

Capalaba Principal Activity Centre

Streetscape Design Manual



Redlands Planning Scheme



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Capalaba Principal Activity Centre Streetscape Design Manual
August 2007
Version 2

These design manuals are called up by the Redlands Planning Scheme Policy 17 – Streetscape Design Manuals.

The designs within this manual have been adopted by Redland Shire Council to ensure that the design integrity of Capalaba Principal Activity Centre is maintained. Should any elements contained within these design manuals require further information and/or detail, please contact Redland Shire Council Customer Service (07) 3829 8999 for assistance.

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1.0 POLICY PHILOSOPHY

1.1 Statement of Intent

These streetscape design standards provide guidance to developers in satisfying the planning and design of the Capalaba Principal Activity Principal Activity as explained in the Redlands Planning Scheme, and to achieve the creation of a high quality unified streetscape adjacent to their developments and a consistent design theme throughout the Capalaba Principal Activity Centre. The manual covers treatment to the footpath zones as shown on the **Map 1** and **Map 2**.

These design manuals are to be read in conjunction with the Capalaba Principal Activity Centre Streetscape Master Plan, as well as the requirements of the Redlands Planning Scheme and any other Council policy documents (adopted from time to time) relating to the Capalaba Principal Activity Centre.

Feature points on the street such as pedestrian spines; special development sites and other important linkages; entries; corners; and, congregation areas, shall be treated with particular attention. The appropriate mix of furniture and landscaping will ensure the implementation of the development requirements for the Redlands Planning Scheme. For details of specific requirements reference should be made to the–

- (a) relevant Zone Code(s);
- (b) relevant Use Code(s);
- (c) Access and Parking Code;
- (d) Centre Design Code;
- (e) Landscape Code;
- (f) *Capalaba Principal Activity Centre Streetscape Design Manual*;
- (g) *Point Lookout Headland Masterplan and Design Manual*;
- (h) Infrastructure Works Policy;
- (i) Outdoor Dining Policy;
- (j) Schedule 1 – Access and Parking;
- (k) Schedule 9 – Trees;
- (l) Schedule 10 – Vegetation Species List;
- (m) Vegetation Protection Local Law number 6;
- (n) Department of Main Roads Landscape Manual and Traffic Noise Management Code of Practice;

These design standards provide specification for components such as:

- Pavements
- Street Furniture
- Soft Landscape
- Underground Services

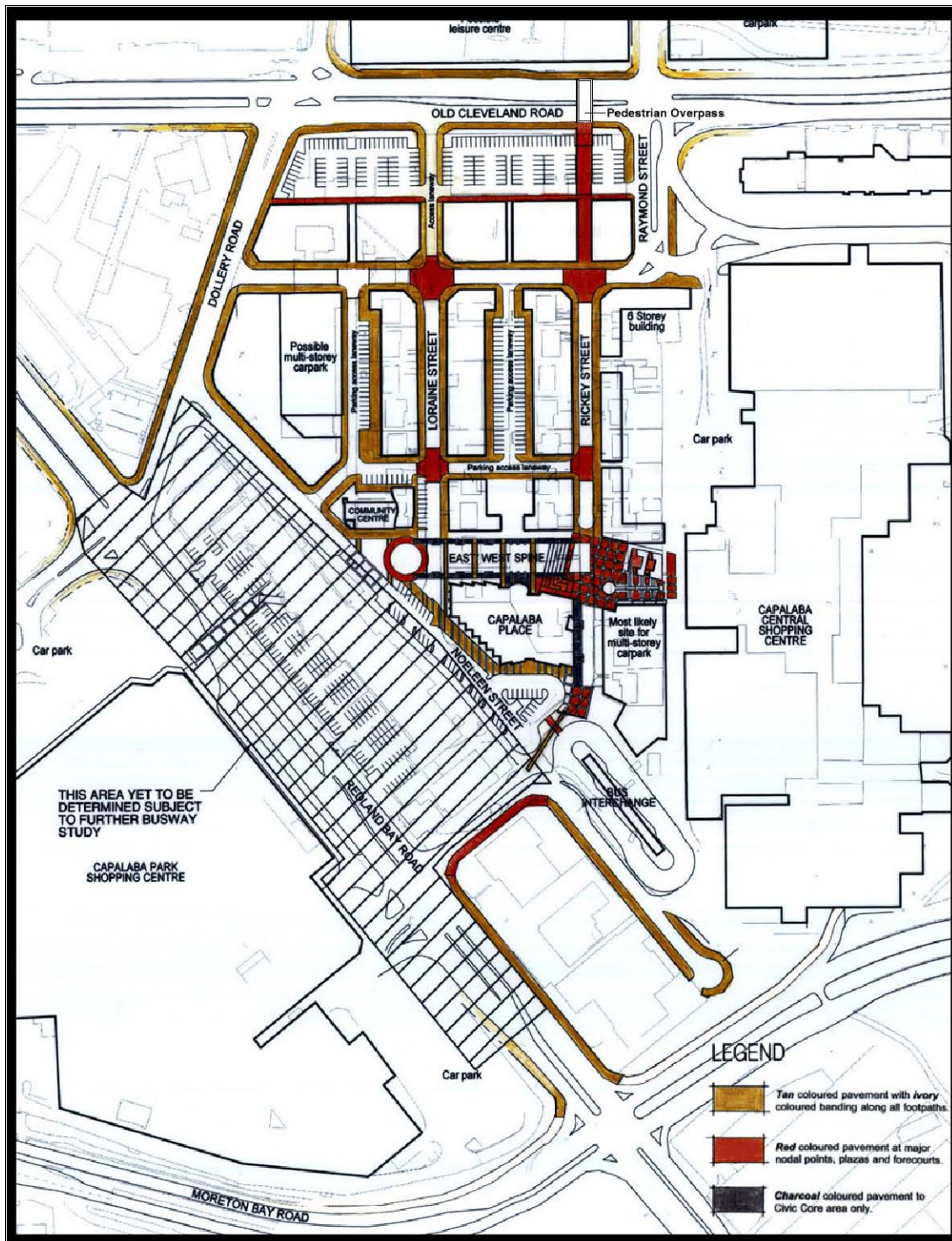
1.2 Use of Streetscape Design Manuals

Adherence to the design manuals will help to achieve an acceptable standard. These design standards will assist in eliminating uncertainty about acceptable standards applicable to streetscape and landscape requirements and to avoid possible delays in the development process and in particular the issuing of approvals for landscape and planting plans applicable to development approvals.

All materials, dimensions and workmanship shall comply with current published Australian Standards and Statutory Codes. Proprietary names and models are indicative of design and standard only. Alternative options that are consistent with the intent of those indicated may be substituted if approved.

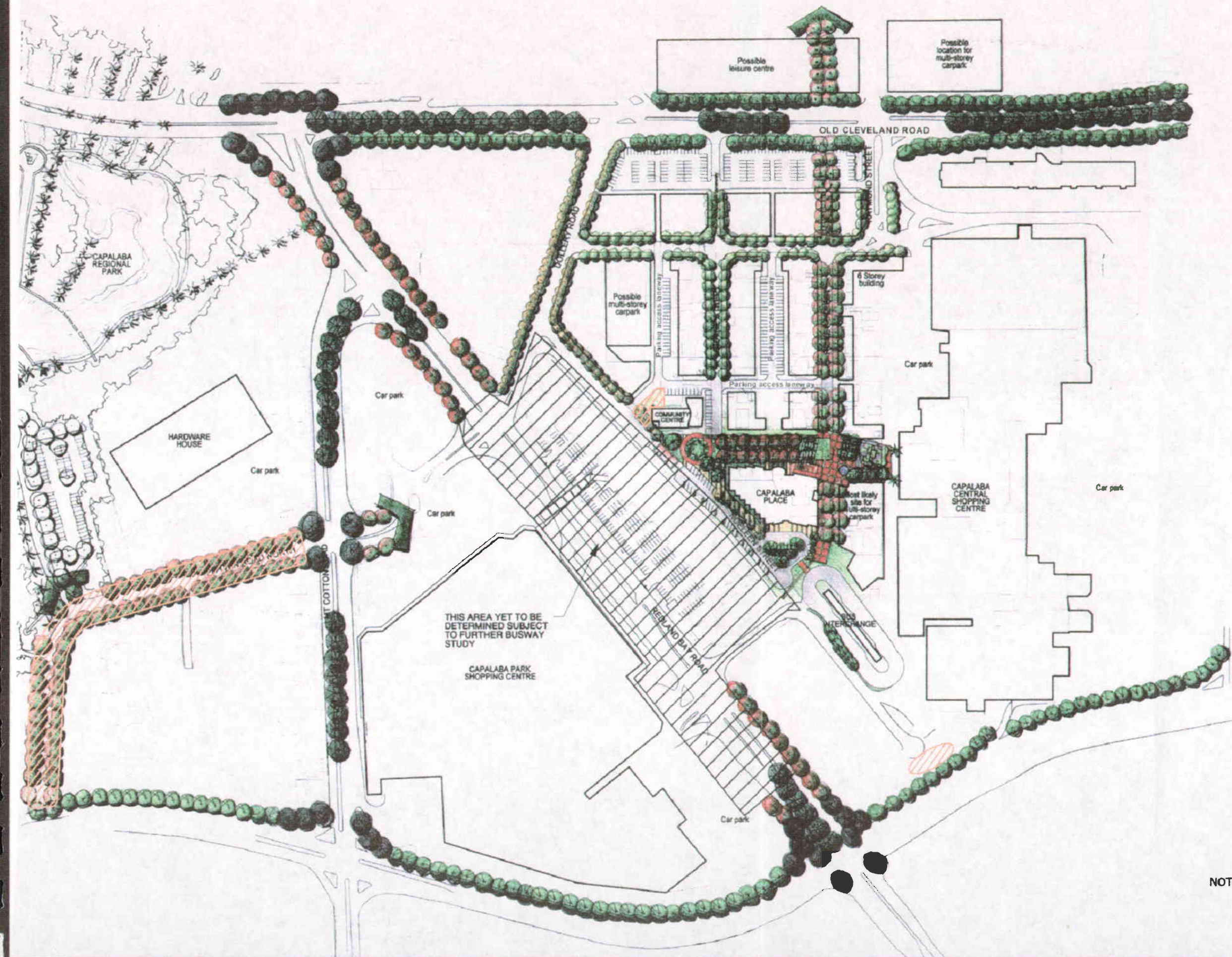
The product specification and all other applicable detail of the proposed product is to be submitted to the Manager Assessment services for approval. The finished quality, design, expected product life and maintenance requirements will be assessed (in consultation with the Managers, Infrastructure Planning, Land Use Planning and Operations and Maintenance) in reaching a decision.

Map 1: Pavement Colours/ Footpath Zones



Legend

-  *Rhodosphaera rhodanthema*
-  *Elaeocarpus grandis*
-  *Cupaniopsis anacardioides*
-  *Harpulia pendula*
-  *Podocarpus elatus*
-  *Gmelina leichardtii*
-  *Native palms*
-  *Ficus hillii*
-  *Jacaranda mimosifolia*
-  *Waterhousia floribunda*
-  *Parkland Linkage Trees*
-  *Brachychiton acerifolius*
-  *Elaeocarpus microcorys*
Eucalyptus seeana
Melaluca quinquenervia



NOTE: Tree planting along Department of Main Roads controlled carriageways to be in accordance with their tree planting code.

1.3 Aims/Objectives

The Streetscape Design Manual aims to identify:

- The nature of the streetscape elements to be provided and works to be undertaken;
- Design, colours, materials and construction specifications for streetscape elements and works;
- Siting and design criteria controlling the spatial relationship between streetscape elements of different types (eg. Clearances to the kerb and separation distances for seating and litter bins);
- Approval procedures and documentation requirements.

1.4 Approval Procedures and Documentation Requirements

1.4.1 Development Application

At the time of making application for a development permit for a material change of use, the site layout and concept plans should provide indicative details of streetscape works to be carried out in accordance with the requirements of the Redlands Planning Scheme – relevant zone and use codes, Centre Design Code, Infrastructure Works Code and Landscape Code and this document.

1.4.2 Operational Works or Associated Development Works Approval

Full specification and detail design drawings shall be required for approval. Approval of full detail documentation shall be issued by the Manager, Assessment Services. This document etc. should be prepared by a suitably qualified person and satisfy the requirements of the Redlands Planning Scheme, relevant codes and Planning Scheme Policies. The determination of such application through issue of a development permit or approval respectively, shall be finalised or as otherwise advised by Council's Manager, Assessment Services, prior to the issuing of a Development Permit for Building Works.

1.4.3 Works External to the above application process

Detail specification and design drawings shall be provided to the Manager, Operations & Maintenance who shall liaise with Managers of Assessment Services and Corporate assessment management prior to issuing any approval of works.

1.4.4 Consideration, Compliance and Conditions

The applicant shall provide Council with a statement of compliance to the standards of this manual when lodging detail specification and design drawings for streetscape improvements and works. Completion of approved works to an acceptable standard by Council's inspecting officer, in line with the conditions applied to a development approval, shall be a pre-requisite to the occupation and commencement of use from the site subject to such an approval. As a condition of development approval, works will be bonded as a guarantee of performance in accordance with Council's adopted practices and as set out in this Manual.

1.4.5 Service Authority Agreements

The applicant shall be responsible for notifying all relevant public authorities of the proposed works in writing and bear the respective costs of resultant upgrading or alterations to mains and services. Copies of relevant correspondence to and from service authorities shall be supplied as part of the application.

1.4.6 Permit to undertake works in a public road

Prior to any works commencing, a permit to undertake works in a public road (Road Opening Permit) shall be obtained from Council's Manager Assessment Services.

2.0 STREET FURNITURE

2.1 General Location/Position of Furniture

Generally, in footpath areas adjacent to parallel parking, it is preferred that furniture be located on the footpath on the side furthest from the kerb.

(Figure 1)

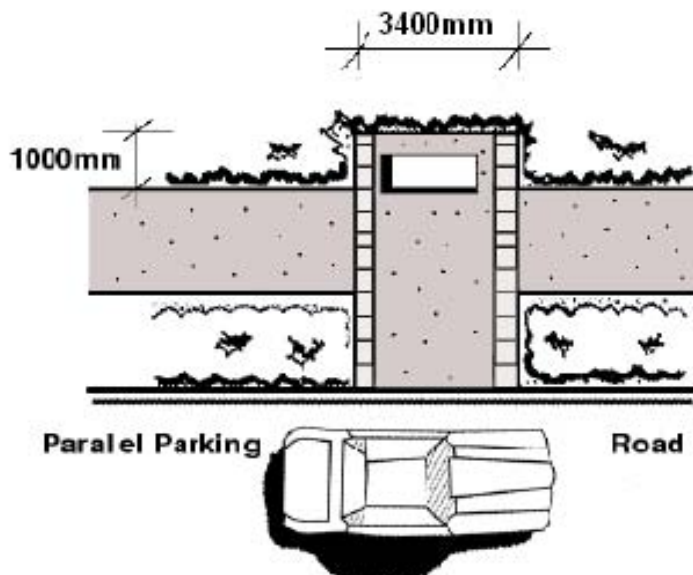
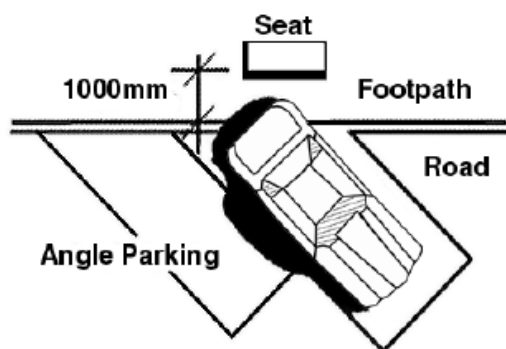


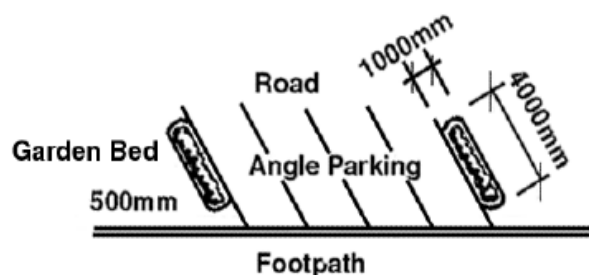
FIGURE 1: General location of furniture adjacent to parallel parking

In footpath areas adjacent to angled parking, furniture will be 1000mm minimum distance away from the outside kerb edge. In addition, planting shall be provided to planting beds approximately 1000mm wide x 4000mm length, to every 4 car parking spaces, where angled parking is required.

(Figure 2a & b)



2a



2b

FIGURE 2: General location of furniture / garden beds adjacent to angled parking

In footpath areas adjacent to garden beds, walls and kerbs - furniture will be 400mm minimum distance away from garden edges, walls and kerbs (Figure 3). Seats are to be located 400mm from kerb, only when they cannot be located on opposite side of the footpath (Figure 3b). In all seating areas, seats will be placed a minimum distance of 500mm away from paths of travel and will provide a minimum space next to seats of 1300mm x 800mm for persons in wheelchairs.

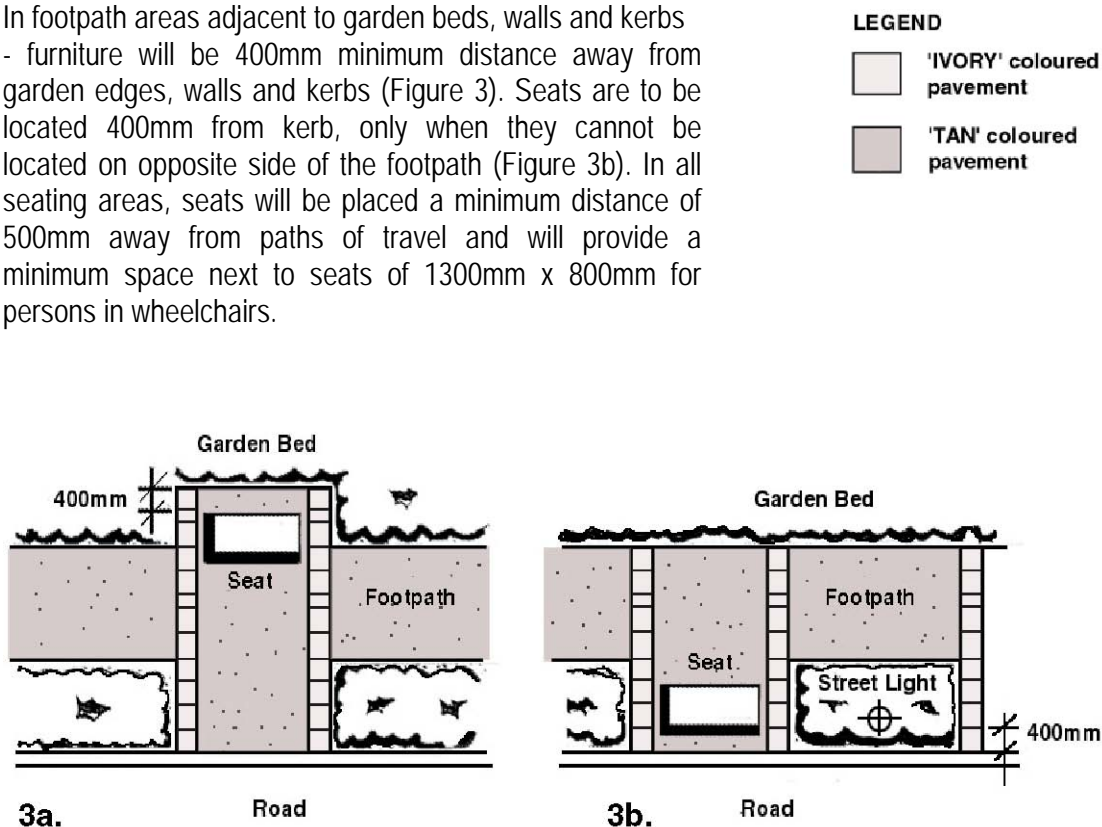


FIGURE 3: General location of furniture adjacent to garden beds, kerbs, and walls.

Furniture items are to be located centrally on precast paver units, wherever possible, where pre-cast paver units are present.

(Figure 4)

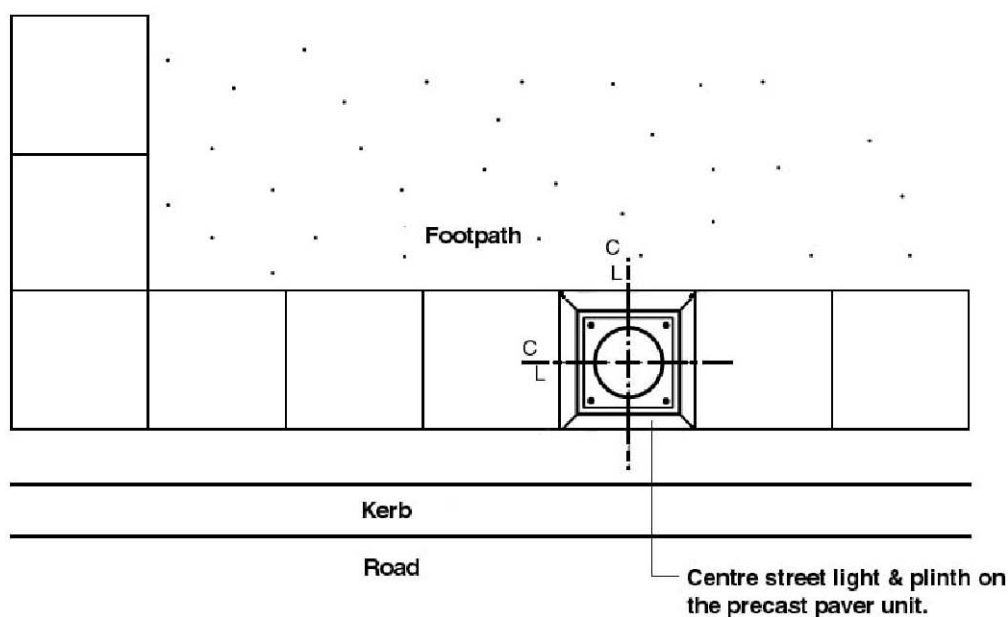


FIGURE 4: General location of Street Lights on paver units.

2.2 Fixtures

All fixtures must be long lasting quality to the following specifications:

- Items to be galvanised or powder coated shall be fabricated before galvanising or powder coating.
- All exposed metal shall have recoatable two pack epoxy acrylic high gloss coating, featuring superior exterior durability and mechanical resistance. Colour to be “black”.
- Fastenings to aluminium or aluminium alloys shall be Council approved aluminium alloys or non-magnetic stainless steel unless otherwise specified. Cadmium-plated steel fittings shall not be used. All other fastenings shall be stainless steel, no substitutions will be accepted. The furniture and fixtures illustrated in this document are of a type to achieve the required standard and consistency of design and construction. Variations in form and materials will require approval from the Manager Assessment Services (in consultation with the Manager Land Use and the Manager Infrastructure Planning Group), however the quality, design and specification of alternatives shall be consistent with the nominated range and have the following characteristics:
 - Construction of hot dipped galvanised iron for the frame or structure with hardwood seating, cladding or trims.
 - Design to utilise elements such as straight lines, regular curves, parallel or perpendicular placement of component pieces, T or cruciform fabrication joins, all harmonised so as to exhibit a geometric, contemporary, simple and uncluttered appearance. Designs of an ornate or decorative nature such as Victorian or Colonial themes or designs involving concrete or plastic structural elements are not acceptable.
- Street furniture requires a pre-ordering period of approximately one month for small numbers and two months for large numbers of elements.
- All timber seating should be seasoned hardwood (eg. Jarrah), with an oil based wood preservative to Council approval.

2.3 Range of Elements

Streetscape elements include:

- | | |
|---|---------------------------------|
| • Street Lighting | • Barriers |
| • Seating, Benches and Weather Protection | • Signage |
| • Bicycle Racks | • Sculpture and Street Artworks |
| • Bus Stops | • Tree Grates |
| • Litter Bins | • Cigarette Disposal Unit |
| • Drinking fountains | • Skateboard Deterrent |

2.3.1 Street Lighting

Light standard

Light fitting: twin light heads

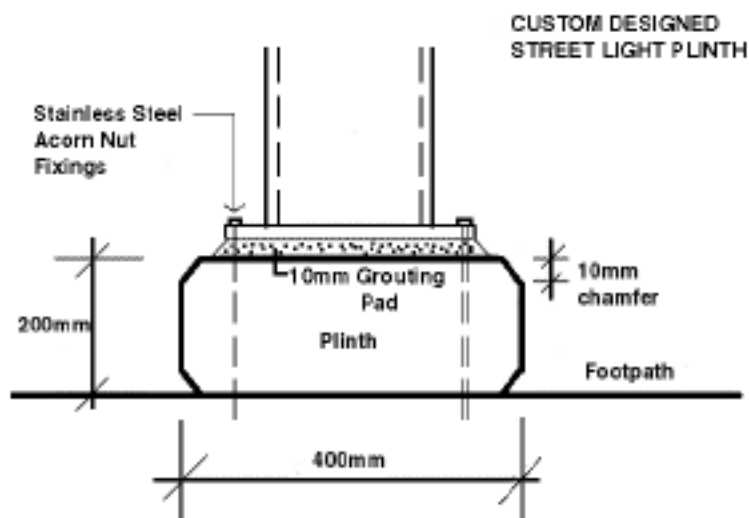
Pole: *Custom made*

Finish: *Dulux Acrathane IF, colour: black, or approved equivalent in accordance with Section 2.2*

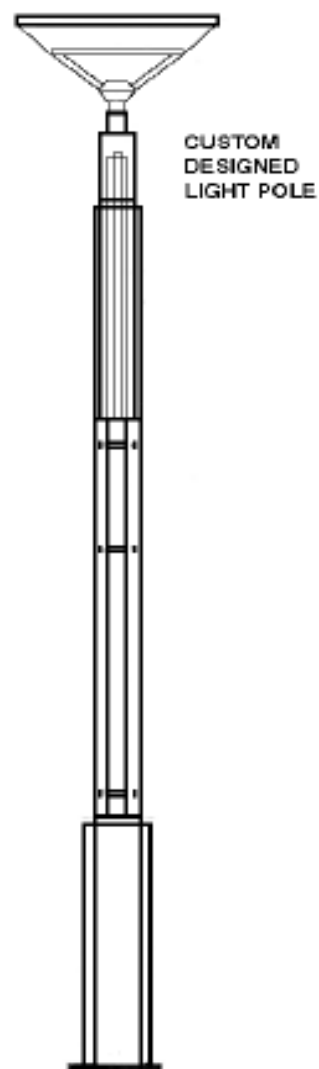
Location: Light standards are to be located centrally on precast paver units where possible, and/or a minimum distance of 600mm from adjacent kerb. Street lights are to have a maximum total height of 4m. The light pole is to be fixed to a plinth of exposed aggregate insitu concrete, 400x400x200mm with a 10mm chamfer to all corners. Colour of plinth is to match pavement (or paver unit), beneath plinth.

Refer Technical Notes Section 6.4.

(Figure 5a & b)



5a



5b

FIGURE 5a & b: Street Lighting

2.3.2 Seating, Benches and Weather protection

Generally, seats are to be located in every street of the Capalaba Principal Activity Centre. Benches are restricted to the Civic Core Area.

Seat: Mark Cox SBA2 'Promenade Range' – hot dipped galvanised, or equivalent in accordance with Section 2.2.

The seat should be installed with surface mounted vandal-proof and skateboard-proof fixtures.

Finish: *Dulux Acrathane IF or approved equivalent in accordance with Section 2.2.*

Timber Finish: *Two coats of "Ezy Deck" linseed oil finish by Quick and Easy Limited or equivalent.*

Colour: 'black'

Location: *Generally seats will be located along every footpath within the Capalaba Principal Activity Centre and at a maximum of 50m outside the core area. Bench seating will be located on a case by case basis or at intervals as otherwise determined by Redland Shire Council's Chief Executive Officer or a delegated Officer.*

(Figure 6)

It is preferred that seats have walls, gardens, or edges behind them to make them comfortable for users. It is also preferred that seats face activity areas to take advantage of shelter from awnings and utilise gardens as buffers. Where clear of windows and level changes, seats may be located adjacent to building walls.

Seating should be located near premises which encourage pedestrian waiting, sitting and congregating and at pedestrian thoroughfares. Seating should be located at active corner of entry points, such as at the ends of arcades.

(Figure 7a & b)

A minimum of 2000mm clear access way in 7a such seating locations is required.

LEGEND



-  'IVORY' coloured pavement
-  'TAN' coloured pavement



FIGURE 6: Seat with Back

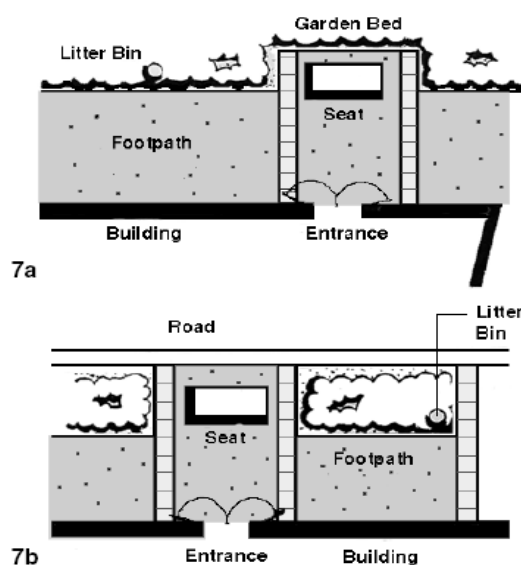


FIGURE 7: Location of Seating near Active Corners & Entry points

In situations where seats can only be located near kerbs, they will be located a minimum 400mm behind kerbs, facing away from the road.

(Figure 3)

Bench: Mark Cox BNS2 'Promenade Range' – hot dipped galvanise, or equivalent in accordance with Section 2.2.

The seat should be installed with surface mounted vandal-proof and skateboard-proof fixtures.

Finish: *Dulux Acrathane IF or approved equivalent in accordance with Section 2.2.*

Timber Finish: *Two coats of "Ezy Deck" linseed oil finish by Quick and Easy Limited or equivalent.*

Colour: 'black'

Location: *Civic Core (Main Plaza Area).*

(Figure 8)



FIGURE 8: Bench Seat

2.3.3 Bicycle Racks

Bicycle racks are to be placed so as not to impede or cause hazard to pedestrian and vehicular movement. Bicycle racks are to be placed at pedestrian thoroughfares where adjacent to car parking precincts and in the vicinity of corner areas provided such are integrated with streetscape improvements and are not a visual intrusion.

Bicycle racks: Cora Expo Series

Finish: *Stainless steel*

Location: *Bicycle racks are to be provided wherever possible to maximise non-vehicular transport into the Capalaba Principal Activity Centre. Refer **Technical Note Section 6.5 & 6.6***



FIGURE 9: Bicycle Rack

(Figure 9)

2.3.4 Bus Stops

Bus stops are to be designed so that they are integrated in layout, design and operation with major pedestrian links.

2.3.5 Litter Bins

Litter bin: Gossi Park Bayside 240 litre wheelie bin enclosure with adjustable hood and smoker set by G. James Glass & Aluminium, or equivalent in accordance with Section 2.2.

Finish: *Black anodised cabinet with clear anodised hood or approved equivalent in accordance with Section 2.2.*

Location: *Rubbish bins will be placed at interval and locations to be determined by Council and a minimum of 1200mm away from fixed seating and designated outdoor dining areas (where required). Council may require monetary contributions in lieu of dedication of a public rubbish bin (see below for further details).*

Bins are to be positioned centrally in precast paver units where pavers are present.

Construction: Surface mounted fixtures and footing as per manufactures specifications. The rubbish bins are to be fixed to a concrete footing having a minimum dimension 930mm x 710mm x 1360mm. The footing is to be constructed separate and directly below the surface pavement. Surface mounted masonry anchors must be used to fix the bin to the footing allowing the bin to be relocated if necessary.

(Figure 10a & b)



10a

FIGURE 10A: Litter Bin

Note: Council shall establish a program of bin replacement in locations where high refuge tenancies are located.

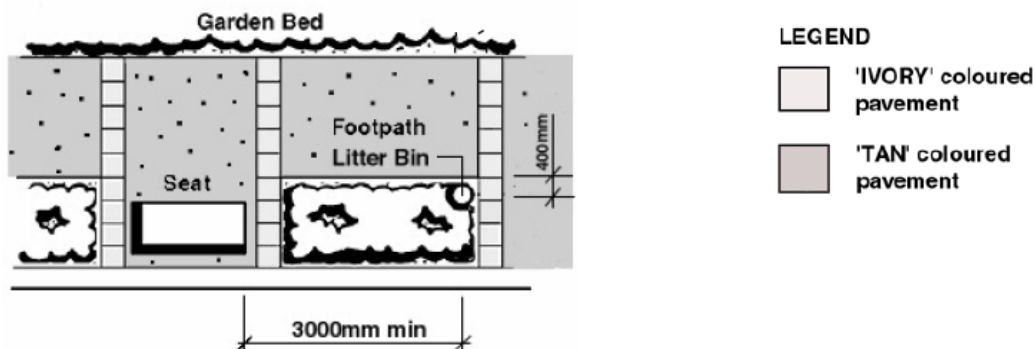


FIGURE 10B: Litter Bins

Council may require monetary contributions in lieu of dedication of a public rubbish bin in the following circumstances –

- (a) where the area of land to be dedicated for a public rubbish bin is of insufficient size or dimension or unsuitable due to physical site characteristics to meet the Council's needs and standards of provision; or
- (b) where Council determines there is no need for additional rubbish bins in the development site area.

A contribution in accordance with this design manual will be towards the cost of public rubbish bins as a condition of –

- (a) a development permit pursuant to the Integrated Planning Act 1997 in respect of a development application for –
 - (i) a material change of use that is assessable development; or
 - (ii) the reconfiguring of a lot that is assessable development.

Acceptance of monetary contributions by the Council does not imply that the contribution will be used immediately.

Applications for Outdoor Dining are required to have a Litter Management Plan in place. This Litter Management Plan will need to specify:

- how waste is going to be controlled;
- that the waste generated by the use will be collected daily and put into a commercial bin on the premises;
- a cleaning program to ensure that furniture used in the outdoor dining area is kept clean at all times to ensure that the character, amenity, streetscape setting and ambience of the surrounding area is maintained and enhanced..

In accordance with the Outdoor Dining Code and the Outdoor Dining Policy of the Redlands Planning Scheme, appropriate rubbish bins are to be provided for use by patrons, which are cleaned and emptied by the permit holder. Council footpath rubbish bins are not to be used in association with an outdoor dining area for disposing of food wastes and the like.

2.3.6 Cigarette Disposal Units

Use: The intent is to provide a means of safe disposal of cigarette butts and to minimise litter in the streetscape. The cigarette disposal units are to be located within rubbish bins, in association with rubbish bins or at intervals to be determined by Council.

Construction Material: Materials shall be robust. Fixing details must deter vandalism and the potential for detachment from the building wall or posts in the streetscape.

Style: Two cigarette disposal units such as Butt Out or ECO Elegance (Refer Figure 15) products are to be provided at entries and exits to the building at street level, and be free-standing or fixed to posts, columns or wall-mounted and to be easily accessible to patrons entering and exiting the building. The units must be enclosed and capable of storing butt litter to minimise safe effective disposal. The units shall be polished stainless steel or power coated to match the preferred streetscape colour used for street furniture.

(Figure 11A and 11B)



Figure 11A: Cigarette Disposal Unit



Figure 11B: Cigarette Disposal Unit

2.3.7 Skateboard Deterrents

Use: The intent of skateboard deterrents is to minimise the damage to street furniture and surfaces by skateboard riders. The location for deterrents shall be on all raised horizontal garden beds, on ramps, seats and/or other nominated surfaces as determined by the Council's designated officer.

Intervals shall generally be at one metre spacing or as determined by the Council's designated officer

Construction Materials: Materials shall be stainless steel and be fixed to the adjoining surface as per manufacturer's specifications.

Style: The style shall be as shown in Figure 12A and 12B or as determined by the Council's designated officer.

(Figure 12A and 12B)

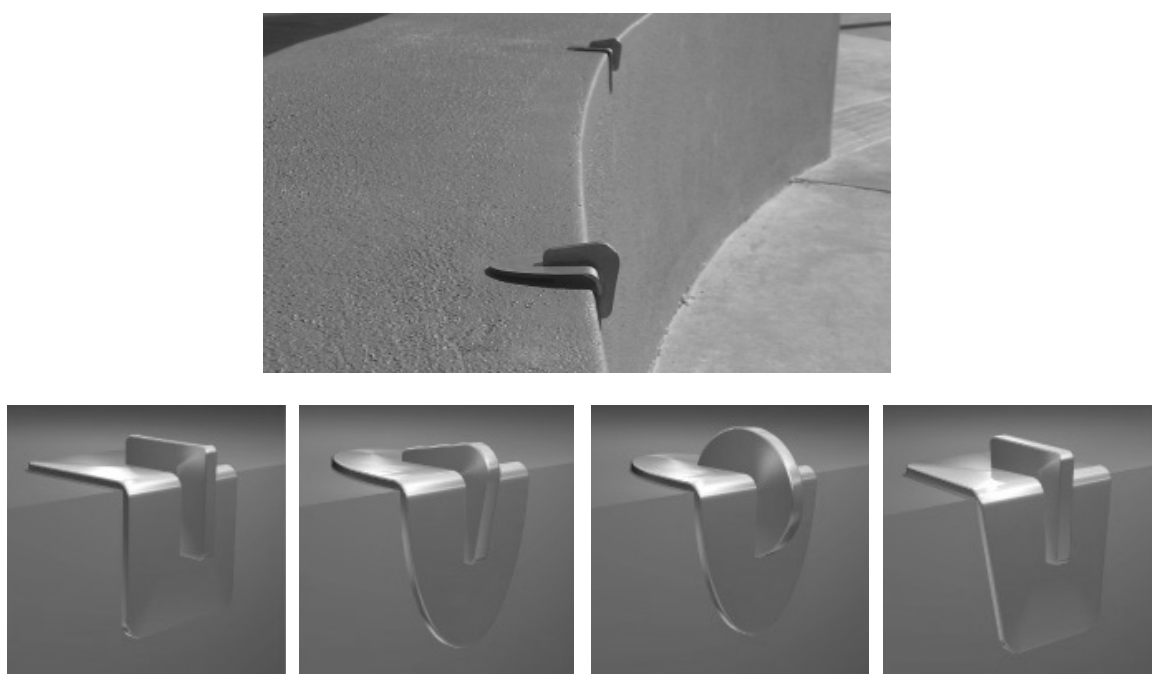


Figure 12A: Skateboard Deterrents



Figure 12A: Skateboard Deterrents

2.3.8 Drinking Fountains

Drinking Fountain: Commercial Systems Australia Pty Ltd. – Model DF 5001, or equivalent in accordance with Section 2.2.

Finish: *Stainless steel bowl, bubbler outlet and mounting plate. Tapered mild steel body only, to be Dulux Acrathane or approved equivalent in accordance with Section 2.2.*

Colour: *Dulux Acrathane IF 'black' to tapered body only.*

Location: *Locate in congregational areas eg. Civic Core and other plaza areas.*

(Figure 13)



FIGURE 13: Drinking Fountain

2.3.9 Barriers

Railings, handrails, balustrades:

Finish: *Stainless steel to similar detail as existing railings, handrails and balustrades in the Main Plaza Area.*

Fixed and removable bollards:

Mark Cox Bollard BLD1, or equivalent in accordance with Section 2.2.

Finish: *Dulux Acrathane IF, or approved equivalent in accordance with Section 2.2.*

Colour: *'black'*

Location: *Bollards are to be located 600mm from adjacent kerb, spacing to be 2000mm maximum and 1200mm minimum between bollards.*

(Figure 14)



FIGURE 14: Bollard

Vehicle barriers:

Fencing or enclosure treatments to carparks and the like, are to be weldmesh fences – type and finish as approved by Council, and/or similar to that existing in the Council Carpark in Loraine Street.

2.3.10 Signage

Public signage, Notice Boards, Directional and Information Signage:

Type and character of signage is to be similar to that which is existing in the Civic Core – Main Plaza Area.

Tenancy signage:

Standardised format to be developed for the Capalaba Principal Activity Centre in accordance with development requirements (Refer to Advertising Devices Code of the Redlands Planning Scheme and Local Law 11 (Control of Signs)).

2.3.11 Sculpture and Street Artworks

Streetscape sculptures shall reinforce and enhance the diverse character of the people-orientated business centre. In achieving this, streetscape sculptures shall be works which, in the opinion of the Council, are consistent with the overall outcomes stated in the Redlands Planning Scheme.

2.3.12 Tree Grates

Tree grates shall be Gatic Cast Iron 1185mm diameter, product code 849 or approved equivalent, as per Section 2.2.

Finish: Bituminous coating 'black'

(Figure 15)

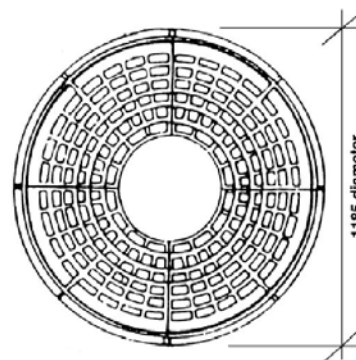


FIGURE 15: Tree Grate

3.0 SOFT LANDSCAPE WORKS

3.1 Tree Planting

Street trees provide shade and shelter and are an integral part of the Capalaba Streetscape.

Open air car parking areas must include shade trees at a ratio of 1 tree per 4 car parking spaces, with a minimum 10m canopy at maturity (Refer to the Landscape Code of the Redlands Planning Scheme).

It is preferred that trees are to be located in garden bed areas, rather than tree grates in footpaths. Trees are to be located in the middle of garden areas, where possible.

(Figure 15)

In situations where the footpath is too narrow for garden bed planting, street trees are to be planted in tree grates. The tree grates shall be located 600mm minimum from the outside of the kerb to the edge of the tree grate, and will allow for a minimum distance of 1200mm for the path of travel. Trees will be planted in 1185mm diameter circular tree grates in the footpaths (Section 2.2.2 Street Furniture of this document).

(Figure 16)

Street trees will be hardened off (acclimatised to full sunlight) and will be a minimum size of 200L stock, from plant nurseries and trees farms (Technical Notes Section 6.3). All trees will have a single stem, and a minimum trunk height, 3000mm height (clear to 1200mm) and the minimum canopy spread, 1800mm. FIGURE 16: Tree Planting Caliper will be a minimum of 55mm (Technical Notes Section 6.2 and Map 2 of this document).

Refer to Map in this document, with regards to tree species selection and location within the Capalaba Principal Activity Centre. In addition, refer to Schedule 10 – Vegetation Species List of the Redlands Planning Scheme, for examples of appropriate shady trees for the Capalaba Principal Activity Centre.

LEGEND

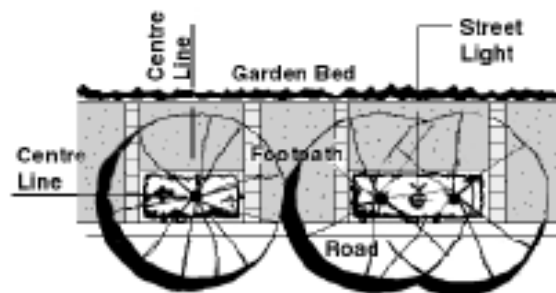


FIGURE 15

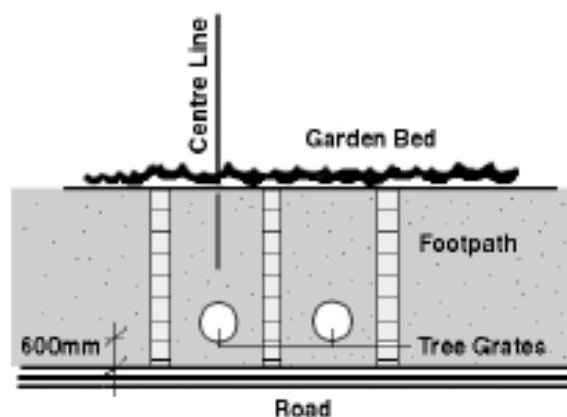


FIGURE 16: Tree Planting

Tree species in major footpath areas will be:

1. Loraine Street – *Cupaniopsis anarcardiodes*
2. Noleen Street – *Harpulia pendula*
3. Main Plaza area – *Ficus hilli*, *Jacaranda mimosifolia* and *Syzygium leuhmanii*
4. Raymond Street – *Cupaniopsis anarcardiodes*
5. Rickey Street – *Gmelina leichardtii*
6. Dollery Road – *Harpulia pendula*
7. Redland Bay Road – *Rhodospaera rhodanthema* to medians
– *Elaeocarpus grandis* to footpaths
8. Old Cleveland Road & Moreton Bay Road – *Rhodospaera rhodanthema* to medians
– *Waterhousia floribunda* to footpaths

Trees to be used as feature nodal points at major vehicular intersections or entry points
– *Podocarpus elatus*

Generally all trees are to be located at a spacing of 4000mm maximum apart and a minimum of 2000mm apart in garden beds along footpaths.

Palms will not be accepted as an alternative to street trees since they offer inadequate shade. Palms may be used to visually frame areas including plazas and focal points. Only use native palms and/or those which are specified in the species list (Technical Notes 6.2).

Refer to **Figure 17** for mature tree and palm planting detail.

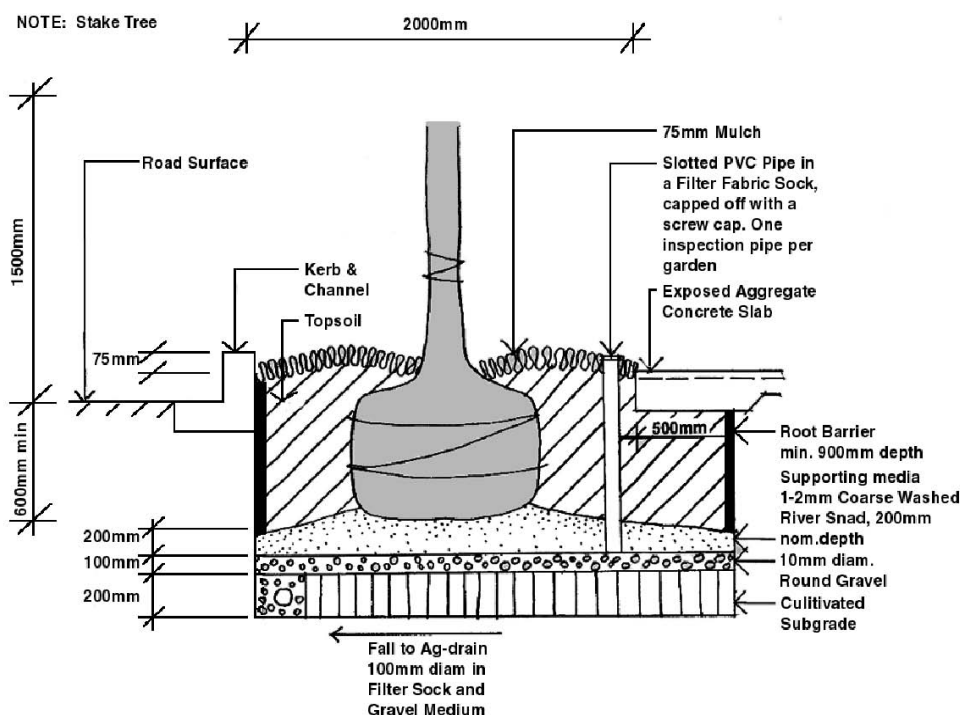


FIGURE 17: Mature Tree / Palm Planting

All *existing trees* on the footpath in sound health and of good form will be retained unless approval has been sought for a replacement or relocation. Excavation within 3000mm of an existing street tree should not occur without prior horticultural advice being obtained and the recommendations being adopted in carrying out the works.

3.2 Garden Bed Planting

Refer to Technical Notes Section 6.2 for shrub and groundcover species.

Garden bed areas will be a maximum of 3000mm apart along footpaths, adjacent parallel parking areas, to allow for pedestrian access.

(Figure 1)

Garden bed areas to footpaths adjacent kerbs shall be a minimum 1200mm width where footpaths are less than 3600mm wide but greater than 2400mm wide. Garden bed areas for paths in excess of 3600mm wide shall be 1600mm maximum.

In special treatment areas (eg. corners, entries etc.) garden bed widths may be greater. All garden beds are to be constructed at footpath level.

(Figure 18)

Garden beds shall be situated adjacent to weldmesh fencing, where possible, particularly surrounding car parking areas.

Garden beds are to have plastic root barriers installed at a depth of 900mm.

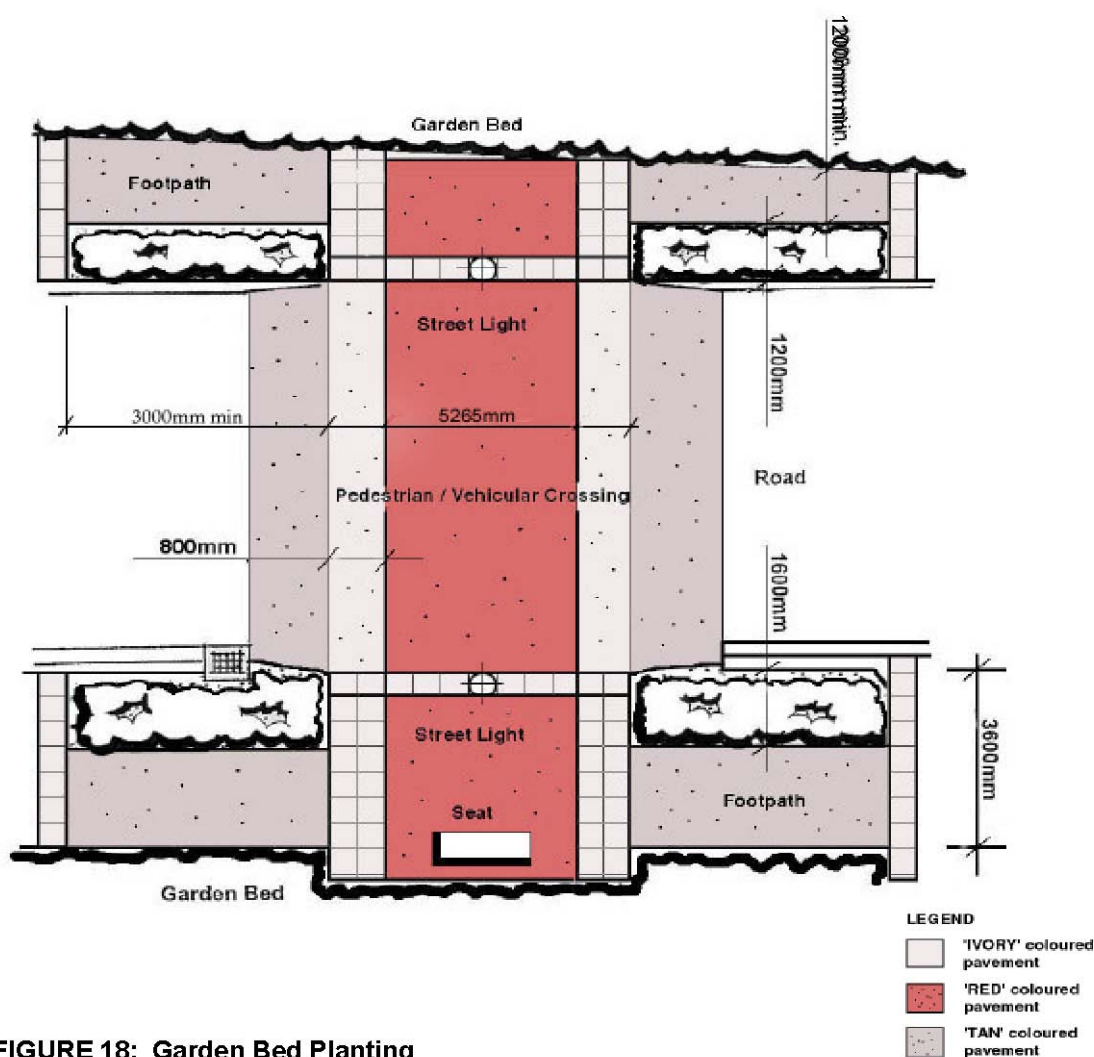


FIGURE 18: Garden Bed Planting

Climbers shall be planted in these garden beds (Technical Notes Section 6.2).

(Figure 19)

A schedule of acceptable plants for the Capalaba Principal Activity Centre is included in this document (Technical Notes Section 6.2). The landscape design should be prepared by a qualified landscape architect or horticulturist. This will minimise potential delays in the development approval process and the approval of landscaping and planting plans to be lodged.

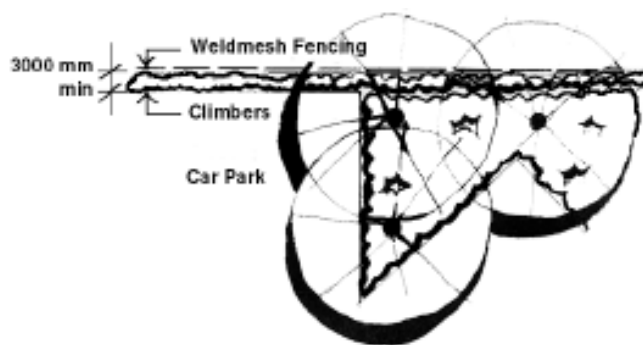


FIGURE 19: Planting to Weldmesh Fencing

Refer to Figure 20 for shrub and groundcover planting detail.

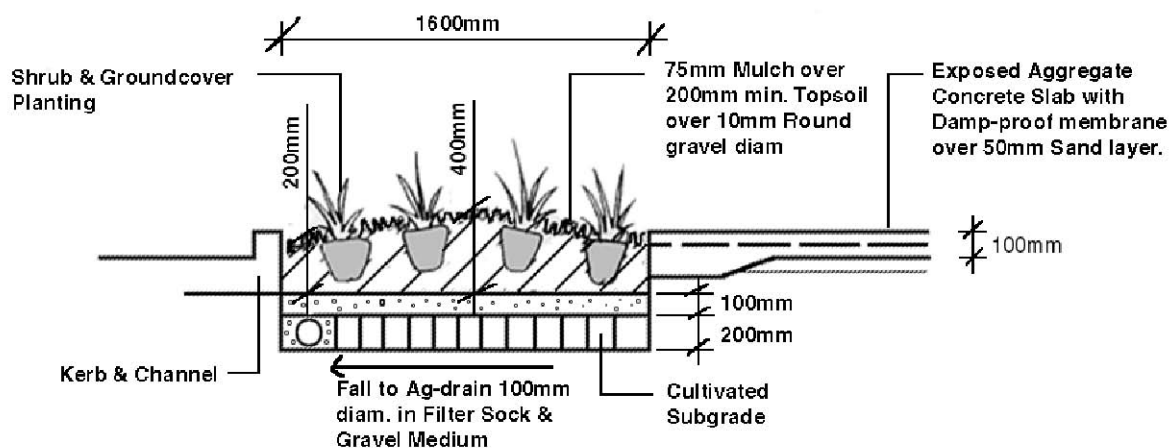


FIGURE 20: Shrub & Groundcover Planting

3.3 Turf

Turf is not to be used in footpath areas. Turf to Civic Core development area (ie. Main Plaza area) only.

3.4 Irrigation

All plant material including street trees, garden beds and turf areas is to be watered in accordance with Council's watering restrictions to promote health, viability and growth.

The Applicant is to provide a Management Plan to demonstrate how plant material including turf on public land is to be kept alive during the "On Maintenance" period of 12 months.

Terms of reference for the Management Plan should include:

1. Provision of rainwater from on-site storage tanks for plant material on private land
2. Use of water- saving products and materials for the whole site such as soil-wetting agents and aeration products that
 - have the ability to store water and absorb soluble fertiliser;
 - have the potential to reduce the amount of water required by up to 50%;
 - reduce the amount of fertiliser lost to leaching;
 - enable soils and potting mixes to be easily re-wet;
 - gradually release easily available water to the root;
 - increase soil aeration & improving clay soils;
 - increase the water holding ability of sandy loams by up to 70%;and
 - enhance the self-restoring ability of turfed areas.
3. Plant material including street trees, planted areas and turfed areas on public land will be maintained by Council as soon as the site is deemed "On Maintenance".

4.0 HARD LANDSCAPE WORKS

All developments must respond to the existing footpath level to maintain at grade access. Ramps and level changes are not encouraged.

Plans that are lodged for development approval must have sufficient detail to indicate how at-grade access will be achieved. Footpaths should be designed and constructed at grade in accordance with AS1428 Design for access for mobility Parts 1-2. A constructed example of these requirements is the model streetscape located at the Raymond Street extension to Dollery Road.

4.1 Kerb and Channel Treatments

Kerb and channel to be constructed as per standard concrete kerb and channel details provided by Council to match existing.

4.2 Paving Design

Generally all footpaths are to primarily have coloured insitu exposed aggregate concrete for the main body material and precast paver unit bands running perpendicular to the kerb. Colours are as specified in Section 4.3 'Paving Type'.

(Figure 21)

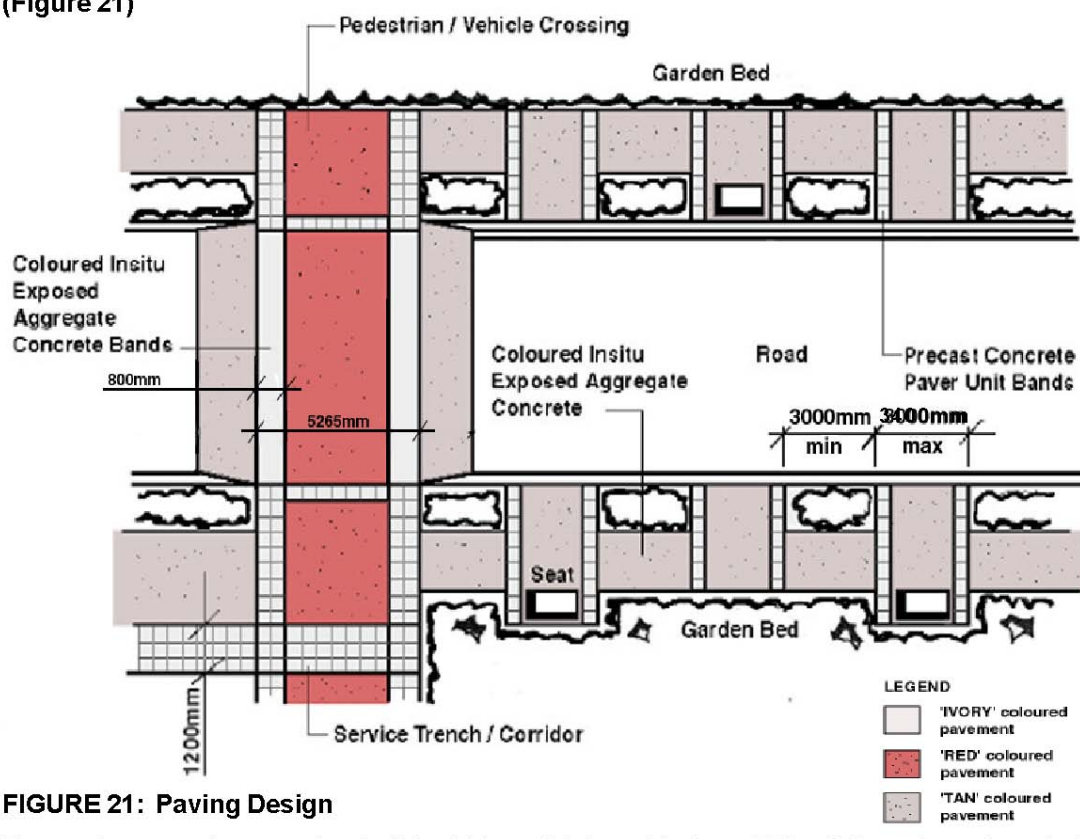


FIGURE 21: Paving Design

Exposed aggregate concrete shall be 100mm thick and to have F52 reinforced mesh centrally located.

Banding to be a maximum 3400mm apart along footpaths.

Banding to footpaths to be 400 x 400mm precast paver units (Refer Section 4.3 'Paving Type'). Banding to driveways to be 400mm wide, and 800mm wide coloured exposed insitu aggregate concrete, at crossings. Banding occurring at service trenches/corridors in footpaths, is to be 1200mm wide; and to consist of 3 rows of 400 x 400mm precast paver units.

4.3 Paving Type

A preferred paving type has been adopted for footpath areas and the colours and specification are as follows:

All paving to footpaths (banding an exception) is to be coloured insitu exposed aggregate concrete.

Strength (Mpa): 32

Aggregate size: 10mm

Finish: *Wet blast after setting.*

Colours:

'RED' – to Civic Core (Main Plaza area) and accent/feature areas (eg. vehicular/pedestrian crossings).

'TAN' – to all footpaths

'IVORY' – to all banding in footpaths, driveways and crossings.

'CHARCOAL' – to Civic Core (Main Plaza area) only.

Refer to Map 1 for footpath pavement colours.

Banding to footpaths is to be 400 x 400mm precast paver units and 400mm wide coloured insitu exposed aggregate concrete to driveways and 800mm wide to vehicular / pedestrian crossings.

Finish: *Honed on top face only.*

Pigmentation: *To the full depth of the paver.*

Dimensions: 60mm depth, 400 x 400mm (square)

Supply details of proposed product and supplier and obtain notification of suitability from Manager Assessment Services prior to ordering.

4.4 Procedure for Placement of Coloured Concrete

1. Place Layer of visqueen in the boxing to prevent water from concrete, leaching into subgrade.
2. Pour concrete, trowel off and allow initial set on surface.
3. Light broom off and then light wash off with water.
4. Apply biodegradable curing compound.
5. Cover with plastic for seven days.

4.5 Interrelationship between Public and Private Property

Any specialised treatment within private property shall not extend beyond the property line onto the public footpath. A transitional change will be established to ensure satisfactory physical, textural and visual integration of the pavements.

4.6 Vehicle/Pedestrian Crossing Treatments

Crossings are to have 800mm wide bands, at either side of the crossing.

(Figure 21)

Banding to crossings is to be coloured insitu concrete only. Crossings should be 200mm thick insitu coloured concrete with F82 mesh, located centrally to match ramp heights. Crossings are to be 5265mm width.

4.7 Road Pavement

Road pavement to match that existing in Loraine Street precinct and as approved by Council.

4.8 Intersection Treatments

Intersections, and 'T' Intersections, will be treated as shown in Figure 22. The pavement will be flush with the road surface. The main body colour will be 'red' coloured bitumen to Council Approval, with an 'ivory' band pattern. This area shall include disabled access ramps as well.

(Figure 22, and Figure 23a & b)

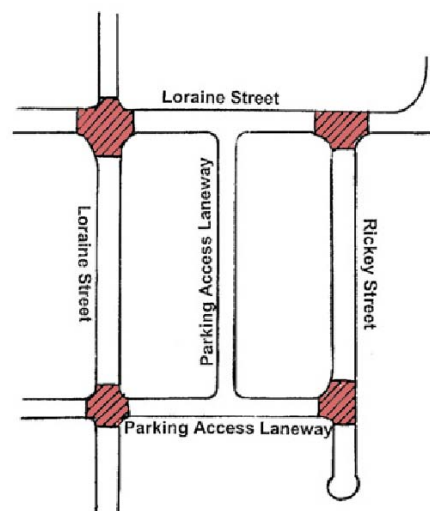
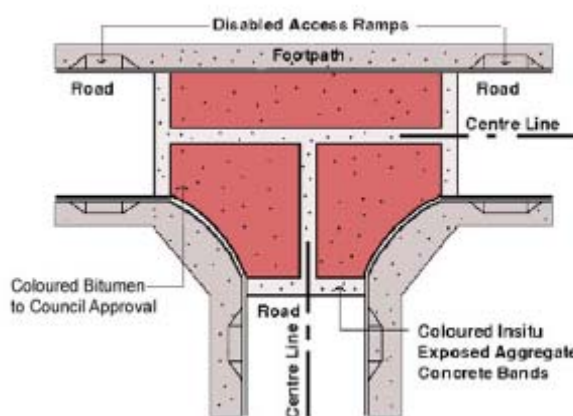
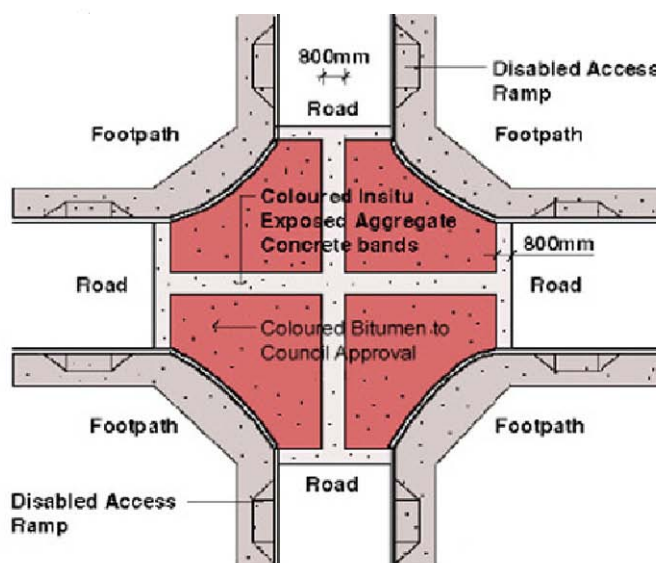


FIGURE 22 - Locality Map



23a



23b

FIGURE 23: 'T' & 'Cross'-intersection treatments

4.9 On-Street Parking

A 3000mm space should be left between garden beds for access to footpath from carparking spaces. (Refer to the Access and Parking Code, Infrastructure Works Code and the Infrastructure Works Policy of the Redlands Planning Scheme.

(Figure 1)

4.10 Service Pit Lids

Pit lids shall be housed in an angle surround frame which enables paving to be brought up to its edge. Lids shall be filled with the nominated paving type and design, so as not to disrupt the overall pavement design. Lids shall be parallel to kerb line. Refer to Section 4.12 for pit lids to service trenches/corridors.

(Figure 24)

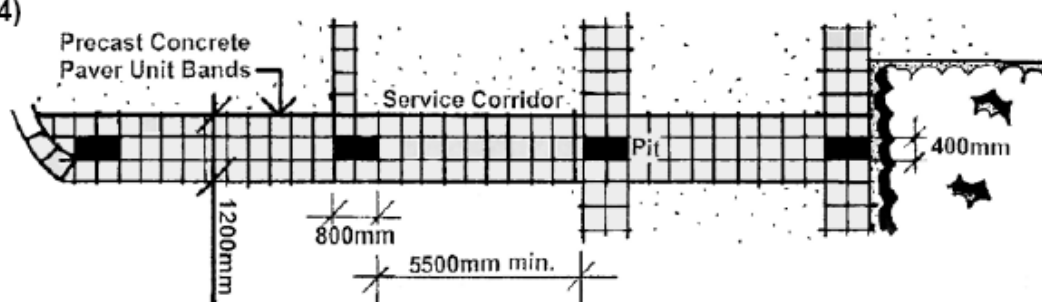


FIGURE 24: Service Pit Lids

4.11 Driveways

Driveways are to be 175mm thick coloured insitu, exposed aggregate concrete, with F82 mesh located centrally.

(Figure 25)

Banding to all driveways shall be 400mm width coloured insitu, exposed aggregate concrete.

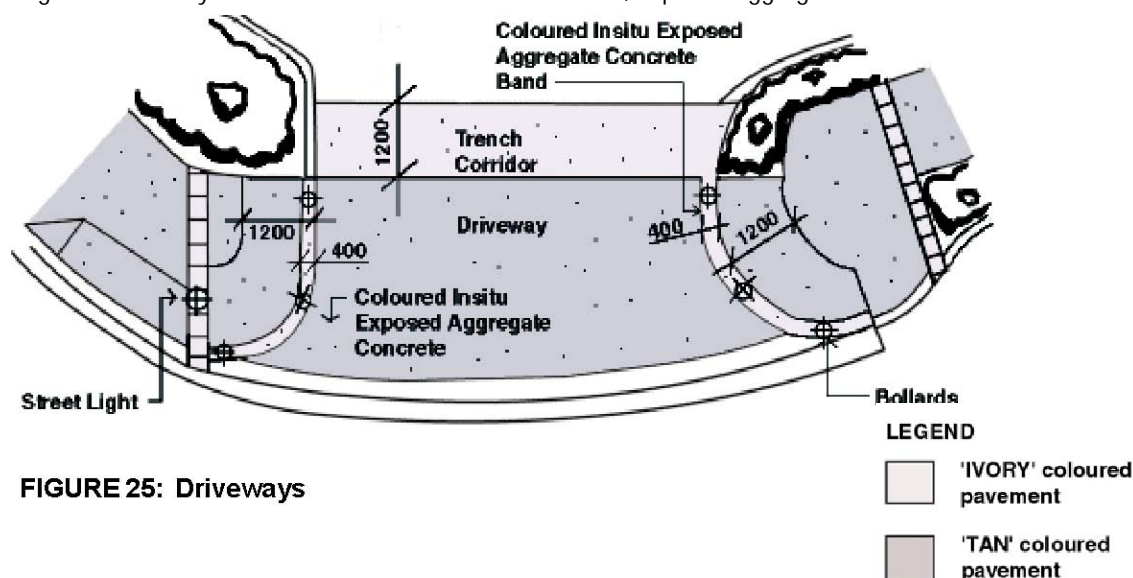


FIGURE 25: Driveways

4.12 Service Trenches/Corridors

Service trenches must be made accessible, therefore planting to service areas is preferred. Pre-cast paving (1200mm wide) along the corridor, with service pit lids at regular intervals, is also acceptable. Service pit lids to these areas are to be 800 x 400mm width at a maximum 5500mm intervals.

(Figure 21)

5.0 OTHER

5.1 Public Structures

Public structures shall include but are not limited to:

- Public Transport facilities (bus stop shelter, etc)
- Public Toilets
- Park Structures such as gazebos, rotundas, amphitheatres, picnic shelters, pergolas, pavilions, alcoves, free standing awnings, and the like
- Street furniture and pedestrian signage.

Refer to Infrastructure Works Planning Scheme Policy, Chapter 11 Landscaping of the Redlands Planning Scheme for characteristics and design requirements for public structures.

5.2 Underground Services

Refer to **Map 3** of this document. All underground services are to be located within 1200mm wide service trenches / corridors, positioned parallel to and adjoining the property road alignment wherever possible. Refer to **Section 4.12** of this document.



6.0 TECHNICAL NOTES

6.1 Preferred Species List

TREES

BOTANICAL NAME	COMMON NAME	POT SIZE	HEIGHT (mm)	SPREAD (mm)	CALIPER (mm)	CLEAR TRUNK SIZE(mm)
Cupaniopsis anarcardiodes	Tuckeroo	200L	4000	1500	65	2500
Ficus hillii	Fig Tree	200L	3000	2500	100	2000
Harpulia pendula	Tulipwood	200L	3000	1300	65	2000
Gmelina leichardtii	White Beech	200L	3000	1700	70	2000
Rhodospaera rhodanthema.	Yellowwood	200L	4000	3000	80	3000
Syzygium leuhmannii	Small-leafed Lillypilly	200L	2700	1700	50	1000
Waterhousia floribunda		200L	3000	1700	70	2000

PALMS

BOTANICAL NAME	COMMON NAME	POT SIZE	HEIGHT (mm)	SPREAD (mm)	CALIPER (mm)	CLEAR TRUNK SIZE(mm)
Archontophoenix alexandrae	Alexander palm	200L	5000	3000	150	3500

SHRUBS AND GROUND COVERS

BOTANICAL NAME	COMMON NAME	POT SIZE	HEIGHT	SPREAD
Melastoma affine	Native Lasiandra	140mm	200	200
Dianella brevipedunculata Dianella caerulea	Blueberry Blue Flax-lily	140mm 140mm	250 250	200 200
Austromyrtus dulis'	Midyim Berry	200mm	500	250
Myoporum acuminatum	Boobialla	140mm	150	200

CLIMBERS

BOTANICAL NAME	COMMON NAME	POT SIZE	HEIGHT	SPREAD
Pandorea jasminoides Hibbertia scandens	Bower of Beauty Snake Vine	140mm 140mm	150 150	200 200

In addition to this list refer to Schedule 10 Vegetation Species List of the Redlands Planning Scheme for examples of other appropriate shady trees.

Note: Palms which are used in the Capalaba area are to be native only.
All tree to have single stem and clear height to underside of canopy of 1.5m.

6.2 Recommended Suppliers

Seating, Benches, Litter Bins, Bollards:

Mark Cox Designs

Telephone/fax: (08) 9382 3132

Bike Racks:

Cora Bike Rack Pty Ltd

Telephone: 1800 249 878

Fax: 1800 249 879

Light fittings:

Bega Limburg Boom

Drinking Fountains:

Commercial Systems Australia Pty Ltd

Telephone: (07) 3881 3199

Fax: (07) 3205 1763

Tree Grates:

Gatic (Australia) Pty Ltd

Telephone: (07) 3205 4111

Fax: (07) 3205 1979

Fences/Enclosure Treatments:

A.R.C. Fences

Telephone: (07) 3265 3099

Trees, Palms, Shrubs and Groundcovers:

Wholesale Plant Nurseries:

Billabong Nursery

Telephone: 3237 9841

Birkdale Nursery

Telephone: 3207 2533

Fairhill Native Nursery

Telephone: 074 468 644

Manly Nursery

Telephone: 3396 1720

Aspley Nursery

Telephone: 3263 8644

Tall Fronds Nursery

Telephone: 3206 8267

Rainforest Tree Nursery

Telephone: 3841 1010

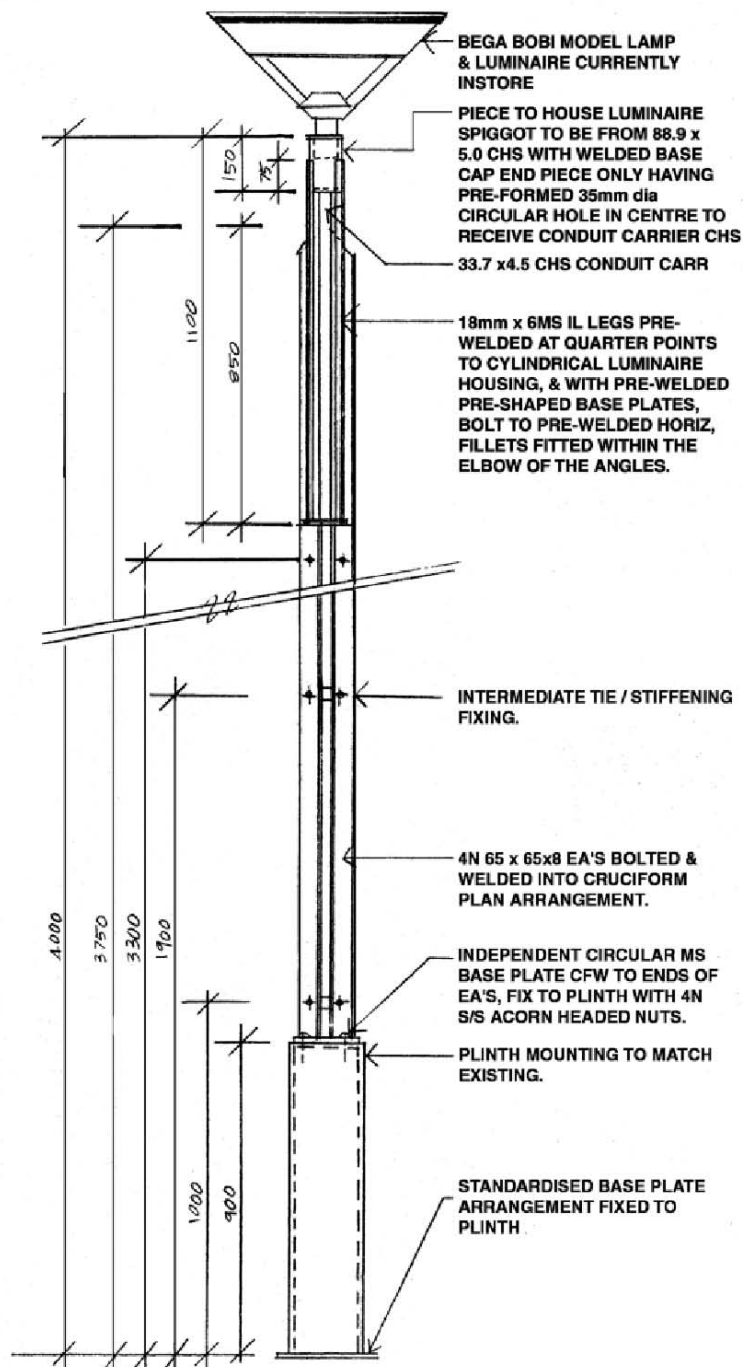
Paint Finish:

Dulux Acrathane IF

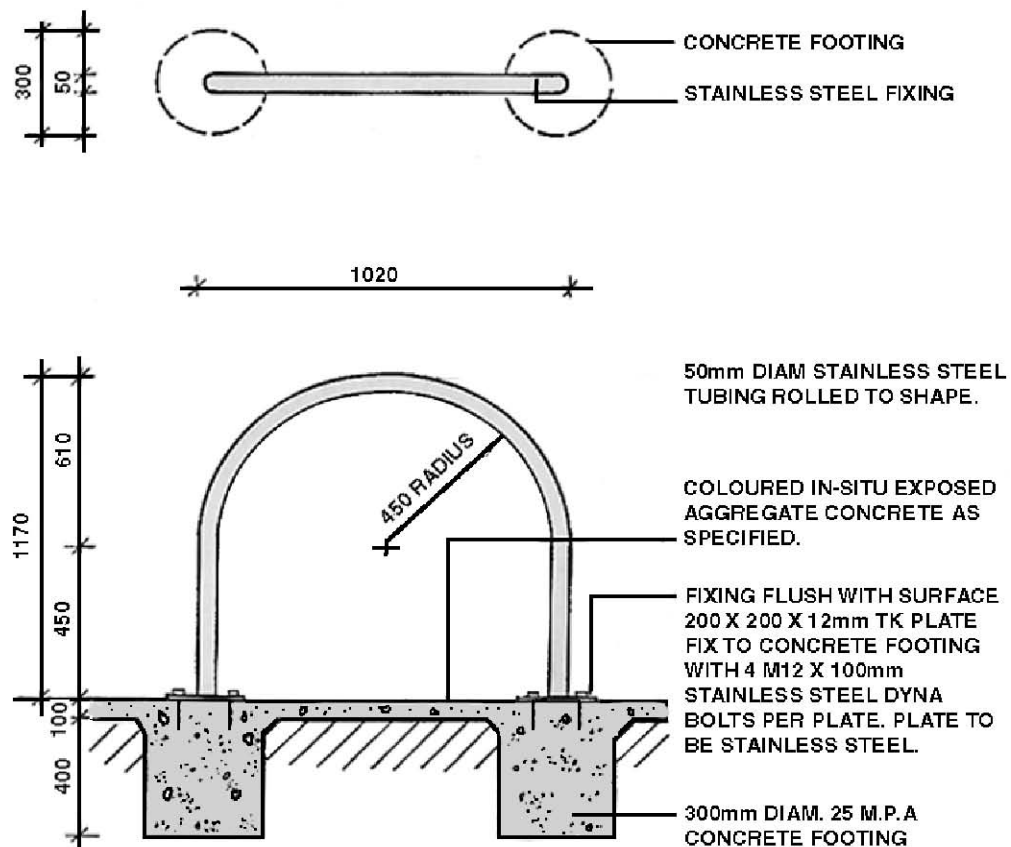
Telephone: (07) 3867 8556

Fax: (07) 3867 8592

6.3 Detail Design of Street Light Pole



6.4 Detail Design of Single Bicycle Parking Rail

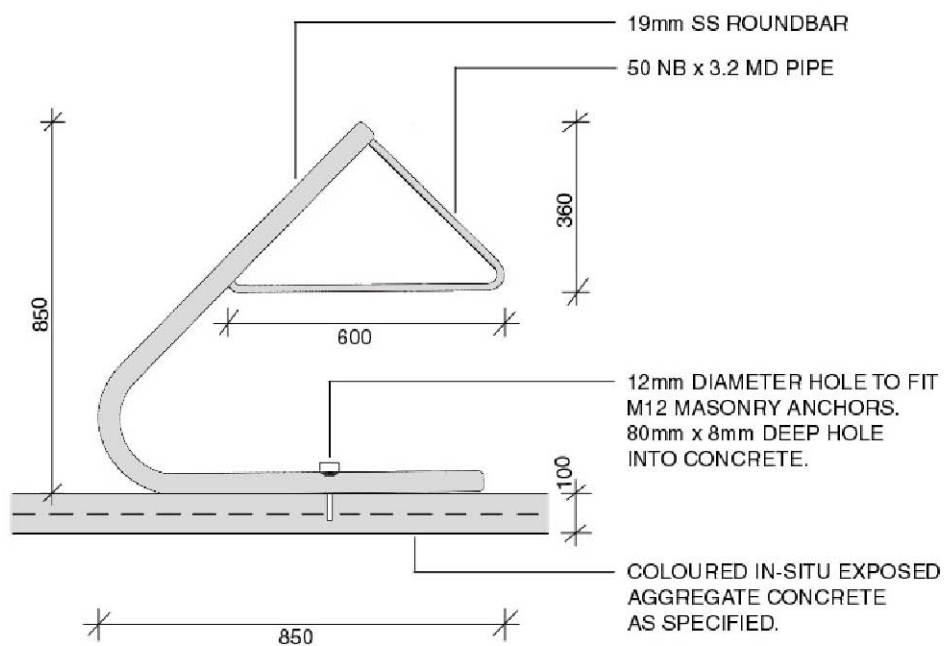


**NOTE: BICYCLE STANDS TO BE SUPPLIED WITH
REQUIRED FIXING BOLTS**

SCALE N.T.S.

SINGLE BICYCLE PARKING RAIL SECTION

6.5 Detail Design of Multiple Bicycle Parking Rail



NOTE: BICYCLE STANDS TO BE SUPPLIED WITH REQUIRED FIXING BOLTS

SCALE N.T.S.

MULTIPLE BICYCLE PARKING RAIL SECTION

6.6 Equitable Access

6.6.1 Achieving Equitable Access

This policy is to be read in conjunction with the provisions of the Redlands Planning Scheme, specific policies which optimise the accessibility of the Capalaba Principal Activity Centre to all people, accessibility requirements as specified under the Building Code of Australia 1990, Australian Standard 1428, Disability Discrimination Act 1992 and Anti-Discrimination Act 1991.

The Applicant is required to ensure that sufficient information illustrating the achievement of equitable access is illustrated on application drawings.

The Applicant is required to ensure that there is a minimum of 1.3 meters of footpath around 'elements' and street furniture located within the Capalaba Principal Activity Centre to allow for ease of access as per standards.

6.6.2 Tactile Ground Surface Indicators

The use of tactile ground surface indicators for the orientation of people with vision impairment will be required within the Capalaba Principal Activity Centre. The use of tactile ground surface indicators for any other use than intended for will not be permitted.

The use of both cautional and directional tactile ground surface indicators is to be used to achieve minimum standards requirements as determined by Australian Standard 1428 – Design for Access & Mobility. The extensive and inappropriate use of tactile ground surface indicators will not be permitted.

Cautional Tactile Ground Surface Indicators

Size: 300 mm x 300 mm x 40 mm

Colour/Specification: *Boral Masonry Stylstone Cautional Paver 'Charcoal' or other approved in writing by Redland Shire Council Chief Executive Officer or a delegated Officer.*

Joints: *Butt jointed*

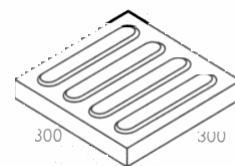


Figure 28A

Directional Tactile Ground Surface Indicators

Size: 300 mm x 300 mm x 40 mm

Colour /Specification: *Boral Masonry Stylstone Cautional Paver 'Charcoal' or other approved in writing by Redland Shire Council Chief Executive Officer or a del-egated Officer.*

Joints: *Butt jointed*

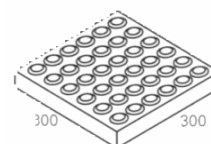


Figure 28B

6.7 Maintenance

6.7.1 General Maintenance Requirements

All the streetscape frontage elements constructed as part of a development permit (ie. both public and private spaces) will be maintained by the applicant, including but not limited to street furniture, street trees and gardens, turf, signage and paving during the maintenance period.

Performance securities pertaining to streetscape frontage works upon application to Council and following the "Off Maintenance" inspection will be released after the satisfactory completion of the maintenance/establishment period. Performance securities will not be released until the completion of any required reinstatement works as determined and directed by Redland Shire Council's Chief Executive Officer or a delegated Officer.

All planting areas shall be kept to the best industry standard of horticultural practice to ensure a consistent vigorous growth rate and good plant health.

6.7.2 Maintenance Period

The maintenance period is twelve (12) months from Council acceptance of "On Maintenance" inspection or as otherwise determined in the Conditions of the Development Permit.

6.7.3 Scope of Works

The works to be carried out as conditions of the maintenance component of these manuals include but are not limited to the following:

Site Works (Pavement / Street Furniture:

- Removals & Repair
- Graffiti & Vandalism Removal

Turf Works:

- Mowing
- Edging & Trimming
- Watering
- Dethatching
- Aerating
- Topdressing
- Fertilising
- Weed Control
- Pest & Disease Control

Planting & Garden Beds

- Watering
- Fertilising
- Weed Control
- Pruning
- Pest & Disease Control
- Planting & Staking
- Removal & Replacement of stressed, damaged &/or dying/dead plant material

Street Tree Works

The following works are only to be carried out by licensed, experienced and suitably qualified Arborist.

- Pruning
- Removal & Replacement of stressed, damaged &/or dying/dead plant material
- Disturbance of Ground Under Trees
- Damage Treatment and/or Replacement
- Fertilising

6.7.4 Safety Procedures

The Applicant is to ensure that all maintenance duties are carried out with themselves, fellow colleagues and the general public in mind. The safety of people using the area is of prime importance. It is strongly recommended that all maintenance procedures, especially those listed below be undertaken outside the areas prime usage times as specified in Section 3.4.1 Timing of Work for Construction.

The Applicant is advised to note that all maintenance works are to be undertaken in accordance with relevant safety requirements, procedures and legislation.

6.7.5 Maintenance Requirements

Weed Control

The application of herbicides is to occur outside of peak usage periods and adhere to all relevant pesticide safety procedures and legislation. Damage caused by misuse shall be rectified at the Applicants expense.

Record all chemical usage including details of herbicide used, rates of application, date of application and method of application. This information is to be forwarded to Redland Shire Council's Chief Executive Officer or a delegated Officer at the end of the maintenance period.

Hardstand Areas

Eradicate weeds in hardstand areas such as footpaths, walkways and with appropriate herbicide. Once weed has died, remove remaining debris. Treat areas of persistent weed infestation with a residual industry approved herbicide. All hardstand surfaces shall be free from weeds at all times.

Turf Areas

Within turf areas eliminate all broad leaf and grass weeds by application of approved herbicides or other appropriate methods such as manual removal to maintain the turf in a weed free condition at all times.

Landscape Areas

Eradicate weeds within the planting areas through manual removal or herbicide control methods, depending upon the extent of infestation, to maintain all gardens in a weed free state at all times. Weeds that have died as a result of herbicide control shall be removed and replaced with same species and plant material size at the Applicants expense.

Turf Areas

Turf areas are to be maintained as a premium quality lawn of even, green colour and appearance. Turf is to be maintained to a height of approximately 30 mm above the soil surface and to finish flush with adjoining hard surfaces. Mowing regime to be forwarded to Redland Shire Council's Chief Executive Officer or delegated Officer at the commencement of the maintenance period for approval.

Turf clippings are to be removed immediately from public and pedestrian areas following mowing. Ensure that grass clippings are not spread over planting areas, footpaths, roadways and the like.

Replacement of Grass

Any areas of turf that has died or in the opinion of Council is in a state of ill health or damage due to the actions or neglect of the Applicant shall be removed and replaced as directed by Redland Shire Council's Chief Executive Officer or delegated Officer. The Applicant is responsible for all costs associated with such works.

Edging & Trimming

Trim edges of turf which surround any light poles, service posts, guideposts, service pits, ground markers, bollards and the like. Trim edges of turf along walls, guard rails and fence lines to the height of the adjacent turf. All turf trimmings are to be removed immediately from site.

Turf is not to invade planting areas, obscure edging or mowing strips, grow under fences or the like, and around trees. Lawn is to be maintained at a clearance distance of 150 mm radius around the base of any trees or shrubs planted in lawn areas. Removal of lawn, which has invaded this clearance zone, is to be removed by hand. The use of line trimmers or similar gardening implements is not to be used to prevent damage to plant material. Any damage to plant material as a result of maintaining this clearance zone will be rectified at the expense of the Applicant as seen fit by Redland Shire Council Chief Executive Officer or delegated Officer.

Topdressing

Topdress all lawn areas as required to fill depressions and form a level surface over the entire area. Spread sharp pit sand, free of weeds at a maximum depth of 10 mm per application and rake in to ensure grass is visible through the sand layer.

Water top dressed lawns immediately and keep uniformly moist for the following seven days.

When more than a single application is required throughout the maintenance period, ensure that the grass has grown through the previous layer of sand before applying another.

Fertilising

Turf Area

Apply fertiliser with a mechanical spreader as per manufacturer's recommended rates. If applying a granular fertiliser manually, mix equal amounts of fertiliser and bedding sand together, then spread evenly over the area. Fertilising regime to be forwarded to Redland Shire Council's Chief Executive Officer or delegated Officer at the commencement of the maintenance period for approval. Ensure that fertiliser is watered i after spreading and sweep any fertiliser from paths and roadways.

Landscape Areas

Apply as per manufacturer's recommendations slow release formulation fertiliser suitable for plant material. Water thoroughly following application.

Pest & Disease Control

Turf Areas

Control the impact of turf pests in lawn areas with registered insecticides applied at the manufacturer's recommended rate. Apply pesticides outside of peak terminal usage periods and adhere to all relevant pesticide safety procedures and legislation.

Landscape Areas

Chemical control of pests should be considered as a last resort only. Remove diseased portions of plants, dead foliage and maintain good plant vigour to diseased portions of plants, to reduce the likelihood of infection or infestation. Once an infestation has been identified, notify the Council immediately and respond to the directions of Redland Shire Council Chief Executive Officer or delegated Officer.

Should chemical control become necessary apply pesticides or fungicide outside of peak terminal usage periods and adhere to all relevant pesticide or fungicide safety procedures and legislation. Damage caused by misuse shall be rectified at the Applicants expense.

Pruning

Pruning may need to be carried out for a number of reasons:

- Promote flowering
- Maintain or reduce height of plant material
- Maintain a desired shape of plant material
- Remove damaged or diseased of plants/sections of plant material
- Clear pathways and remove obstructions to pedestrians.

Pruning is generally to be carried out as required (preferably during growing period of the plant material) and after plant material has flowered.

When pruning plant material, use pruning tools appropriate to the job and size of branches or stems, ensuring a clean smooth cut which will heal quickly. Do not snap or break off branches. Branches 50 mm or larger in diameter which in the Applicants opinion require pruning are to be approved in writing by Redland Shire Council's Park Supervisor and specific directions followed. For aesthetic reasons white paint is not to be used. An acrylic paint of appropriate colour (eg. Pinewood Green or shades of grey) are less obstructive to the eye.

Remove dead and diseased foliage from shrubs and ground cover species. Prune shrubs and vines to maintain clear access along paths and roads. Ground cover species may be allowed to grow over edges, kerbs and to fence lines, however, the edge should not be allowed to intrude onto pedestrian footpaths.

Remove old stems or sections of branches carrying only thin twiggy growth or an excess of dead twigs, cutting close to where a younger, more robust stem emerges.

Pruning of plant material should be carried out to maintain the general form of the plant unless a desired effect is required (eg. a hedge, visual barriers). Ensure that the pruning of the plant material does not significantly alter the desired plant form so as to reduce its intended use.

All pruning cuttings are to be removed from site. Pruning cuttings can be mulched off site and used elsewhere. Either method of disposing of pruning cuttings will be at the Applicants expense.

Plant Reinstatement

Any plant dying, diseased or dead, or in the opinion of Redland Shire Council's Park Supervisor is in a state of ill health due to the actions or neglect of the Applicant, shall be removed and replaced as specified with the same species of the same size or a size agreed upon by the by Redland Shire Council's Park Supervisor. The Applicant is responsible for all costs associated with such works.

Ensure that the replacement of plant material is a form true to that species nomenclature and not soft or forced nursery stock. Plant stock will be free of weeds, diseases and insect attack.

Staking

During the maintenance period, allowance to be provided to maintain staking as required. The Applicant is required to replace damaged or misshapen stakes. Remove stakes and ties as required and / or directed by Redland Shire Council's Park Supervisor if they are no longer required to support the plant.

Mulch

Mulch is to be kept clear of all pavements and paths. Garden beds to be top up using mulch to a minimum depth of 100 mm.

Protection of Existing Trees

All existing trees shall be adequately protected from damage by the Applicant and shall be maintained in a healthy, vigorous condition to the best Australian arboricultural industry standard.

Litter Collection & Removal

The Applicant is required to collect and remove all litter from within the scope of works. Collected litter is not to be deposited in rubbish bins located on site. Litter shall include but not be limited to the following:

- Fallen branches and/or leaves from existing trees
- Discarded food items, leaves, containers & papers
- Broken glass, including windscreen and vehicle debris
- Plastic packaging, bottles and cans.

6.7.6 Plant Replacement / Reinstatement

Any plant material (existing and new) which shows signs of stress or decline during the maintenance period will be inspected by Redland Shire Council's Park Supervisor. If in the opinion of Council the plant is stressed failed or deteriorating, the Applicant will be required to replace that plant immediately with the same species and of an equivalent size to that of the specified plant size and equivalent to normal growth rate prior to its removal. Redland Shire Council's Park Supervisor will determine this size.

The Applicant shall be held responsible for damage to or destruction of any new or existing trees as a result of their actions. Partial damage to any tree shall be rectified immediately damage occurs at the Applicant's expense, as specified previously and under the direction of Redland Shire Council Chief Executive Officer or delegated Officer.

If repair work is considered impractical or is attempted and fails, if so directed, remove the damage tree and root system, make good as necessary, and either replace the tree or pay damages as specified by Redland Shire Council Chief Executive Officer or delegated Officer. The Applicant is advised to note that damages will be ducted from development bonds and/ or rates levy.

The Applicant shall meet associated fees for damages, assessment and supervision of rectification works.

6.7.7 Replacement / Reinstatement

The Applicant is required to 'make good' any elements within the streetscape frontage works requiring replacement, irrespective of cause, within thirty (30) days from the element requiring replacement.

All costs associated with the replacement/reinstatement of elements shall be that of the Applicant. Failure of the Applicant to replace/reinstate any elements within the streetscape frontage works will result in the cost associated with the replacement/reinstatement