapes are suitable for formal landscapes whereas a more natural landscape can be achieved with the use of plants with looser shapes. The selection of plants should also reflect the purpose/function required, eg to provide shade and the required maintenance characteristics.

7.4.3 Maintenance Aspects

Maintenance aspects that would need to be considered would generally include:

1. The provision of long life plants rather than short life.
2. **Species choice must match the planting space available.** Adequate space must be provided to allow root growth to proliferate within the space, and not into adjacent surfaces/structures.
3. Minimum watering and pruning.
4. No interference with existing above and below ground services, signage, street lighting, footpath, kerb and channel, structures, road structure and surface, etc.
5. Sub-surface drainage from medians and traffic islands discharging to an enclosed pipe system.

7.4.4 Street Trees General

Street trees should provide the following features:

1. Significant existing trees should be identified and incorporated into parkland and road reserve planting where possible
2. Avenues of consistent species where possible, allowing for use of individual feature trees at focal points like roundabout, ends of a local access road, medians of main collector road, etc.
3. Species chosen should reflect the character and site conditions of the area. The species choice must be appropriate for the available space allowing for future growth including root development.
4. Planting techniques should incorporate containment of root growth where necessary. Setback from the kerb should be sufficient to enable safe access and exit from parked vehicles and clear visibility at driveway crossovers and at pedestrian crossings. Consideration must be given to the location of underground services, street lights, and traffic signs.



7.4.5 Street Tree Locations

Street trees are usually planted at 2.95 m (applicable to 3.75 m verge width) and 3.27 m (applicable to 4.25 m verge width) from the real property alignment. Also refer Standard Drawing Nos. UMS 121, UMS 122, UMS 123 and UMS 124. The location must accommodate the ultimate size and shape of the tree.

Planting must be avoided in the following areas:

- Within 3 metres of:
 - Power pole.
 - Driveway.
 - Invert crossing.
 - Inspection boxes.
 - Fire hydrants.
 - Water valves.
- Within 5 metres from the departure side of a pedestrian crossing.
- Within 6 metres from the departure side of a bus stop.
- Within 7 metres of a street light.
- Within 10 metres of the departure corner.
- Within 15 metres of the approach side of a pedestrian crossing and from the approach corner.
- Within 20 metres from the approach to a bus stop.

The recommended spacing between trees is 7 metres for a small crown width, 10 metres for a medium crown width, and 15 metres for a large crown width.

7.4.6 Street Tree List

This section outlines the tree species that should be considered for any landscaping within the road reserve. The species list is subject revision on an annual basis and must also be used in conjunction with the *Street Tree Master Plan*. For more information regarding the street tree list, contact Metropolitan Tree Services.

Root barriers must not be used as a band-aid to bad species choice or inadequate root zone space. Root barriers deflect roots, and they will not work unless the top side of the deflector is above the surface.

Large crown width, spreading trees suitable for verges/footpaths and medians, placed centrally in an area 7 metres wide or greater and minimum unpaved area of 6 m² (this area can be grated or companion planted), with available root zone of minimum 10 m³

Ficus hillii	Hill's fig
Ficus obliqua	Small-leaved fig
Ficus benjamina	Weeping fig
Delonix regia	Poinciana
Jacaranda mimosifolia	Jacaranda



In order to reduce infrastructure maintenance, the location of particular tree species within the development should be carefully considered. For example do not plant fig trees near buildings or near kerb and channel or constructed footpaths, due to their invasive roots.

Trees (centrally planted) suitable for verges/footpaths greater than 2.5 metres but less than 7 metres wide and minimum unpaved root zone 1.5 m² (can be grated or companion planted), with available root zone of minimum 5 m³

Spreading Canopy Trees (medium crown width)

Caesalpinia ferrea	Leopard tree
Waterhousia floribunda	Weeping lilly pilly
Harpullia pendula	Tulipwood
Cassia siamea	Cassod tree
Tabebuia rosea	Pink trumpet tree
Peltophorum pterocarpum	Yellow poinciana
Tamarindus indica	Tamarind
Schotia brachypetala	Kaffir bean
Flindersia schottiana	Bumpy ash

Upright/Columnar/Elliptical Trees – small crown width (suitable for medians)

Lophostemon confertus	Brush box
Melaleuca leucadendron	Fine & broad leaf tea tree
Melaleuca quinquenervia	Broad leaf tea tree/paperbarked tea tree
Melaleuca viridiflora	Broad leaf tea tree/vivid flower paperback
Grevillea baileyana	Findlay's silky oak
Flindersia australis	Crows ash
Casuarina cunninghamiana*	River sheoak
Casuarina glauca*	Swamp sheoak
Syzygium leuhmannii	Lilly pilly
Syzygium francissii	Small leaf lilly pilly

* Median strips only, not footpaths

Small-medium crown trees with rounded canopies (eg trees suitable for traffic islands/traffic control devices and also suitable on footpaths with overhead power lines and near street lights)

Buckinghamia celcissima	Ivory curl flower
Cupaniopsis anacardioides	Tuckeroo
Tabebuia palmerii	Pink trumpet tree
Tabebuia argentea	Silver trumpet Tree
Tabebuia chrysanthus	Yellow trumpet Tree
Pongamia pinnata	Native wisteria
Backhousia citriodora	Lemon scented ironwood
Xanthostemon chrysanthus	Golden penda



Feature Trees – small crown width (suitable for roundabouts – centrally placed in minimum planting space 5 metres wide)

Araucaria cunninghamii	Hoop pine
Araucaria heterophylla	Norfolk Island pine
Grevillia robusta	Silky oak
Brachychiton acerifolius	Flame tree
Aqathis robusta	Kauri pine

7.4.7 Shrubs and Ground Covers

The following list of shrubs and groundcovers are an indication only of some of the plants that are acceptable to Council.

Small Trees, Large Shrubs

Jacksonia scorparia	Dogwood
Melaleuca tamariscina var. irbyana	
Callistemon polandii	Red bottle brush
Baeckea virgata	Baeckea
Kunzea flavescens	
Tristaniopsis laurina	Water gum
Pittosporum rhombifolium	

Shrubs with Sculptural Forms

Asteromyrtus symphyocarpa	
Callistemon pachyphyllus	Swamp bottle brush/red, green bottlebrush
Doryanthes palmeri	Spear lily
Crinum pedunculatum	Swamp lily
Agave attenuatum	
Dietes grandiflora	
Tectorius var pedunculatus	
Strelitzia reginae	
Agapanthus africanus	

General Shrubs

Rhaphiolepis indica	Indian Hawthorn
Plumbago auriculata	
Abelia grandiflora	
Barleria cristata	
Malpighia cocigera	
Murraya paniculata	Murraya/Mock orange
Callistemon salignus	Willow bottle brush
Graptophyllum exelsum	
Melastoma affine	



Ground Covers

Themeda triandra	Kangaroo grass
Cynodon dactylon	
Lonicera japonica	
Vitex ovata	
Myoporum ellipticum	
Lomandra longifolia	Long leaved matrush
Dianella caerulea	Flax lilies
Alternanthera tricolour	
Nandina domestica	
Russelia equisetiformis	
Juniperus confertus	
Trachylopernum jasminoides	
Pennisetum setaceum	Fountain grass

7.4.8 Street Trees Planting Guide

Currently Developers can either:

1. Contribute to the cost of planting and establishing street trees. The amount is calculated by a rate per allotment that provides for one tree per allotment, planted by Council when the development is complete and houses are substantially built.
2. Undertake their own tree planting with a 12 month maintenance period. A road reserve landscaping plan showing existing and proposed trees, location of street lights, driveways, services, etc, must be submitted and approved (prior to planting) by both Development & Regulatory Services and Metropolitan Tree Services. After a 12 month maintenance period, Metropolitan Tree Services will inspect trees to ensure Council standards are met. When the Developer undertakes their own tree planting, **the minimum stock size (20 litres)**, quality of plants, planting and after care must conform to Council's requirements. Damaged trees must be replaced. Figure B7.4.1 shows a basic tree planting detail and Figure B7.4.2 shows a planting zone diagram for medians and roundabouts.

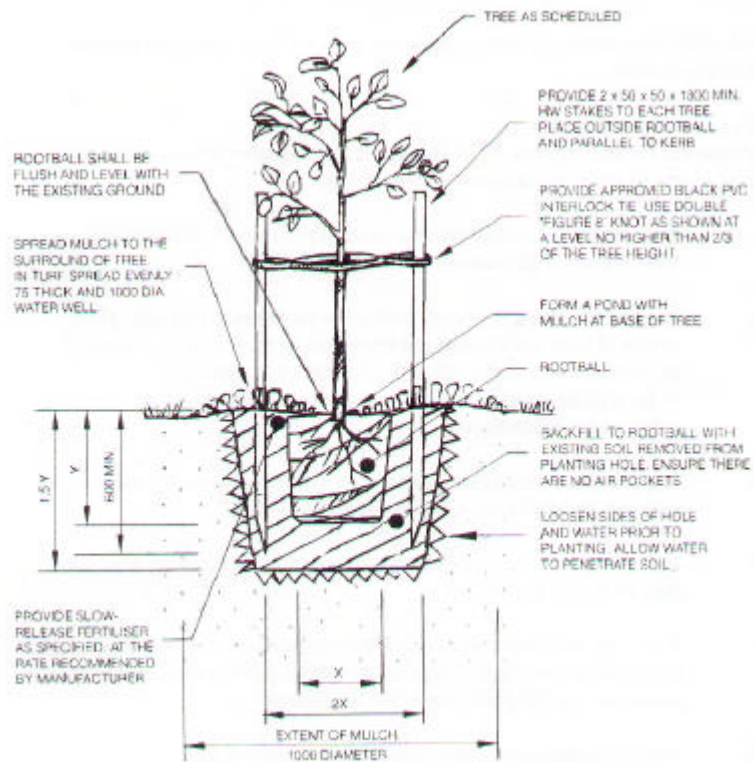


FIGURE B7.4.1
 BASIC STREET TREE PLANTING DETAIL

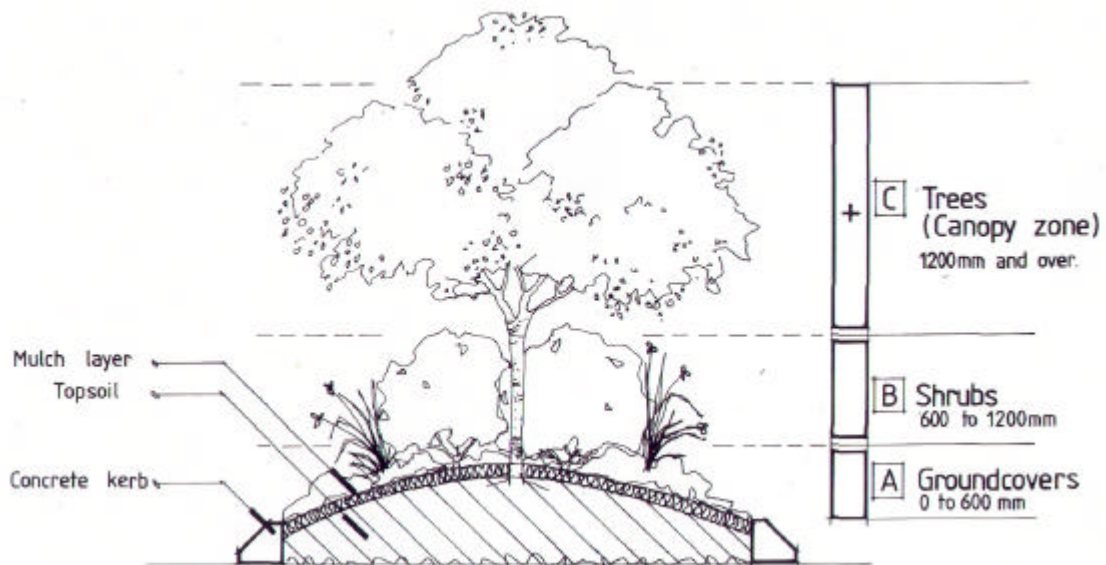


FIGURE B7.4.2
 PLANTING ZONE DIAGRAM



7.5 ENTRANCE FEATURES

7.5.1 General

Sales marketing features such as waterfalls, fountains, flagpoles, ornate entrance structures, landscaping and the like must not protrude onto any footpath, road reserve or access restriction strip without the written approval of Development & Regulatory Services.

Permanent Landscaping

Council will only consider permanent entrance features for acceptance within the road reserve or access restriction strip areas provided that:

- They are not just a short term marketing feature but actually add to the long term amenity of all residents of the subdivision.
- They are fairly basic structures confined to the entrance area only. Short lengths of fence and columns, no more than 2 metres high, are acceptable. The entrance area is generally defined as the area between the tangent points of the main through road and the entrance road to the subdivision or village within a large subdivision.
- They are constructed of low maintenance materials that can be readily replaced. Standard brick and concrete are acceptable.
- They should be painted with anti-graffiti paint and have mowing strips both sides for ease of maintenance.
- They have structural certification where necessary for construction prior to signing and sealing. If constructed after signing and sealing, structural certification will be required prior to placing the development 'Off Maintenance'.
- They do not affect the public utilities. Written approval of the service authorities may be necessary where the feature affects a substantial width of footpath.
- They do not compromise pedestrian or traffic safety.

Details of these entrance features must be shown on the engineering and landscape drawings. Acceptance of these features will be at the discretion of Development & Regulatory Services and will be specifically mentioned in the plan approval.

Temporary Landscaping

Temporary landscaping including waterfalls, fountains, non-standard ornate landscaping such as annuals as part of sales and marketing strategy will not be approved within the road reserve (footpath or median).



7.6 TRAFFIC ISLANDS

The general treatment of traffic islands and medians must comprise a mixture of landscaping and hard surface infill.

7.6.1 Treatment of Medians

For medians less than 2.5 metres in width, landscaping or turfing will generally not be approved. In these areas a concrete infill, usually stencilled or exposed aggregate concrete or concrete pavers is necessary.

Special consideration needs to be given for surfaces steeper than 1V in 3H, areas which are difficult to access for maintenance or which cannot support healthy plants. These situations usually will require a hard treatment.

Medians and islands that will be planted rather than concrete infilled must be designed to accommodate landscape works by providing:

- A median kerb keyed 135 mm into the pavement.
- A 300 mm concrete backing strip behind the kerb.
- Adequate site preparation and soil depths.
- Root barriers where needed (see species information Section 7.4).
- Conduit for future tap connection.
- Sub-soil drainage discharging to an enclosed pipe system.

7.6.2 Treatment of Traffic Control Devices

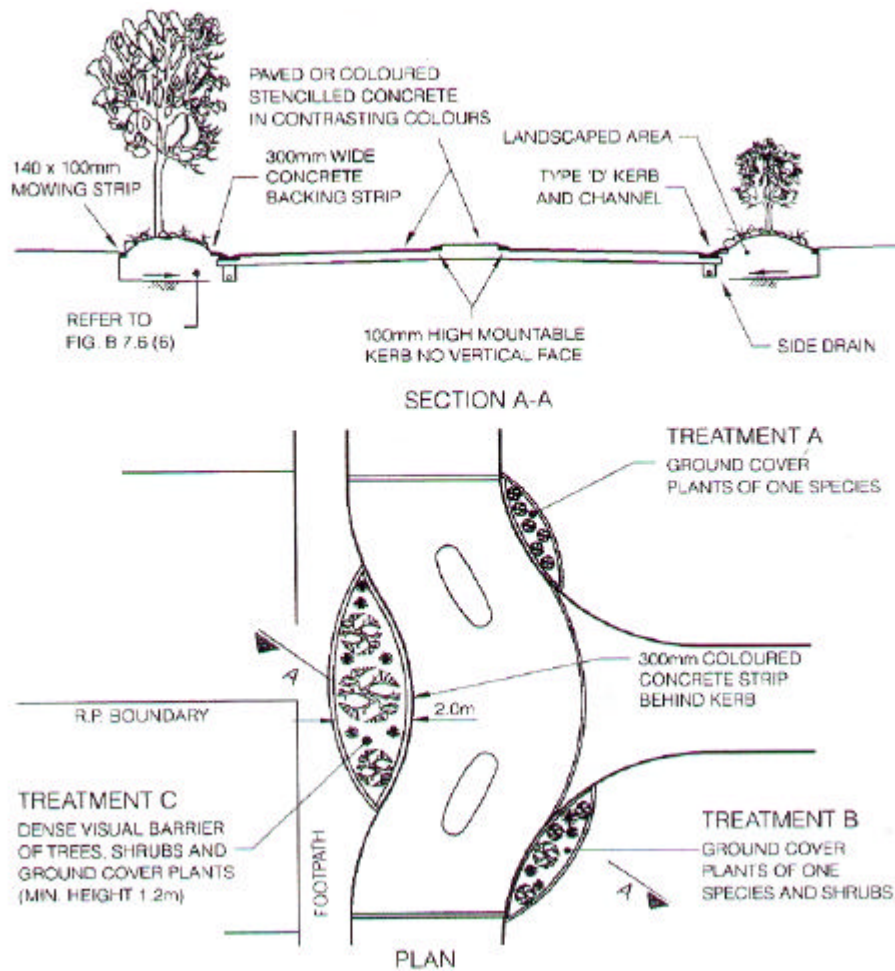
General

Council's preference is that landscaping at traffic control devices is designed using Figures B7.6.1, B7.6.2, B7.6.3, B7.6.4, B7.6.5 and B7.6.6 as a guide. Landscaping treatments must also satisfy the traffic engineering requirements of Chapter 5 of Part B of this document and the relevant sections of *City Plan*.

Tree Form and Shape

The selection of plants should take into account the following traffic design criteria:

- Sight paths at intersections and speed control devices
- Tree form, shape and location within the road reserve must not to encroach into the space required for a vehicle to pass through a traffic control device.



NOTES

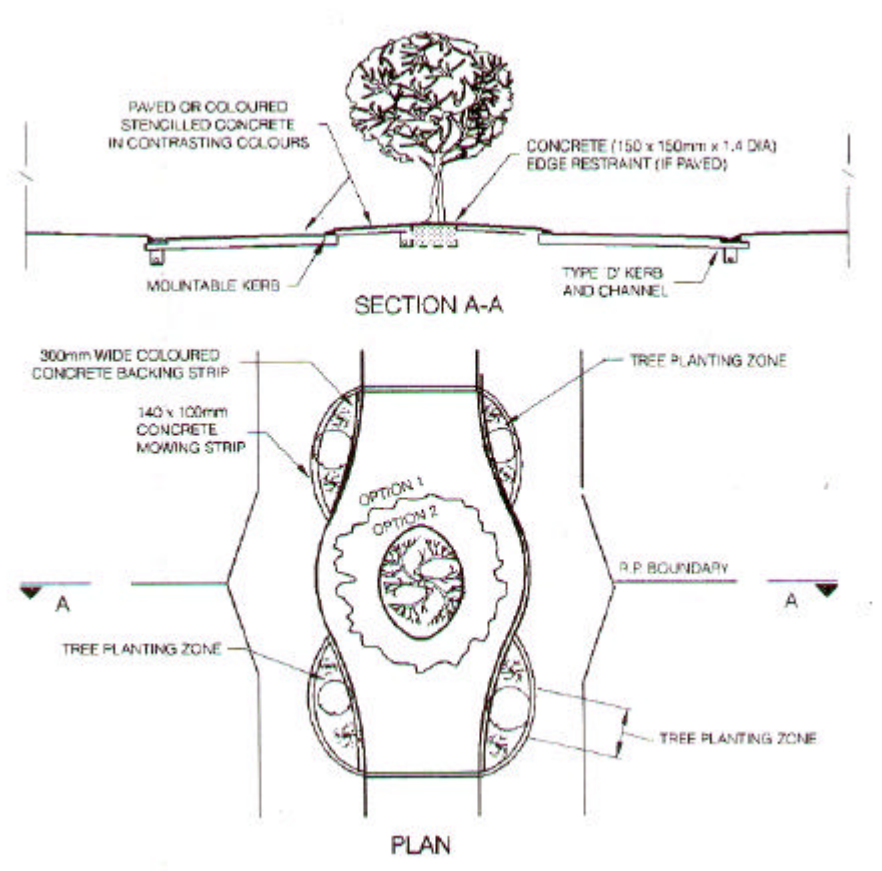
1. CONCRETE COLOURS, UNIT PAVING AND PLANTING SCHEME SHOULD BE COMPLEMENTARY.
2. THE ABOVE PLANTING IS A GUIDE ONLY. PLANTING SHOULD BE CHOSEN ON HARDINESS, SUITABILITY OF SOIL TYPE, MICROENVIRONMENT AND LANDSCAPE CHARACTER.
3. TREATMENTS FOR VERGE PLANTING

TREATMENT A - HEIGHT LIMIT OF 600 mm MAX. INCLUDING MOUNDING - A SINGLE SPECIES WITH FLOWERS.

TREATMENT B - HEIGHT OF 600 mm MAX. INCLUDING MOUNDING – TWO SHRUB SPECIES AND GROUND COVER.

TREATMENT C - NO HEIGHT LIMIT BUT THE TREE CANOPY MUST BE CLEAR OF VEHICLES.

FIGURE B7.6.1
TYPICAL LANDSCAPING TREATMENTS FOR
DEFLECTED T-INTERSECTION TRAFFIC CONTROL DEVICES



OPTIONS FOR CENTRE ISLAND PLANTING

OPTION 1

FEATURE TREE WIDE CANOPY ON CLEAR TRUNK AND GROUND COVER
 Eg SYNOUM GLANULOSUM AND ALTERNANTHERA TRICOLOUR

OPTION 2

NARROW CANOPY BRANCHING TO GROUND.
 Eg PITTOSPORUM RHOMBIFOLIUM OR WIDER CANOPY
 Eg MELALEUEA TAMARISCINA VAR. IRBYANA

OPTIONS FOR SIDE PLANTING

OPTION A

PITTOSPORUM RHOMBIFOLIUM – (3 No) COLUMNAR TREE ABOVE 2 m

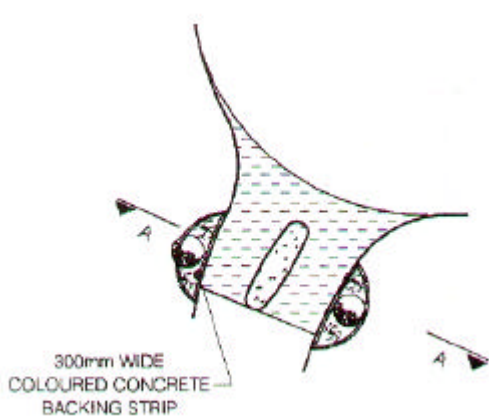
OPTION B

ASTEROMYRTUS SYMPHIOCARPA (3 No) AND TRACHYLOSPERMUM JASMINOIDES AT 300 mm CENTRES

OPTION C

DORYANTHES PALMERI (1 No), JUNIPERUS CONFERTUS AT 600 CENTRES AND RHAPHIOLEPIS INDICA (2 No)

**FIGURE B7.6.2
 TYPICAL LANDSCAPE DESIGN CONCEPTS FOR
 CENTRAL ISLAND TRAFFIC CONTROL DEVICE**



SUGGESTED PLANTING SCHEDULE

SHRUBS: -

ABELIA GRANDIFLORIA

GROUND COVERS: -

AGAPANTHUS AFRICANUS
VITEX OVATA

TREES: -

MELASTOMA AFFINE
MELALUECA LEUCADENDRON
MELALEUCA VITIDIFLORA

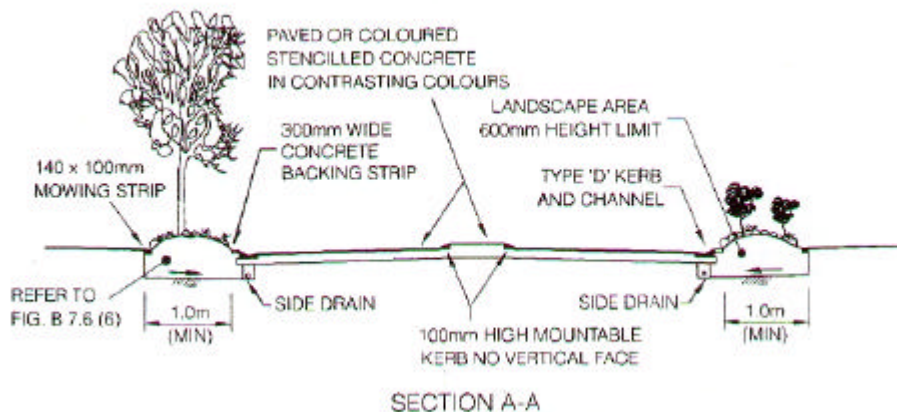
**OPTIONS FOR VERGE PLANTING
(R/H SIDE OF SECTION A-A)**

- A. HEIGHT LIMIT OF 600 mm MAX. INCLUDING MOUNTING – A SINGLE SPECIES WITH FLOWERS
- B. HEIGHT LIMIT OF 600 mm MAX. INCLUDING MOUNTING – TWO

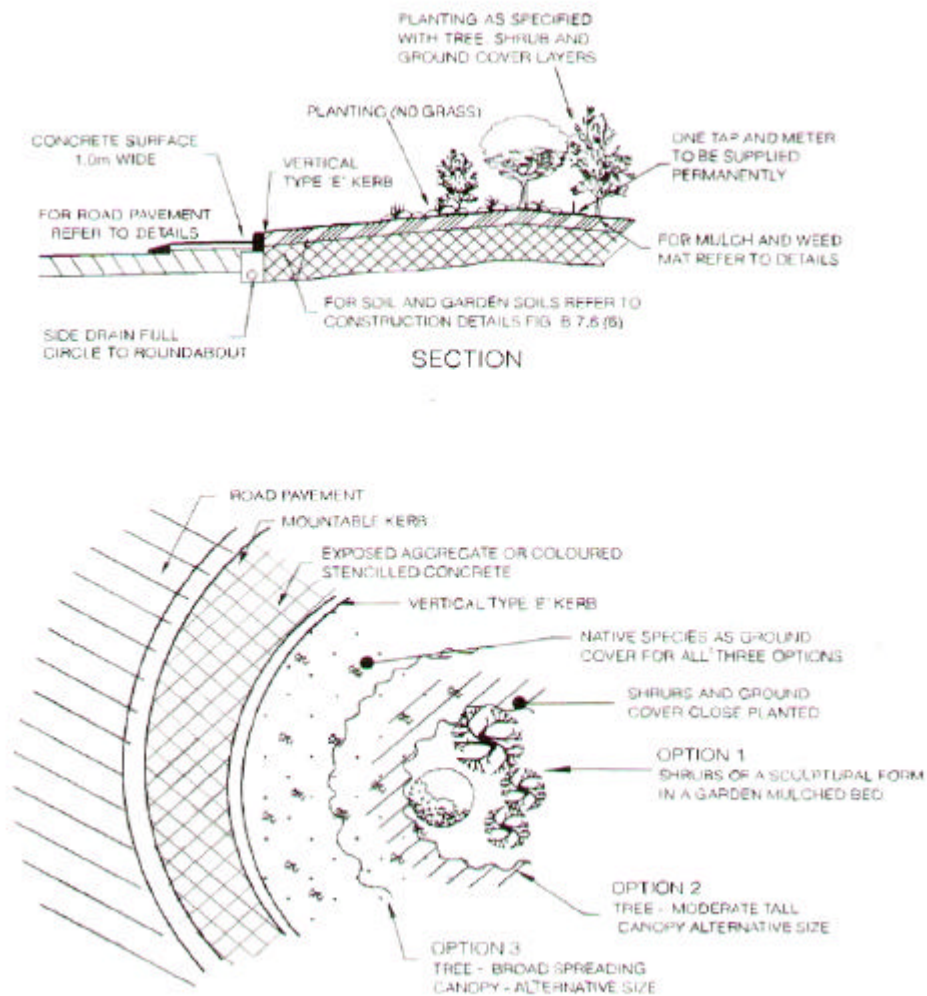
SHRUB SPECIES AND A GROUND COVER (L/H SIDE)
NO HEIGHT LIMIT BUT THE TREE CANOPY MUST BE CLEAR OF VEHICLES

NOTES: -

1. CONCRETE COLOUR, UNIT PAVING AND PLANTING SCHEME SHOULD BE DESIGNED TO BE COMPLEMENTARY
2. THE ABOVE PLANTING IS A GUIDE ONLY. PLANTING SHOULD BE CHOSEN ON: -
 - HEIGHT AND SPREAD REQUIREMENTS,
 - HARDINESS,
 - SUITABILITY OF SOIL TYPE,
 - MICROENVIRONMENT AND
 - LANDSCAPE CHARACTER.



**FIGURE B7.6.3
TYPICAL LANDSCAPING OPTIONS FOR
T-INTERSECTION SPEED CONTROL DEVICE**

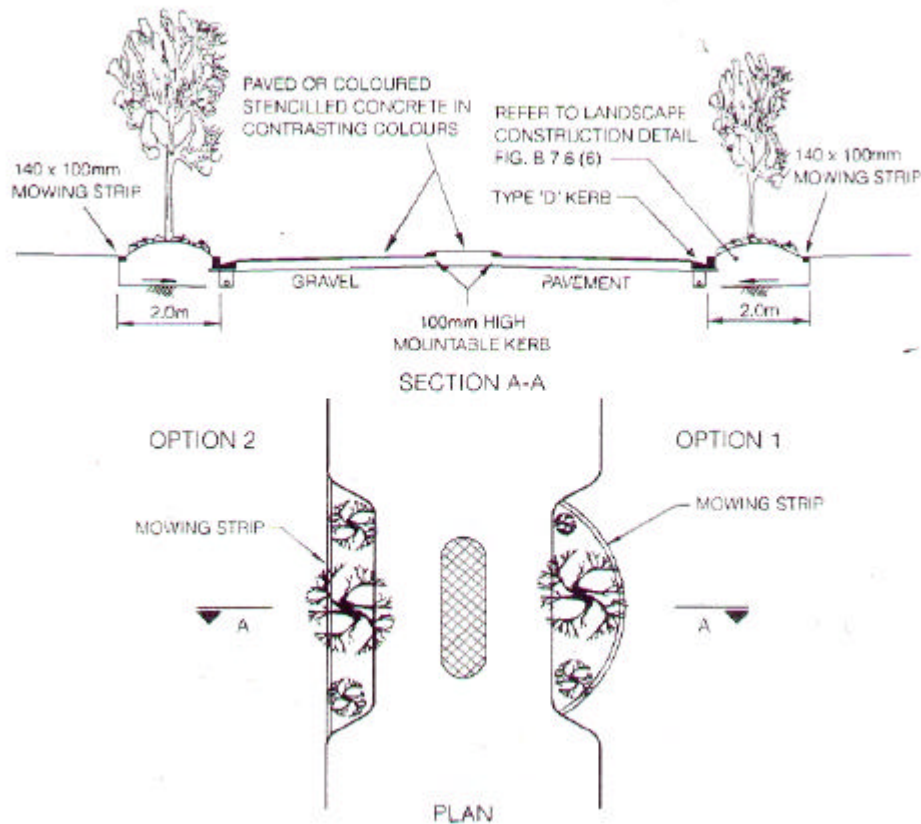


PART PLAN OF ROUNDABOUT

NOTES

1. THE ABOVE PLANTING IS A GUIDE ONLY. PLANTING SHOULD BE CHOSEN ON HEIGHT AND SPREAD REQUIREMENTS, HARDINESS, SUITABILITY OF SOIL TYPE, MICROENVIRONMENT AND LANDSCAPE CHARACTER.
2. THE SIZE OF THE CANOPY TREE MUST BE PROPORTIONAL TO THE SIZE OF THE ROUNDABOUT.
3. SIDE DRAIN TO DISCHARGE TO GULLY, MANHOLE ETC.

**FIGURE B7.6.4
TYPICAL PLANTING DESIGN FOR
LOCAL STREET ROUNDABOUT**



CANOPY TREES
 PELTOPHORUM PTEROCARPUM
 WATERHOUSIA FLORIBUNDA
 CASSIA SIAMEA

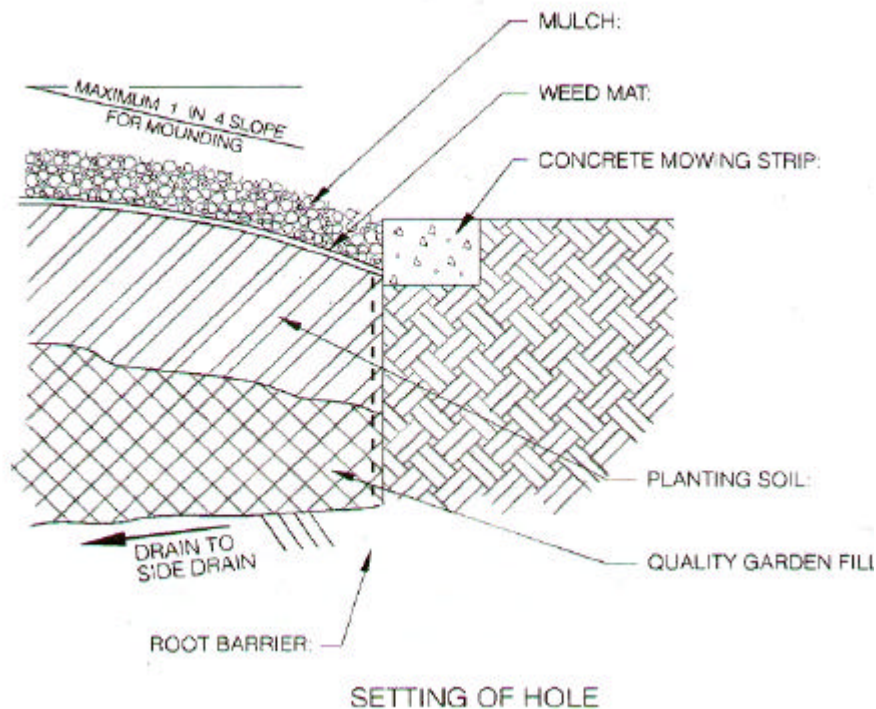
GENERAL SHRUBS
 RHAPHIOLEPIS INDICA
 PLUMBAGO AURICULATA
 ABELIA GRANDIFLORA

GROUND COVERS
 VITEX OVATA
 PENNISETUM SETACEUM

NOTE

THE ABOVE PLANTING IS A GUIDE ONLY. PLANTING SHOULD BE CHOSEN ON HEIGHT AND SPREAD REQUIREMENTS, HARDINESS, SUITABILITY OF SOIL TYPE, MICROENVIRONMENT AND LANDSCAPE CHARACTER

FIGURE B7.6.5
TYPICAL LANDSCAPE DETAIL FOR TRAFFIC CONTROL DEVICE
FOR NEIGHBOURHOOD ACCESS ROAD - BUS ROUTE



NOTES:

1. MULCH - PROVIDE 80 mm MINIMUM THICKNESS OF HEAVY PARTICLES TO MINIMISE DUST AND ALLOW FREE PASSAGE OF WATER AND AIR.
2. WEED MAT IS LAID OVER GARDEN SOIL AND PEGGED AT 1.0m CENTRES FOR STABILITY.
3. CONCRETE MOWING STRIP - 140 x 100 mm GRADE N25.
4. PLANTING SOIL MUST BE PLANTING MIX TO AS 2223 AND BE A MINIMUM 300 mm THICK DEPENDING ON INSITU SOILS.
5. ROOT BARRIER - PROVIDE ROOT BARRIER AT THE INTERFACE BETWEEN GARDEN AND ROAD/FOOTPATH.
6. QUALITY GARDEN FILL MUST CONFORM TO AS 2223 AND BE A MINIMUM 500 mm THICK TO PROVIDE FREE DRAINAGE TO THE SIDE DRAINS.
7. NO WATERING TAP REQUIRED.

**FIGURE B7.6.6
 TYPICAL PLANTING DETAILS**



7.7 STREET FURNITURE

Any street furniture incorporated into landscaping is normally limited to low maintenance retaining walls, boulders and handrails and is only acceptable in special circumstances. Council will not approve high maintenance structures such as archways, flagpoles, statues, planting pots, street lamps, seating benches, etc, unless prior approval from Development & Regulatory Services has been obtained.

7.8 LANDSCAPING OF DETENTION BASINS

Detention basins are predominantly in parkland and therefore aesthetics as well as useability are very important. The basin is not to look like a hydraulic structure; rather the parkland is to have special character mainly by use of landscaping. This will involve the use of variable slopes, camouflage of inlets and outlet structures, good surface and sub-surface drainage, etc. Trees must have small leaves to reduce the chance of blockage of the downstream inlet structure. Refer Chapter 6 of Part B of this document for further details.

7.9 OPEN CHANNELS

Canopy type trees are usually selected for designed open channels. Refer also Chapter 6 of Part B of this document for further details.

7.10 LANDSCAPING OF BATTERS

Batters < 1V in 4H

These batters can be easily mown and therefore grass cover with sparsely planted trees is usually satisfactory, depending on the purpose of the area.

Batters > 1V in 4H

These batters are not easily mown and therefore alternative easily maintained landscaping is required. Again the purpose of the area will dictate the requirements. Generally these batters will need to be densely planted, mulched and with a suitable edging. For very steep batters a combination of retaining walls and planting will generally be required. Surface drainage should be redirected away from steep batters to prevent erosion and destabilisation of the batter. Where batters may be subject to erosion, turf hydromulch or other approved treatments must be provided.

7.11 IRRIGATION

Automatic watering systems must not be installed on a permanent basis. Attention should be paid to the requirements of Development & Regulatory Services in regard to automatic watering systems should they be necessary. If installed the watering system must be removed before the estate is accepted 'Off Maintenance'. During the 'On Maintenance' period a gradual decrease in watering needs must occur so that the plants will be conditioned to drier conditions prior to the 'Off Maintenance' period.