



TWEED SHIRE  
COUNCIL

# LANDSCAPE PROCEDURES AND STYLE MANUAL

APPENDIX H

Recreation Services

2008

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# **Table of Contents**

<b>1</b>	<b>General</b>	<b>4</b>
1.1	<i>Purpose</i>	4
1.2	<i>Planning Applications</i>	4
1.3	<i>General Landscape Design Requirements and Considerations at Design Stage</i>	4
1.3.1	<i>Access, Safety and Security</i>	4
1.3.2	<i>User Safety and Security</i>	4
1.3.3	<i>Entry Statements</i>	5
1.3.4	<i>Landform</i>	5
<b>2</b>	<b>Soft Landscape</b>	<b>6</b>
2.1	<i>Planting Works</i>	6
2.1.1	<i>Staking</i>	6
2.1.2	<i>Topsoiling - Media and Sub-Grade Preparation</i>	6
2.1.3	<i>Hydro-Mulching</i>	6
2.1.4	<i>Grass Seeding</i>	6
2.2	<i>Verges</i>	7
2.3	<i>Park and Reserve Access</i>	7
2.4	<i>Landscape Buffer (Screening)</i>	7
2.5	<i>Landscaping Within Car Parks</i>	8
2.6	<i>Bush fire Protection</i>	8
2.7	<i>Revegetation</i>	8
<b>3</b>	<b>Landscape Works</b>	<b>9</b>
3.1	<i>Community Artwork</i>	9
3.2	<i>Edging</i>	9
3.3	<i>Paving Finishes</i>	9
3.4	<i>Infrastructure and Facility Provisions</i>	10
3.4.1	<i>Furniture Range</i>	10
3.5	<i>Signage</i>	13
3.6	<i>Playgrounds</i>	13
3.7	<i>Shade Structures</i>	14
3.8	<i>Lighting</i>	14
<b>4</b>	<b>Site Works</b>	<b>16</b>
4.1	<i>Stockpiling of Materials</i>	16
4.2	<i>Managing Impacts during Construction</i>	16
<b>5</b>	<b>Stormwater Management</b>	<b>17</b>
5.1	<i>Design Intent for Stormwater Management</i>	17
5.1.1	<i>Lake Depth</i>	17
5.1.2	<i>Vegetation</i>	17
5.1.3	<i>Edge Design</i>	17
5.2	<i>Swales</i>	18
5.2.1	<i>Centre Median Bio-retention Swales</i>	18
5.2.2	<i>Bio-retention 'Rain Gardens'</i>	18
5.2.3	<i>Bio-retention Pods</i>	18
5.3	<i>Safety and Maintenance</i>	18
5.4	<i>Wetlands</i>	19
<b>6</b>	<b>Irrigation</b>	<b>20</b>
<b>7</b>	<b>Maintenance</b>	<b>21</b>
<b>8</b>	<b>Park Maintenance Program</b>	<b>23</b>
<b>9</b>	<b>Tweed Shire Council Standard Landscape Drawings</b>	<b>27</b>

# 1 GENERAL

## 1.1 Purpose

The purpose of this document is to:

- Encourage the development of quality landscapes associated with new developments and works undertaken internally by Tweed Shire Council (TSC).
- Identify Council's policy and aims regarding municipal planting theme and design principals that are important for a quality outcome.
- Assist in the documentation and submission of landscape plans so as to ensure efficient and quick processing of planning applications.
- To encourage the retention of any existing vegetation and enhance the TSC aesthetic character.
- Encourage continuity throughout the Shire with regards to furniture, signage, paving finishes and avoid an ad hoc environment. This document should be read in conjunction with D14 Landscaping Public Space and C273 Landscaping.

## 1.2 Planning Applications

Processing times for planning applications depends on the adequacy and accuracy of the documentation. Council encourages submissions to be checked thoroughly and include all required documentation that describe the proposed works. Council has the right to re-charge for inadequate applications that need re-submitting due to lack of sufficient design consideration and resolve. Council will not be used as a checking service and as such inadequate submissions will be returned without being reviewed.

## 1.3 General Landscape Design Requirements and Considerations at Design Stage

### 1.3.1 Access, Safety and Security

This section relates to any landscape works involving access, safety and security generally.

#### **Equitable Access**

Equitable access to, across and through a site is accommodated in the landscape design.

- Pathways are designed to provide non-discriminatory access to people with varying levels of mobility and special needs in accordance with AS1428.1.
- Tactile ground surface indicators are to be provided to aid users with vision impaired; and integrated within pavement treatments to ensure visibility and surface texture are accommodated.

### 1.3.2 User Safety and Security

Landscape works are designed and constructed to maximise the safety of users by accommodating drivers, pedestrians and cyclist sightlines; accommodating maintenance practises and requirements; highlighting and providing barriers to possible hazard zones; directing pedestrian and cycle movement and alerting users to changing conditions.

The mature unpruned height of under plantings on road verges or in roundabouts, medians and splitter islands is not to exceed 600 mm above road surfaces. This

height, however, may be reduced at the discretion of Council's traffic engineers and may vary from site to site.

- Street trees are to have a minimum of 2.4 metre canopy clearance from ground level at time of maturity. At the discretion of the traffic engineer, advanced stock may be required to provide a minimum 1.5 metre canopy clearance from ground level at the time of installation.
- At shared vehicle and pedestrian access points appropriate shared zones finishes will be constructed in accordance with Council specification.
- Lighting must be provided in accordance with relevant design codes and Australian Standard AS 1158 to provide safe access for night activities and to promote user safety and security including lighting to popular parks, which may be on a timer to discourage anti-social behaviour. Turtle friendly lighting should be adhered to when designing along coastal areas.

### 1.3.3 Entry Statements

This relates to any landscape works involving entry statements. Entry Statements are established in a manner that allows for appropriate management and maintenance.

- Entry statements must be located wholly within private property.
- Entry statements are to be treated with an appropriate anti-graffiti product.

### 1.3.4 Landform

This section relates to any landform, such as mounding, that involve reconstructing the surface of the land for aesthetic or functional purposes. Land reconstruction may be undertaken as a component of engineering earthworks.

1. Battered Turfed areas - 1:4 maximum
2. Garden areas - 1:3 maximum.

#### **Mounding**

Mounding is designed and constructed to minimise impacts on downstream properties or vegetation and minimise impacts to site drainage and important surveillance sight lines.

- Mounding for amenity purposes should be designed to have little impact on designated drainage corridors and have no potential to impact on stormwater flow.
- Mounding for amenity purposes is designed to minimise or avoid the redirection of major stormwater runoff.
- The position of mounding has regard for the possible impact of diversion of water flow away from existing vegetation, intended for retention.
- Maximum slope requirements must comply with the following:

#### **Batters, Steep Rock Slopes, Retaining Walls and Culvert Head Walls**

Reference should be made to TSC Development Design guidelines D6 – Site Re-grading.

Where retaining walls are part of a subdivision design the wall should sit wholly within the private property and is the responsibility of the lot owner. Where retaining wall works are to be undertaken within Council managed land all designs must comply the relevant Building Code of Australia and Australian Standards 4678. Timber retaining walls are not to be built within Council lands due to their future maintenance costs and short life expectancy. Preferred materials include; Boulder walls, block key stone walls, block rendered walls.

Culvert head walls within open parks or other Council managed land are to be suitably fenced and/or landscaped to comply with Australian Standards. A physical barrier is to be designed to prevent the general public from falling over the head wall.

# 2 SOFT LANDSCAPE

## 2.1 Planting Works

This section relates to planting works involving new planting and/ or the preparation of growing media or planting beds. This section should be read in conjunction with:

- Construction Specification C273 - **Landscaping**
- TSC Development Design Guidelines - **D14-Landscaping Public Spaces**

### 2.1.1 Staking

All tree specifications and sourcing aims for successful establishment without the need for staking, however in areas prone to high winds staking may be used to protect trees during the establishment phase. Plants displaying weakness or failure in root system are to be replaced at the developers cost., including inappropriate tree staking that interferes with a tree canopy. Throughout the 'On Maintenance' period, it is the developer's responsibility to check tree stakes and ties and tighten/loosen as necessary. Tree stakes must not interfere with the trees branching system. Refer to TSC S.D. 701 Tree and Shrub Planting Detail.

### 2.1.2 Topsoiling - Media and Sub-Grade Preparation

Adequate media volume and depth is required by the intended planting to overcome periods of critical thermal and water stress and allow for adequate root growth. All planting beds are to be cultivated including sub soil cultivation and de-compaction measures, with drainage being provided to all garden beds in centre medians and connected to a Storm Water System. Refer To Specification C273 - Landscaping.

### 2.1.3 Hydro-Mulching

Hydro-mulching is used for erosion control on batters and slopes unable to be grassed and where regeneration of indigenous vegetation is desired. Additives of local native tree, shrub and ground cover species are to be used in seed mixes on steep gradients to assist in preventing erosion. Refer To Specification C273 - Landscaping.

### 2.1.4 Grass Seeding

Grass seeding is used where the turfing option is excluded due to cost constraints. All seeded areas are to be prepared to achieve significant germination within the required timeframe. Grass cover of less than 80% over the entire area at the off maintenance inspection will cause the maintenance period to be extended until cover is achieved.

In order to guarantee a high standard of maintenance all parks shall be in a mowable condition, free from rocks and loose stones, and graded to even-running contours.

Grass should be established within the proposed park as quickly as possible in order to avoid erosion and sedimentation to the local waterways, and prevent the establishment of weeds.

**SPORTSFIELD CONSTRUCTION - REFER TO T.S.C 'SPORTSFIELD CONSTRUCTION GUIDELINES' (Appendix J) for all construction and specification details.**

## 2.2 Verges

All verges shall be covered full width with topsoil to a depth of not less than 50mm and shall be lightly compacted and grassed in accordance with C273 - Landscaping.

In order to guarantee a high standard of maintenance all verges are to be in a mowable condition, free from rocks and loose stones, and graded to even running contours.

Aside from grass establishment and tree planting, landscaping of the verge between the property boundary and kerb is not a Council requirement. However, additional landscaping within the verge may be considered subject to Council approval. Generally, any additional landscaping shall be clear of underground services or alternatively limited to ground covers or small shrubs less than in 600mm height from road surfaces.

Should any excavation of the underground services in this vicinity of the additional verge landscaping be required, thus destroying the vegetation, Council will not be held responsible for plant replacement. Maintenance of planting in this vicinity will be the sole responsibility of the adjacent property owner/occupier.

## 2.3 Park and Reserve Access

Parks and Reserves must be designed to optimize public access; prevent the entry of unauthorized or inappropriate users; facilitate the access of maintenance vehicles, emergency vehicles, and other vehicles authorized by Council; and minimize adverse impacts on the cultural, ecological and landscape values of the site.

- Parks and Reserves are designed to have due consideration for the movement of maintenance vehicles through the locality by providing access for vehicles to all parts of the park. Links across drainage and waterway corridors must be designed for access during wet periods. Where practicable and where loss to park or reserve amenity is minimized formal corridors for maintenance vehicles must be provided.
- Parks and Reserves must be designed to provide access for emergency vehicles. In Bushland Reserve design, emergency access must comply with an approved Bush Management Plan (BMP)
- Clear zones must be provided for along park and reserve boundaries to accommodate maintenance vehicles and activities in accordance with Council specification.
- Areas of high ecological value, as directed by Council, will be protected from public access.
- Full width galvanized vehicular gates or bollards with removable rails must be provided at vehicle access points with a TSC master padlock.

### Treatment to Park Boundaries

Vehicles should be prevented from driving into parks, drainage reserves and public open spaces by the provision of barriers along the road frontages and the installation of vertical barrier kerb and channel (not roll over kerbing). The barriers may be bollards, post and rails or natural features such as existing vegetation or newly planted and staked trees. Bollards and Removable Rails shall be in accordance with S.D. 703 and log barrier rails in accordance with S.D. 704.

## 2.4 Landscape Buffer (Screening)

Mounds and buffers adjacent to major roads controlled by the Road Traffic Authority (RTA) must comply with the requirements as specified in Roadscape Guidelines (RTA) and as detailed herein.

Generally, these buffers are between 2 and 5 metres wide along the full frontage of a property. Where a development is proposed that has a visual impact upon the landscape, vegetative screen buffering is required to remedy the situation. Other situations may include car parks, large sheds, industrial sites, acoustic fencing, etc.

Maintenance for these buffers is of great concerns to Council. The need for fast spreading, low maintenance species is recommended with large bands of single species for continuity. Authorised vehicular access to these buffers is paramount for all future maintenance.

- Drainage swales may be incorporated into the buffer design where no alternative control method is achieved.
- Vegetation is to be placed to avoid future over hanging of adjacent private properties.
- Plant selection has regard for plant maturity with particular attention given to issues relating to shade and access to sunlight for adjacent land uses
- Plant selection and planting reflects the required screening function.
- Unless otherwise stipulated by conditions of development approval landscaped buffers may comprise of planting only or a combination of earth mounding, planting and fencing in accordance with Engineers specifications.
- Allow for a 1000mm clear maintenance access path to rear of buffer planting.
- The location of the buffer does not compromise traffic visibility and safety requirements.
- Unauthorized vehicle access to planting strips is prevented by appropriate devices and structures for example slip rails, wheelstops, bollards or kerb. Maintenance access must be designed into the buffer.
- Areas adjacent to landscape buffers that are intended to be mowed must not exceed a cross fall gradient of 1:4.
- A mixture of 70% native and 30% exotic is to be achieved when plant choices are made.

## 2.5 Landscaping Within Car Parks

Landscaped areas and buffer strips associated with car parks enhance visual amenity and are designed for long term sustainability and durability. Generally planting beds located along road frontages are a minimum width of 2 meters, but reference should be made to the Operational Works Approval. All trees that are to be planted within car parks are at least 45L stock.

- Trees within car park areas are to have a minimum 600 mm clear trunk height for a 1.5 m high tree at planting and be able to attain a clear trunk height of 2.4 meters at maturity.
- The mature height of under plantings does not exceed 900 mm.
- All trees and shrubs maintain adequate sight lines in accordance with traffic visibility, engineering safety requirements and CPTED recommendations.
- A ratio of 1:6 (1 tree per 6 Car Parking Bays) is to be aimed for throughout the Car Park.

## 2.6 Bush fire Protection

Fire management must comply with the site specific Bush Fire Management (BFM) as specified in the Development Design Specification D10-Bush Fire Management.

## 2.7 Revegetation

Revegetation is to be provided for along ecological corridors, waterways, riparian areas, wetlands, gullies, around habitat trees, or as otherwise specified by Council.

- Revegetation areas are to be prepared by clearing and treating all weed species.
- Slow release fertilizer suitable for native plants and water saving devices, such as water crystals, will be required for all plantings.
- Unless otherwise approved re-vegetation areas will be blanket mulched with a weed free organic mulch with a minimum settled depth cover of 100 mm.
- Tubestock is the minimum acceptable size of plant stock for revegetation areas. Unless otherwise approved plants are to be randomly spaced (not in rows), with plant densities detailed on a Landscape Planting Plan prepared by a suitably qualified Landscape Architect or Environmentalist.
- Where requested by Council, erosion prone areas will be required to be treated with an erosion control matting (Jutmat or similar) and planted through.
- Grow tubes/tree bags will be required on site. Each plant will be bagged and staked with three (3) stakes. All stakes and bags shall be removed prior to the 'off maintenance' inspection.



# 3 LANDSCAPE WORKS

## 3.1 Community Artwork

This section relates to the design and construction of community art within public and private open spaces. Refer to T.S.C's Public Art and Placemaking Policy. All proposed art works are to be assessed by the Public Art Committee before approval is given.

Community art must be designed, constructed and sited to enhance the visual amenity of the space, create a sense of place, add a social and cultural dimension and maximize community benefit whilst being functional and durable.

Community art should be designed to have one or more of the following characteristics:

1. *Convey* meaning by providing legibility and identity through landscape design;
2. *Exhibit* freedom of expression
3. *Reflect* the cultural, historical and environmental values of local areas, communities and wildlife; and/or
4. Be *interpretive*.

Community art must be designed to:

1. achieve a *scale* that reflects the setting to enable all users groups to successfully appreciate the piece/s;
2. *provide* for the safety of users, particularly in regards to the provision of appropriate circulation space and setbacks from road edges;
3. *minimize* vandalism (including graffiti);
4. be of low maintenance and durability; and
5. Comply with the provisions of the relevant Australian Standards where it is integrated within a play space and is intended to be used as a play element.

Community art should have the ability to attract users, evoke the senses and maximize the quality, experience and understanding of the space.

Community art is to be located along pedestrian/cycle thoroughfares, within identifiable community spaces and within areas where visibility is increased.

## 3.2 Edging

Edging is designed to provide adequate separation between turf and gardens and to provide safety for maintenance staff and other user groups.

Built edges must be installed at grass mulch interfaces in local, district and regional parks and in commercial and retail centre development. Appropriate edging for these areas may include reinforced concrete edging, recycled plastic and bricks laid on a mortar bed. Timber edging, due to its short life and high maintenance is not accepted.

## 3.3 Paving Finishes

All hard surfacing in open space areas and areas external to building envelopes must be designed to provide safety and functionality, enhance visual amenity, and have regard for ongoing maintenance requirements and stormwater management. All levels and slopes must comply with AS1428 including the need for handrails and tactile indicators

Within the Tweed Shire District a number of areas have been recognised as high profile. These areas have their own landscape guidelines to comply with including footpath treatment, furniture types etc. These are separate documents to compliment this document and are available through TSC Planning Department.

Outside of these areas TSC standard footpath treatment shall apply. Refer to SD013

### **3.4 Infrastructure and Facility Provisions**

Standard infrastructure items, such as bollards, seating, bins and bubblers, shall be provided in accordance with Council Specifications.

*Other infrastructure and facilities that are to be located in State controlled land will require prior approval from the appropriate authority with which jurisdiction lies e.g. State controlled roads – RTA*

- The design and construction of playground equipment is to comply with Council requirements and relevant Australian Standards both in supply and installation.
- Infrastructure items, such as **shelters, bridges, viewing platforms and boardwalks** are to comply with the Building Code and have building approval prior to installation and be certified by a Structural Engineer on completion. These items will be assessed on a case by case basis but are generally discouraged due to their expensive and time consuming upkeep. Where items have been agreed, low maintenance, high durability materials should be used including recycled plastic, stainless steel and concrete
- Within coastal areas all fixtures and fittings are to be a minimum hot dipped galvanised finish, but preferably grade 316 stainless steel due to the harsh, salty environment.

#### **3.4.1 Furniture Range**

Furniture should reflect the intended function, whether it be for Murwillumbah city heart, council parks or coastal areas and compliment any distinguishing features present eg seating situated to maximise a viewscape. Some preferred features of furniture locations include:

- Park benches located under a natural or built shade structure to allow day long use. If the shade is built, it should have an impervious roof eg colorbond to provide shelter during rain.
- Shade structures should maximise protection from the sun during the hours of 11 am - 2 pm.
- Refuse bins should be located for ease of use and pickup by refuse trucks eg adjacent to playgrounds or picnic areas, at park exits close to road access.

#### **Styles**

Due to Tweed Shire Councils (TSC) diverse environment a range of furniture suites have been approved for installation. The Shire is divided up into three areas or 'Zones' for ease of classification. These zones are:

- Coastal
- Inland
- Murwillumbah City Heart

#### **Coastal Furniture Range**

The 'Coastal Zone' is generally defined as being an area within close proximity to the coastline, including, but not limited to Tweed Heads, Fingal, Kingscliffe, Bogangar, Hastings Point, and Pottsville through to the Byron Shire border. However, some developments may need assessing on a case by case basis to assess their proximity to the 'Coastal Zone' and whether the range of furniture is suitable. The 'Tweed Coastal Furniture Range' by UAP is a solid, enduring suite of furniture designed to handle the harsh coastal environment and help reduce future maintenance costs.

#### **Inland Furniture Range**

The seamless transition from 'Coastal Zone' to 'Inland zone' will be achieved through a continuity of landscape elements including both hard and soft landscape features (native vegetation, paving etc). The 'Inland' range of furniture is seen as complementing the 'Coastal' and 'Murwillumbah' range, but is more economical and suited to new subdivisions and Council operated parks. It is a robust and diverse range that has the ability to be finished to suit a developer's colour theme.

Due to the vast area the 'Inland Zone' covers, a selection of furniture options have been allowed for to create some variety throughout the Shire. This will ultimately allow Council to keep a more streamlined stock of furniture in store and respond to vandalism more quickly and more cost effectively.

### **Murwillumbah City Heart Furniture Range**

Within the heart of Murwillumbah a new suite of furniture is being implemented. The 'Channel Range' from UAP uses a simple, clean style that will add a freshness to the streets of Murwillumbah.

### **Specifications**

**The following furniture listed below shall be used throughout the whole Shire or zones.**

#### **Tree Grates and Guards**

*Integrated T6 and GR2 (Square) 1200 x 1200, standard height (1400 mm)*

Colour: Can be specified by the designer and approved by TSC or  
TSC Standard Dulux 'Berry Grey' Satin 88362

Supplier: Street Furniture Australia ph (07) 3205 1533

#### **Bicycle Stand**

- *BST02 (Narrow hoop) or BST03 (Semi Hoop)*

Fixing: Surface mounted

Colour: Stainless Steel finish.

Supplier: Street Furniture Australia ph (07) 3205 1533

#### **Bin Enclosures**

- *Bayside Wheelie Bin Enclosure 80L, 120L, 240L*

Fixing: Surface mounted

Colour:

Coastal – Silver Surface Finish (Stainless Steel look alike) Body/Red top general waste, enclosed three sides only/Yellow top recycle

Inland – Green Body/Red top general waste, enclosed three sides only/Yellow top recycle

Supplier: Gossi Furniture ph (07) 3877 2854

Location: Generally located within 10m of road reserve access for contracted emptying.

#### **Drinking Fountain**

- *FL001, drinking fountain*

Fixing: Surface mounted

Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'APO Grey' Satin 32786

Supplier: Street and Garden Furniture ph (07) 3844 1951

- *D4, Fountain Head Drinking Fountain*

Fixing: Surface mounted

Colour: To be specified by designer and approved by TSC

Supplier: Street Furniture Australia ph (07) 3205 1533

#### **Barbeque**

- *Christie 'Cooper' H.E., marine grade stainless unit, high energy cooking plate, hard wired to mains electricity. (Gas BBQ's are not accepted by T.S.C.)*

Colour: Stainless steel. Panels by designer to be approved by TSC.

Supplier: All Park Products, ph: 1300 135 227

#### **Playgrounds**

- No specified supplier, but TSC will not accept treated timber play equipment. Plans, specifications and suppliers to be submitted for approval before installation with bark mulch the preferred softfall material.

#### **Deflector Bars**

- As per TSC Standard Drawing S.D.706

### **T.S.C. Coastal Furniture Range Option 1**

A full furniture suite including: Seats, benches, shelters, bollards, tables, platform seating is available upon request by TSC.

- Supplier: Urban Art Projects 07 3630 6300

## **Inland Furniture Range Option 1**

### **Bollards**

- Slim Series Flat B5F (115 dia)/B8F (165 dia) Flat no collar  
Finish: Stainless Steel /by designer and approved by TSC/TSC colour scheme  
Fixing: Sub-Surface Mounted/ or Surface mounted  
Supplier: Street Furniture Australia ph (07) 3205 1533

### **Seats**

- *PS7, seat, aluminum battens, 1500/1800 mm with arm rest AM7*  
Fixing: Surface mounted  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379  
Supplier: Street Furniture Australia ph (07) 3205 1533

### **Benches and Tables**

- *PB5, Bench, aluminum battens, 1500 or 1800 mm*  
Fixing: Surface mounted  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379
- *PT7, Picnic table, aluminium battens, 1500 or 1800 mm*  
Fixing: Surface mounted  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379  
Supplier: Street Furniture Australia ph (07) 3205 1533

### **Shelters**

- *Landmark Series with hardwood up-grades and marine grade stainless steel fittings are to be specified within the coastal areas..*  
Style: Skillion Roof Design K301 Yorke (3x3m)/K302 Inskip (4x4m) K103 Sherbrook BBQ shelter  
Size: As Above  
Colour Inland: Post & Roof Rafters Detail: 'Dulux Weathershield 'Classic Cream' or equivalent  
Front Panel: 'Dulux Weathershield 'Stone' or equivalent  
Roof finish: Inland 'Colourbond River Gum'  
Colour Ocean: Posts & Roof Rafters Detail: 'Dulux Weathershield 'Windspray' Satin 84760 or equivalent  
Front Panel Detail: 'Surfmist' Satin 83249 or equivalent.  
Roof finish: Coastal 'Colourbond Deep Ocean'  
Fixing: Sub-surface mounted  
Supplier: Landmark ph (02) 4325 1830

## **Coastal Furniture Range Option 2**

- *As above only Colour to be amended*  
Colour: TSC Standard Dulux 'Berry Grey'' Satin 88362 or  
To be specified by designer and approved by TSC

## **Inland Furniture Range Option 2**

### **Bollards**

- *Recycled Plastic 125x125x1500 to TSC SD 704*  
Finish: 'Black'  
Fixing: In ground  
Supplier: Replas ph 1800737527

### **Seats**

- *SSD/A Metro Aluminium Seat Leg Feet (LF) 2.0m*  
Fixing: Surface mounted  
Options: Armrests (AR) Edge Guards (EG)  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379  
Supplier: Town and Park ph (02) 9907 6411

### **Benches and Tables**

- *BSD/A Metro Profile Bench Leg Feet (LF) 2.0m*  
Fixing: Surface mounted  
Options: Edge Guards (EG)  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379
- *TSD/A Aluminium Metro Table Surface Post (SP) 2.0m*  
Fixing: Surface mounted  
Options: Edge Guards (EG)  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379  
Supplier: Town and Park ph (02) 9907 6411

### **Platform Seat**

- *TSSD/A Aluminium Metro Table Seat Surface Post (SP)*  
Fixing: Surface mounted  
Options: Edge Guards (EG)  
Colour: To be specified by designer and approved by TSC or  
TSC Standard Dulux 'Bushland' Satin 88379  
Supplier: Town and Park ph (02) 9907 6411

## **Murwillumbah Furniture Range**

A full furniture suite for the Murwillumbah Central Business District including seats, benches, bollards, tables, and platform seating is available upon request by TSC.

Style: 'Channel' Range from UAP

Colors: Galvanised steel frame work  
Stained Timber battens

Supplier: Urban Art Projects 07 3630 6300

## **3.5 Signage**

Where a new park has been created a park name sign is to be provided. The park name is to be submitted to Council for approval with the landscape drawings. The proposed name is to preferably have the same theme as the subdivision's street names. The name is to be creative and imaginative in order to appeal to children for local parks and to adults for district and regional parks.

- If the park has any historic, cultural or natural value the provision of interpretive signage will provide further interest to local users. Council can provide assistance in developing interpretive concepts.
  - All park sign designs and names must be approved prior to installation.
- Refer to Councils 'Signage Strategy' for appropriate styles and locations.

## **3.6 Playgrounds**

To ensure play equipment is as safe as possible and appropriate for the intended users, it should conform to the current and relevant Australian Standards for playgrounds and play areas and additional standards as may be established by Council.

- AS 4685 General Safety requirements and test methods
- AS 4422 Playground Surfacing
- AS 4486 Playground and Playground Equipment

Where playground equipment is required by Council as a condition of the development permit of the subdivision, or proposed to be installed by the developer, the following requirements should be considered and incorporated into the design:

- Type of play equipment proposed should be selected in consultation with Council.
- The age range of the users should influence the type of equipment provided.
- The siting of the playground should not infringe upon adjacent residential properties; a minimum distance of 20 metres between equipment and park boundaries should be provided and suitably landscaped with a minimum of 3 metre of screen planting to reduce noise and visual impact. Such landscaping is to be consistent with CPTED Principles.

During installation and maintenance periods it is the responsibility of the developer to undertake, by suitably trained and certified staff, the inspection and documentation of safety inspections of playground equipment in accordance with AS/NZS 4486.1. Such records are to be provided to Council at the end of the "on maintenance" period

To conform to safety requirements impact absorbing surfacing should be installed to the play area in accordance with the relevant Australian Standard (T.S.C's preferred softfall is mulch, sand is to be avoided due to its hygiene problems) or continuous rubberised matting.

The site must be raised and free draining with positive falls and sub-soil drainage connected to a storm water system.

A concrete surround edge must be installed to the softfall perimeter. Construct a 200x150 reinforced edge with 2/12mm deformed bars, doweled expansion jointing every 9 meters and crack control every 3 meters. A large round edger must be used to remove all sharp edges and located outside of the fall zone.

All screws, bolts and other connection items to be installed shall be of 316-grade stainless steel construction.

Shade cover over playgrounds is to be provided, in order to encourage day long use. Preferably, this should be a permanent shade structure approved by Council; however, shade trees planted at maximum 6-metre centres around the safety area are acceptable.

The provision of seating overlooking the playground will be required.

### **3.7 Shade to Playgrounds**

The provision for shade is to be designed in a way that maximises user health and safety.

- Shade is to be provided by built elements such as awnings and free standing structures, vegetation, or a combination of these.
- Shade structures must be in accordance with Council specification and certified by a Structural Engineer.
- Shade structures are to be designed in a way to prevent physical access onto the shade structure itself by using anti-climbing cones.

Where playgrounds are to be installed adequate shade must be provided.

- Where playgrounds are to be installed, shade is to be provided. It is envisaged that natural shade will be designed (trees) to replace other built shade structures after a few years of growth.

### **3.8 Lighting**

Light fixtures and fittings within Council controlled land must :

1. Be sited to minimise loss of residential amenity through glare associated with night time use;

2. Be sited to deter unsociable behaviour as far as practicable;
3. Not be visually intrusive;
4. Be appropriate to the setting;
5. Be designed and constructed to minimise vandalism; and
6. Be provided appropriate to the park category or at the discretion of Council. In some cases the use of a timber can be used to control park lighting to deter anti-social behaviour.

Lighting requirements within parks will be advised by Council in accordance with the classification of the park.

As a guide, two (2) park lights on poles shall be provided for every park of 4,000 square metres. However, this may vary depending upon the shape and alignment of the park and the presence of existing vegetation. Generally, parks should be well lit providing safe nocturnal environment for local users. Council will consider the relaxation of one or both lights where existing street lights are adjacent to the park area. Underground power should be provided to each pole. Light fittings should be vandal resistant.

Pathways within parks that require lighting shall be lit to the lighting category determined from the Road Lighting Standards AS/NZS 1158.3, "Pedestrian area (Category P) lighting". Minimum requirements shall be Category P4 with the desirable level being Category P2.

A separate lighting plan must be submitted for approval taking into account any future landscape works, tree locations, etc.

### **Park Lighting**

#### **Pathways**

<i>Type:</i>	To be approved
<i>Gear tray:</i>	In-column gear tray
<i>Column:</i>	4.5 m above ground, Flanged
<i>Colour:</i>	Powder coat "Silver" RAL 9006
<i>Breaker &amp; Timer:</i>	A breaker must be installed to each pole to isolate that pole for future maintenance. A timer is also to be installed at the main control to operate from 5.30 – 9.30 pm.

#### **Shelter Lighting**

<i>Type:</i>	Rexel lighting Lite Guard (Rexel)
<i>Fittings:</i>	Vandal resistant fluorescent fitting to shelter roof.

# 4 SITE WORKS

The site works section applies to any landscape works that involve vegetation protection, clearing, stock piling and managing impacts during construction, through the following strategies.

## 4.1 Stockpiling of Materials

Stockpiling of material is undertaken in a manner that minimises environmental impacts and nuisance and annoyance to existing and adjacent premises. Existing or future public open space sites used for stockpiling are de-compacted and remediated prior to any further landscape or grassing works.

- Stockpiles of landscape are stored separately on site
- Landscape material is free of any deleterious material that has the potential to impact upon the intended use of the land, prior to stockpiling.
- Stockpiles are treated appropriately to prevent wind and water borne erosion and weed infestation. Temporary erosion and sediment controls are installed to contain the stockpile and are removed upon usage of landscape material.

## 4.2 Managing Impacts during Construction

Landscape works are to be carried out in a safe manner that minimises adverse impact to the natural environment caused by erosion, saltation, incineration of cleared vegetation, and rubbish and avoids noise, dust and saltation impacts / nuisance, redirection of stormwater runoff and any inconvenience to residents and other premises.

- The landscape works incorporate temporary stormwater runoff, erosion and sediment controls and trash traps.
- Stormwater runoff, erosion, and sediment controls are constructed prior to commencement of any clearing works.
- During construction, dust suppression measures (such as watering of the site) are implemented to protect nearby premises
- Temporary construction works do not pond or concentrate stormwater runoff in adjoining properties
- Temporary construction works do not create nuisance or annoyance on adjoining premises as a result of altering the stormwater runoff pattern exiting the site
- Construction traffic to and from the site uses the highest classification streets and roads where a choice of access routes is available.
- All materials associated with the landscape works that are dropped, deposited or spilled on streets giving access to the site are removed and the streets are cleaned as soon as practicable after the event. Any damaged areas are repaired and reinstated to the original condition.
- Where works are carried out on existing roads a traffic control plan is prepared in accordance with the Manual of Uniform and maintained during the works.
- Traffic Control Devices. All traffic control measures are properly erected



# 5 STORMWATER MANAGEMENT

This section relates to works and maintenance undertaken as part of Stormwater Management. It is intended as a guide only. For more detail refer to:  
Development Design specification D7-Stormwater Quality  
WSUD Engineering Guidelines, B.C.C.  
WSUD Engineering Procedures, 2005 Melbourne Water

## 5.1 Design Intent for Stormwater Management

A design intent must be produced for the construction of any water body and should clearly articulate the objectives of the storm water management method and consider the surrounding environment. It should be developed in consultation with relevant authorities and when completed will provide direction to the functional and detailed design.

The design intent should capture the expecting recreation use, public safety, visual amenity and community expectations

The design intent must be produced during feasibility discussion and communicated to all relevant stakeholders.

### 5.1.1 Lake Depth

A lake should be oriented to the dominant winds to facilitate mixing, particularly for summer and autumn, and edge treatments must be designed to minimise wave damage.

The lake depth should be no greater than 3 meters to ensure sufficient light penetration to maintain submerged plants and to minimise the likelihood of stratification. It is preferable that the lake is between 1.5 - 2.0m in depth to maintain the most productive biological system possible. The lake depth should vary to create an opportunity for the establishment of diverse ecological systems.

### 5.1.2 Vegetation

Submerged plants are important to maintain biological processes and water quality. They provide a surface for the absorption of dissolved nutrients and provide food and shelter for zooplankton that may graze on algal species. The oxygen released during photosynthesis is important in maintaining oxygen saturation in the water column, which is depleted by animal respiration and decomposing organic matter. Vegetation can also help stabilise sediments and reduce release of sediment-bound nutrients arising from re-suspension process.

### 5.1.3 Edge Design

The batter slopes on approaches and immediately under the water line have to be configured with consideration for public safety. Both hard and soft edge treatments can be applied to compliment the landscape of the surrounding area of the pond or lake. A soft edge treatment approach will involve a gentle slope to the water edge and extending below the water line before the batter slopes steepen into deeper areas.

An alternative is the adoption of a flat batter slope beneath the water line. A 3m wide "safety bench" that is less than 0.2m deep below the permanent pool level running the perimeter of the water body.

## 5.2 Swales

### 5.2.1 Centre Median Bio-retention Swales

Centre median bio-retention swales are swales integrated into the centre of the median of dual carriage roads to collect surface runoff from road reserve to facilitate filtration treatment through a prescribed soil filtration media that is densely vegetated for retention of pollutants. The bio-retention systems are to be landscaped to complement the streetscape design intent. The road pavement is to slope 'inwards' towards the centre median.

### 5.2.2 Bio-retention 'Rain Gardens'

Bio-retention 'Rain Gardens' are landscape features located within the road reserve between the road pavement and the property line. Piped stormwater flows from the development catchment to be 'day lighted' onto the surface of these systems and percolated through a prescribed soil filtration media that is densely vegetated for retention of pollutants. The bio-retention systems can be planted with vegetation (trees and ground cover species) endemic to the region. Considering the bio-retention system accepts all stormwater flows and piped flows are to be 'day-lighted' to the surface, it means the systems are large.

### 5.2.3 Bio-retention Pods

Runoff within the kerb will be delivered to bio-retention pods to facilitate filtration treatment through a prescribed soil filtration media that is densely vegetated for retention of pollutants. The treated stormwater (i.e. the water that passes through the bio-retention system) will be collected at the base of the filtration media and discharge system. Stormwater flows in excess of the filtration rate of the bio-retention pods up to the 5 year ARI design flow will either enter an overflow pit which is sized to preserve trafficability of the road.

## 5.3 Safety and Maintenance

### Safety

As with any water body, safety should be at the forefront of any design. For retention and detention basins designed to hold a body of water secure fencing must be installed if alternative accessible safe edges have not been designed due to space restrictions or location. Alternatives to aluminium pool fencing is preferred due to its lack of resistance to vandalism. Other situations where a barrier must be installed is around head walls of culverts. A post and rail is acceptable for fall heights of less than 900 mm.

### Maintenance

Adequate access must be provided to allow for future maintenance. A minimum 3000mm wide, 150 mm thick concrete pathway is to be installed to a location that allows machinery to clean out debris as designed. .

A gross pollution and trash rack is to be installed at the water outlet point and in a location that can be easily accessed for maintenance.

Grass swale batters must not exceed 1:4 for mowing.

## 5.4 *Wetlands*

For wetland area designs and there function refer to TSC Development Design Specification D7-Storwater Quality

# 6 IRRIGATION

This section relates to irrigation works undertaken within Council managed land.

For more detail refer to:

**Tweed Shire Council Master General Specification for the Supply & Installation of Landscape & Turf Irrigation Systems (Appendix I).**

All irrigation systems connected to Council's water supply shall be installed to the satisfaction of Council.

The installation of water meters, backflow prevention devices and isolation valves are mandatory in all irrigation systems Refer AS 3500 "National Plumbing and Drainage, Part 1.2 Water Supply - Acceptable Solutions".

The installation of an irrigation system to all landscaped traffic islands and roundabouts is mandatory.

An irrigation plan prepared by an irrigation consultant shall be submitted to Council for approval together with the proposed planting plans.

The design of all watering systems must ensure an efficient and economical application of water. Such systems are to be designed to use low water application and shall run only during Council's nominated times.

The irrigation system shall be installed in accordance with **Master General Specification for the Supply & Installation of Landscape & Turf Irrigation Systems**

No Variation from this specification will be accepted without prior written approval by Council.

All irrigation pipe work installed under roadways shall be laid in minimum 100mm UPVC Class 9 conduit of diameter equal to that of the irrigation pipe plus 50%.

The water connection and installation of the irrigation system shall be carried out by Council personnel or an approved contractor at the developers / applicants cost.

The maintenance period for irrigation works shall be twelve months and shall run concurrently with the 'on maintenance' / establishment period for landscaping works.

Thereafter all maintenance and watering will be the responsibility of the Council

# 7 MAINTENANCE

Any Landscape Works undertaken within Council Reserve as part of a development must be maintained by the developer for a period of twelve (12) months. Prior to acceptance Council will inspect the landscape works before signing off and accepting future maintenance responsibilities. During the twelve (12) month period, horticultural best practices must be undertaken to ensure quality workmanship throughout the development before Council will accept the works.

Council has certain expectations of acceptable landscape quality. Below is a list of procedures that the developer is expected to undertake during the maintenance period. This will ensure that once the twelve (12) month period has been reached a quality, well maintained landscape is being given over to Council.

- The design of a park should carefully consider long-term maintenance requirements. Mulched garden beds containing trees and shrubs are easier to mow around than numerous small trees and shrubs planted individually throughout the grassed areas.
- Within new park areas designed as part of a development, the developer is responsible for all upkeep of any furniture, water bubblers, bins etc. for the first twelve months. This may include but is not limited to the sweeping of pathways and a regular checking of any play equipment that may have been installed as part of the development.
- Where an irrigation system is installed, regular maintenance is to be carried out to ensure it is on good working order. The necessary maintenance could include but is not limited to, cleaning of filters, correct timer settings, drip lines are not blocked, leaks etc. At handover, the developer must provide Council with the irrigation control manual and any associated warranties and a break down of run times and lengths. It is also the developers responsibility to provide a test certificate associated with the backflow prevention device and have made any other applications to Mackay Water that may be required before Council will accept the irrigation works. Where there is no irrigation system manual watering will need to take place to ensure the survival of the plants during prolonged dry period. The loss of plants due to lack of water will not be an acceptable excuse to Council.
- A maintenance program is required to be submitted to Council with the submission of the landscape designs. The program should be prepared by the Landscape Architect / Designer or a qualified horticulturist and should detail all proposed maintenance works. A detailed 'As constructed irrigation plan' must also be submitted for records of pipe location etc. A park maintenance program plan is attached as Appendix B.
- Before the 'on maintenance' period (the stage where the works have reached practical completion and the developer commences the twelve month maintenance period). Council will undertake a site inspection and report any defects or unacceptable workmanship. Council will not certify practical completion until the identified defects have been addressed. Once acceptable action has been taken Council will approve commencement of the 'on maintenance' period.
- Similarly prior to the end of 'on maintenance' council will assess the site for suitability for the end of the developers responsibility and handover to Council. Any defects will be identified and the 'on maintenance' period extended until such time as the defects are addressed.
- During the course of the 'on maintenance' period Council may inspect the site to assess its compliance with the maintenance requirements identified. Should such routine maintenance fall below acceptable levels Council will direct the developer to address such issues within specified timeframes.
- A detailed inspection and maintenance report is to be kept by the developer detailing safety inspections of playground equipment undertaken by suitably certified staff in

accordance with AS/NZS 4486. Such records are to be transferred to Council at the end of the 'on maintenance' period.

- Where single shade trees occur they should be mulched to 100mm depth in a minimum 1.2-metre diameter circle, thus avoiding damage to trunks by mowers or whipper snipper.
- Tree ties and stakes are to be regularly checked (once a month minimum) for tightness. Any tree stakes that interfere with the trees branching system are to be cut back to allow the canopy to branch without harm or prevent rubbing against the stake.
- Mulch depths throughout the maintenance period are to be maintained at the required 100mm depth. The developer is responsible for topping up as necessary.
- A defined edge is required between all turf and garden bed areas. A spade edge is not acceptable (trees in turf excluded); timber is not acceptable, the preference is towards a concrete edge. The use of a recycled plastic is also acceptable.
- Access to the parks, drainage reserves and public open spaces for maintenance vehicles should be via a lockable gate or removable bollards fitted with standard Council padlocks.
- A weed management plan is to be implemented to control weed growth throughout the maintenance period. Spraying of weeds is permitted under the correct environmental conditions and manufactures specification. At handover, all garden beds are to be free of weeds.
- During the maintenance period turf is to be sprayed twice a year with selected herbicides for best cover of the preferred turf species. Suggested chemicals: Sempra to control nutgrass; Dicamba to control certain broadleaf weeds; Daconate (MSMA) to control annual and perennial grasses in turf.
- All garden beds and trees are to be fertilised at least twice (2) through the twelve-month maintenance period (this on top of the fertiliser given as specified at the time of planting). This is to sustain healthy growth and vigor and fight off any potential disease or insect attacks.
- At the first sign of any pest or disease attack treatment is to take place to eradicate the problem in an environmental and professional manner as recommended by the manufacture. Any dead, dying or diseased plants will not be accepted at handover and are to be replaced at the developers cost.
- The need to prune or trim back plants may arise during the establishment period. A qualified horticulturist or arborist, where trees are involved, is to be employed to do all the necessary work. There are strict procedures to follow when undertaking any pruning work and bad workmanship that may lead to long term disfiguration or deformed growth (eg. the unnecessary removal of a trees main leader) of trees and shrubs will not be accepted and the plant replaced at the developers cost.
- All grassed areas within Council reserve is to be maintained during the maintenance period. Grass is to be regularly mowed to keep the finished height between 50mm in height. Through summer this may involve weekly mowing (depending on grass species as specified in the original development plans) and through the cooler months maybe once every three weeks. All grass through this period is to receive at least two applications of fertiliser that best suits the time of year and site conditions and applied to the manufactures specification.
- Rubbish or debris that builds up on site must be removed on a regular basis as part of any maintenance. Council will not accept at handover garden beds that are littered with rubbish and other debris.

8.

**PARK MAINTENANCE PROGRAM  
(TEMPLATE)**

## PARK MAINTENANCE PROGRAM (TEMPLATE ONLY)

### DEVELOPMENT DETAILS

Development Name \_\_\_\_\_  
 Stage (if applicable) \_\_\_\_\_  
 Development Approval Reference \_\_\_\_\_  
 Park Address \_\_\_\_\_  
 UBD Reference (eg 161 H16) \_\_\_\_\_  
 Park Real Property Description \_\_\_\_\_

### SUPERINTENDENT

Company Name \_\_\_\_\_  
 Superintendent Name \_\_\_\_\_  
 Address for Correspondence \_\_\_\_\_  
 Telephone/Facsimile/Email \_\_\_\_\_

### COUNCIL DELEGATE

Name \_\_\_\_\_  
 Position \_\_\_\_\_  
 Telephone/Facsimile/Email \_\_\_\_\_

### AGREEMENT

We agree that responsibility for park maintenance works for the above development during the maintenance period will be undertaken in accordance with the table below.

Date of commencement of agreement:

Signature: \_\_\_\_\_  
 Duly Authorised On Behalf Of \_\_\_\_\_  
 (insert name of Superintendent) \_\_\_\_\_  
 Date: \_\_\_\_\_

Duly Authorised On Behalf Of \_\_\_\_\_  
 Date: \_\_\_\_\_

Item Description	Maintenance Standard/Action	Responsibility
Park Amenities	Repair or replace defective park visitor facilities (e.g. barbecues, play equipment, toilets) on the same day in district and metropolitan parks, and within five working days at other locations.	Developer / TSC / Not Applicable
	Safety hazards to be repaired on same day (urgent) or barricade the site and arrange repairs within 20 working days.	Developer / TSC / Not Applicable
	Maintain equipment to manufacturer requirements.	Developer / TSC / Not Applicable
Grass mowing and edge trimming	Mow grass at least 16 times a year with a mid-mounted mower or equivalent. Set cutting height at about 50mm. Schedule one cut per month from March to October and two cuts per month from November to February. Hand trim around structures such as fences and signs in conjunction with each mowing service. Maintain grass growth along path edges to within 100mm of the edge.	Developer / Not applicable



## PARK MAINTENANCE PROGRAM (TEMPLATE ONLY)

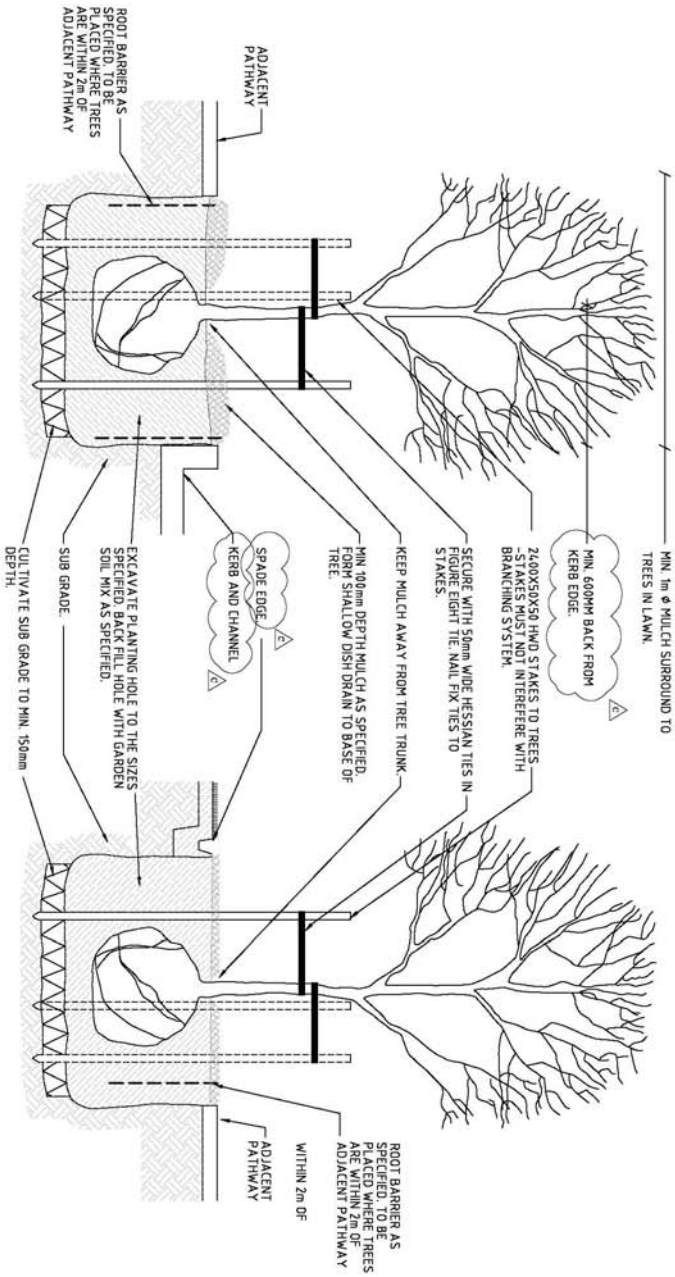
Item Description	Maintenance Standard/Action	Responsibility
Cleansing	Pick up litter and large debris (fallen branches etc) from "maintained parkland" at least once a month in local parks and once a week in district and metropolitan parks. Dispose of the litter and debris to a legal place of tipping. Note: "Maintained parkland" includes all mown areas, roads, car parks, picnic areas, pathways, playgrounds and pavement areas.	Developer / TSC / Not applicable
	Sweep leaves and small debris (e.g. eroded materials) from paths and pavement areas by blowing or sweeping at least once a month in metropolitan and district parks and once a quarter in local parks.	Developer / TSC / Not applicable
	Empty rubbish bins at least three times a week (Monday, Wednesday and Friday) in district and metropolitan parks and once a week in local parks.	Developer / TSC / Not applicable
	Clean toilets including pans, basins, tiled surfaces and floors at least once a day. Replenish supplies of toilet paper. Spot remove graffiti. Clean gutters of leaves at least once every six months.	Developer / TSC / Not applicable
	Clean electric barbecues and surrounds at least three times a week (Monday, Wednesday and Friday). Empty fat receptacles at least once a month.	Developer / TSC / Not applicable
Landscaping	Weed garden beds, rehabilitation sites and landscape areas at least once a quarter. Replace dead and poorly performing plants and replenish mulch at the same service frequency. Water young plants during dry periods to prevent wilting.	Developer / Not applicable
Playground	Undertake a routine visual inspection to detect hazards from broken equipment, broken glass, vandalism, etc at least once a month in local parks and once a week in district and metropolitan parks.	Developer / TSC / Not applicable.
	Undertake operational inspections to check the operation and stability of play equipment at least once a month in district and metropolitan parks. Inspections to be undertaken by a trained playground maintenance inspector or engineer.	Developer / TSC / Not applicable
	Check under-surfacing for trip hazards at least once a quarter and more frequently in high use playgrounds. Rake and replenish bark under-surfacing as required.	Developer / TSC / Not applicable
Buildings, facilities and furniture	Repair or replace missing, defective or damaged rubbish bins.	Developer / Not applicable
	Check toilet operation including flushing mechanisms, door locks, leaking taps, lights, etc at least once a month. Repair or replace defective and vandalised fixtures and fittings and remove graffiti.	Developer / TSC / Not applicable.
	Check barbecue operation including hot plate temperature (thermostat and heating times) and fat drainage at least once a month.	Developer / TSC / Not applicable

## PARK MAINTENANCE PROGRAM (TEMPLATE ONLY)

Item Description	Maintenance Standard/Action	Responsibility
	Sand and oil exposed timber surfaces every six months. Repair or replace damaged or defective furniture and remove graffiti.	Developer / TSC / Not applicable.
Paved areas and pathways	Check paved surfaces (e.g. asphalt) at least once every six months. Repair potholes, trip hazards and failures. Check drainage of paths and pavement areas and rectify defects.	Developer / TSC / Not applicable.
Bridges and boardwalks	Oil exposed timber surfaces as needed. Check structural stability, handrails and decking at least once every six months. Repair defective items and vandalism and remove graffiti.	Developer / TSC / Not applicable
Irrigation	Check operation of valves, timers, pipes and sprinkler heads at least once a week and rectify defects. Adjust irrigation times during extended wet weather.	Developer / TSC / Not applicable
Utilities	Check operation of pumps, lights, drinking fountains and taps at least once every three months. Replace defective or damaged globes, washers and other utility components.	Developer / TSC / Not applicable
Signage	Check signage for vandalism and graffiti at least once every three months. Repair or replace damaged, missing, unreadable or faded signs.	Developer / TSC / Not applicable
Fence and barriers	Repair or replace sections of fence/barriers removed or damaged by vehicles etc and rectify defects.	Developer / TSC / Not applicable
Turf	Top dress, fertilise, control weeds and replace worn or damaged turf as needed.	Developer / TSC / Not applicable
Trees	Replace dead and poorly performing planted trees. Control weeds and replenish mulch around the base of young trees. Water young plants during dry periods to prevent wilting.	Developer / Not applicable
	Prune dead limbs and remove defective branches over park activity areas to reduce hazards.	Developer / TSC / Not applicable
Vegetation Management	Continue programs that have been specified in Council approvals to control proclaimed and environmental weeds.	Developer / TSC / Not applicable
	Trim back vegetation along paths and around park facilities to maintain surveillance opportunities and required clearance widths.	Developer / TSC / Not applicable

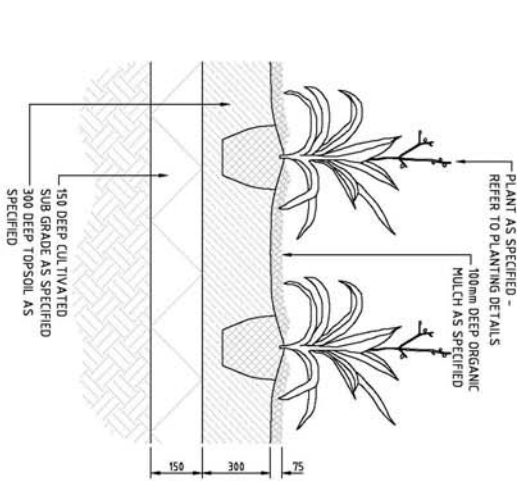
## 9.

# TWEED SHIRE COUNCIL STANDARD LANDSCAPE DRAWINGS



**ADVANCED TREE PLANTING ADJACENT TO KERB & CHANNEL**  
Scale: (N:1)

**ADVANCED TREE PLANTING IN TURF**  
Scale: (N:1)



**TYPICAL SHRUB/GROUNDCOVER PLANTING DETAIL**  
Scale: (N:1)

**NOTES:**

MINIMUM POT SIZE FOR SUBDIVISION PLANTING IS 45L T.  
FOR SPECIFICATION REFER TO TSC DEVELOPMENT CONSTRUCTION SPECIFICATION - C273 LANDSCAPING.  
DETAIL TO BE READ IN CONJUNCTION WITH S.D.006 SERVICE LOCATIONS IN ROADWAYS.  
ROOT BARRIER: INSTALL TO MANUFACTURES SPECIFICATION (MINIMUM 600MM WIDTH) PH 1300 13 66 44 OR EQUIVALENT PRODUCT

C		ADJUSTMENTS MADE AS SHOWN	DATE	BY	REVISION
B		REVISIONS ADDED FOR INPUT TO TYPICAL	DATE	BY	REVISION
A		REVISED	DATE	BY	REVISION
REVISED		ADJUSTMENTS MADE AS SHOWN	DATE	BY	REVISION

DATE	10/01/09	10/01/09	20/01/09	20/01/09
BY	...	...	...	...

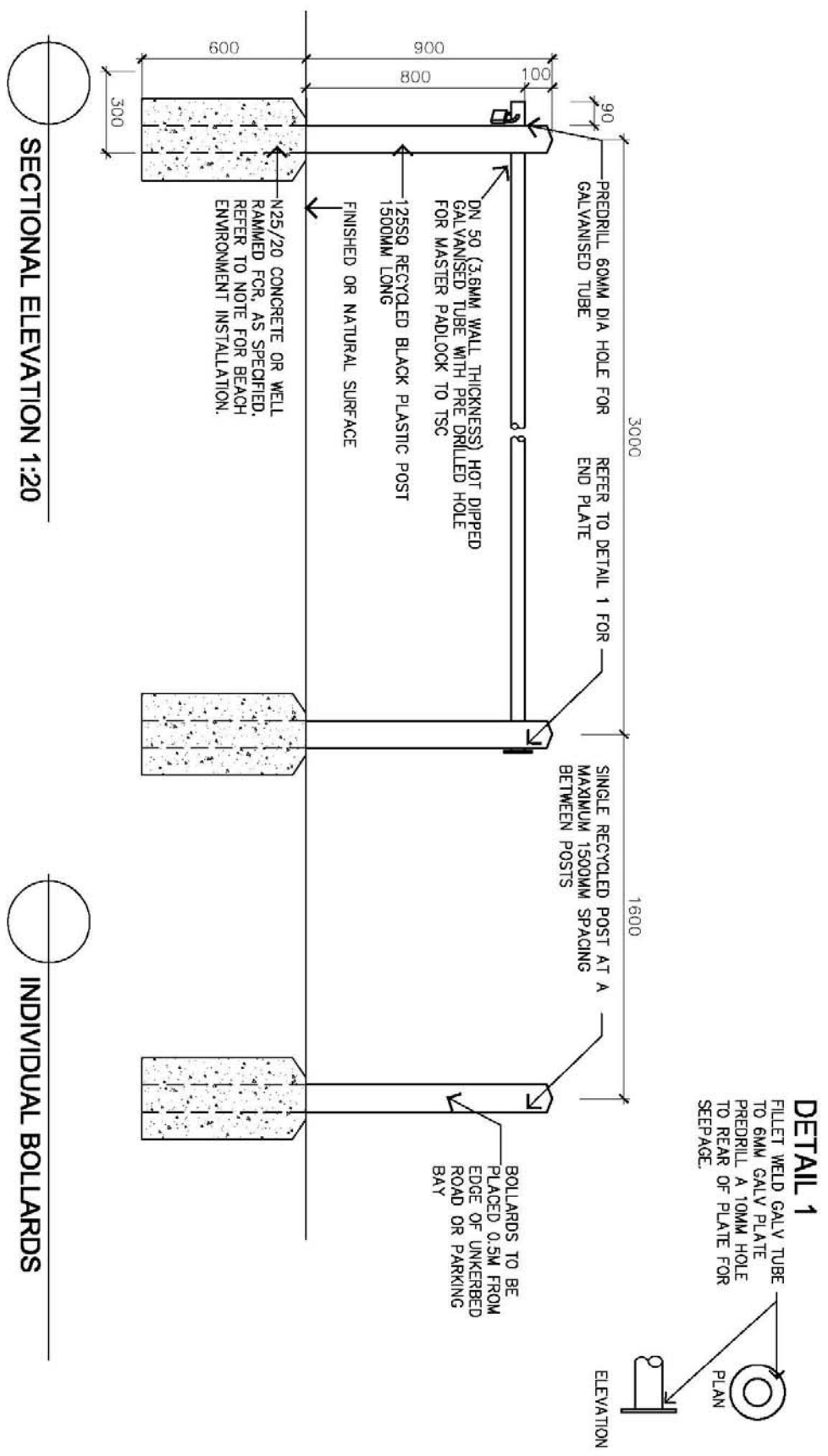
		<b>Tweed Shire Council</b> DESIGN UNIT SHIRE OFFICES TUMBUKUMPAH NEW SOUTH WALES, 2464	
PHONE	08 9372300	FAX	08 9372313
WEBSITE	www.tweed.nsw.gov.au	ADDRESS	MURUMBidgee

PROJECT:	LANDSCAPING STANDARDS	DATE:	20/01/09
PLAN TITLE:	TREE AND SHRUB PLANTING DETAILS	ISSUE:	A/B/C
ACAD FILE No.	THE STANDARD DRAWING S.D.28A/TW/09/LANDSCAPING S.D.701	SHEET:	1 OF 1 SHEETS







- \* RECYCLED PLASTIC POSTS 125X125X1500 (BLACK) WITH POINTED TOP AVAILABLE THROUGH REPLAS OR SIMILAR APPROVED.
- \* ALL STEEL COMPONENTS & FASTENERS SHALL BE HOT DIPPED GALVANISED MIN. COATING THICKNESS AS PER AS.1214 & AS/NZS.4680.
- \* FOR POST AND RAIL INSTALLATION WITHIN A BEACH ENVIRONMENT THE MASS CONCRETE FOOTING IS TO BE DELETED AND THE POST EXTENDED INTO THE GROUND A MINIMUM 900MM DEEP, BACKFILL AND COMPACT GRADUALLY WITH THE EXCAVATED SOIL.
- \* FOOTINGS TO BE CLEAR OF W & S ASSETS.

GENERAL NOTES		DATE: 12/09		PROJECT: LANDSCAPING STANDARDS		DRAWING NUMBER: S.D. 704	
DESIGNER: [Signature]		DATE: 12/09		PROJECT: LANDSCAPING STANDARDS		DRAWING NUMBER: S.D. 704	
CHECKED: [Signature]		DATE: 12/09		PROJECT: LANDSCAPING STANDARDS		DRAWING NUMBER: S.D. 704	
APPROVED: [Signature]		DATE: 12/09		PROJECT: LANDSCAPING STANDARDS		DRAWING NUMBER: S.D. 704	

**TUEED SHIRE COUNCIL**  
DESIGN UNIT

**THE TWEED**  
LANDSCAPE ARCHITECTS

100/101 RIVERVIEW DRIVE, TWEED HEADS, NSW 2486  
PH: 07 5522 2222  
WWW.THE-TWEED.COM.AU

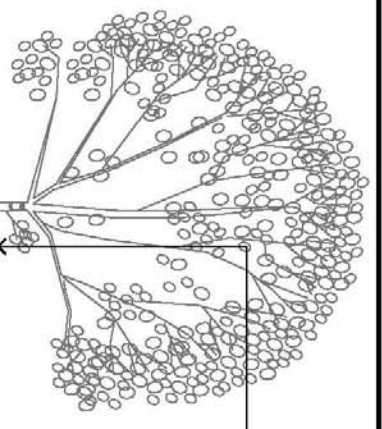
PROJECT: LANDSCAPING STANDARDS  
DRAWING NUMBER: S.D. 704  
SCALE: 1:20  
DATE: 12/09

LANDSCAPING STANDARDS  
BOLLARD AND REMOVABLE RAIL DETAIL

DATE: 12/09  
DRAWN BY: [Signature]  
CHECKED BY: [Signature]  
APPROVED BY: [Signature]

**NOTE:**

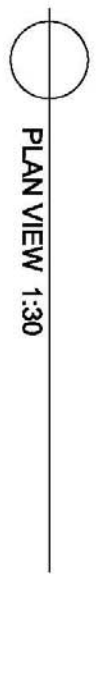
- Pavement tree plantings are to be a minimum size of 200 litres.



**TREE GUARD**  
 TYPE: T66 OR SIMILAR (MUST BE APPROVED)  
 CAST ALUMINIUM STANDARD HEIGHT  
 BOLT FIXED WITH INTEGRATE SYSTEM  
 FINISH: DULUX Berry Grey 81973  
 SUPPLIER: Street Furniture Australia  
 Tree is to be securely fixed to tree guard to prevent excess movement.  
 IF NO TREE GUARD IS TO BE USED 2/50X50 HMD STAKES DRIVEN INTO THE GROUND OUTSIDE OF THE ROOTBALL ARE TO BE INSTALLED WITH A KNITTEX TREE TIE. THE STAKES ARE NOT TO INTERFERE WITH BRANCH SYSTEM.

**TREE GRATE**  
 TYPE: SQUARE TREE GRATE GR2 OR SIMILAR  
 CAST ALUMINIUM 1200 x 1200  
 MOUNTED FLUSH WITH KERB  
 FINISH: DULUX Berry Grey 81973  
 SUPPLIER: Street Furniture Australia  
 INSTALL TO MANUFACTURERS DETAIL

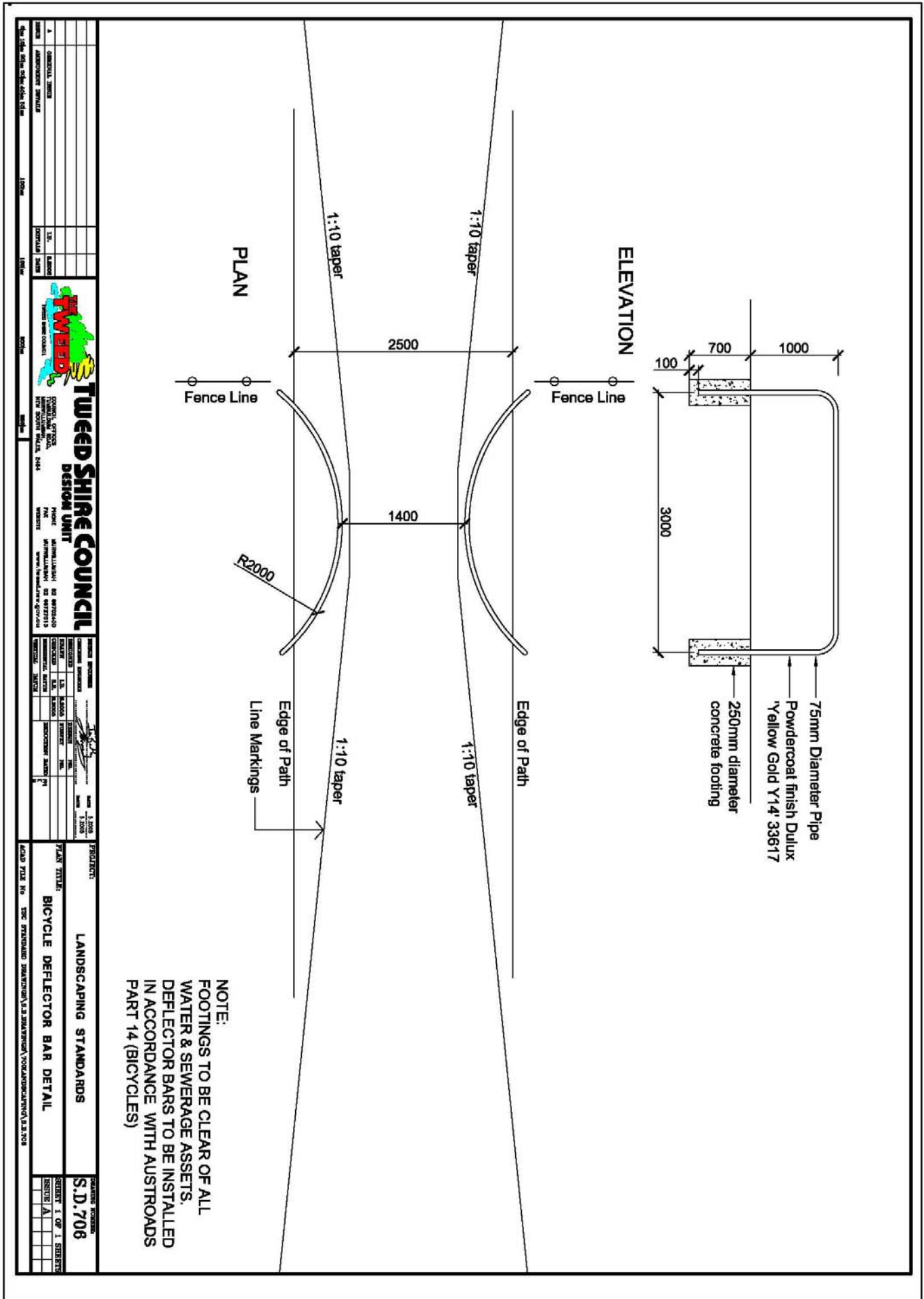
INSTALL A 600MM WIDE ROOT BARRIER FOR OR SIMILAR APPROVED BACKFILL.  
 IMPORTED TOPSOIL AND TERRACOTTEM TO MANUFACTURERS DIRECTION.  
 BREAK-UP BASE & ADD 1kg GYPSUM IF CLAY SOILS FOUND, NONE IF SANDY SOILS



ADVANCED TREES SHALL BE CONTAINER GROWN WITH STURDY SINGLE STRAIGHT TRUNK OF SPECIFIED POT & CALIPER SIZE. SELF-SUPPORTING, HARDENED-OFF & DISEASE FREE. TREES SHALL BE WELL ROOTED WITHOUT INDICATION OF ROOT CURL, RESTRICTION OR DAMAGE. EXCAVATE PLANTING HOLE TWICE SIZE AND DEPTH OF POT & BREAK-UP BASE OF HOLE WITH GROWBAR. ADD 1kg OF AG. GYPSUM. REMOVE TREE FROM CONTAINER.  
 TREE SHALL BE POSITIONED IN THE CENTRE. PLUMB THOROUGHLY. MIX TERRACOTTEM WITH TOPSOIL TO MANUFACTURERS DIRECTION. BACKFILL TREE HOLE WITH IMPORTED TOPSOIL, AS SPECIFIED, & PROGRESSIVELY COMPACT. INSTALLED TRUNK COLLAR GUARD AS SPECIFIED.  
 INSTALL MINIMUM 2/HMD STAKES AND KNITTEX NYLON TREE TIE IF NO TREE GUARD IS TO BE USED. TIE TREE TO GUARD AS ALTERNATIVE. AVOIDING ROOTBALL DAMAGE. GRADUALLY WATER-IN IMMEDIATELY AFTER PLANTING WITH SOIL PER TREE TO ENSURE THOROUGH WETTING OF ROOTBALL & SETTLING OF BACKFILL. TOP-UP SOIL AS REQUIRED AFTER SETTLEMENT. FINISH WITH 75mm LAYER OF 10mm SCREENINGS OR MULCH IF NO TREE GRATE.

		<b>Tweed Shire Council</b> Design Unit		PROJECT: LANDSCAPING STANDARDS DRAWN: S.D. 705 DATE: 21/12/2009	
GENERAL ENGINEER LANDSCAPE ARCHITECT	L.S. LANDSCAPE ARCHITECT	CHECKED BY S.D. 705	DATE 21/12/2009	PROJECT NO. 10000000000000000000	SHEET NO. 1 OF 1
PREPARED BY S.D. 705			CHECKED BY S.D. 705		
DATE 21/12/2009			SCALE 1:30		
LANDSCAPING STANDARDS TREE PLANTING IN PAVEMENT DETAIL					
S.D. 705					





		<b>TUWEED SHIRE COUNCIL</b> DESIGN UNIT	
PROJECT NO: 1500 PROJECT TITLE: BICYCLE DEFLECTOR BAR DETAIL	DRAWN BY: S.D. 706 CHECKED BY: S.D. 706 DATE: 15/03/09	PROJECT NO: 1500 PROJECT TITLE: BICYCLE DEFLECTOR BAR DETAIL	DRAWN BY: S.D. 706 CHECKED BY: S.D. 706 DATE: 15/03/09
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