

# Double Bay Centre

## PUBLIC DOMAIN IMPROVEMENTS PLAN

---

Adopted 9 September 2002



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D O U B L E B A Y C E N T R E P U B L I C D O M A I N I M P R O V E M E N T S P L A N

# Introduction

## PART 1

A Civic Improvements Program was undertaken for The Double Bay shopping centre in 1988 to lift the image of the centre, that was at the time becoming degraded. Travis Partners were commissioned to design and document these works, which were conceived as one of the first holistic streetscape programmes in Sydney.

It was one of the first programmes to use a shopfront approach to providing information to, and getting feedback from the community. Commercial stakeholders and retailers provided financial input to the programme.

Pavement design and geometry, street furniture, lighting and planting were all components of an upgrade that was aimed at providing a sophisticated and exclusive image. Newly emerging concepts for creating pedestrian friendly streets, such as footpath widening and tree planting in the parking lane were incorporated into the design. The resulting streetscape remains distinct to this day.

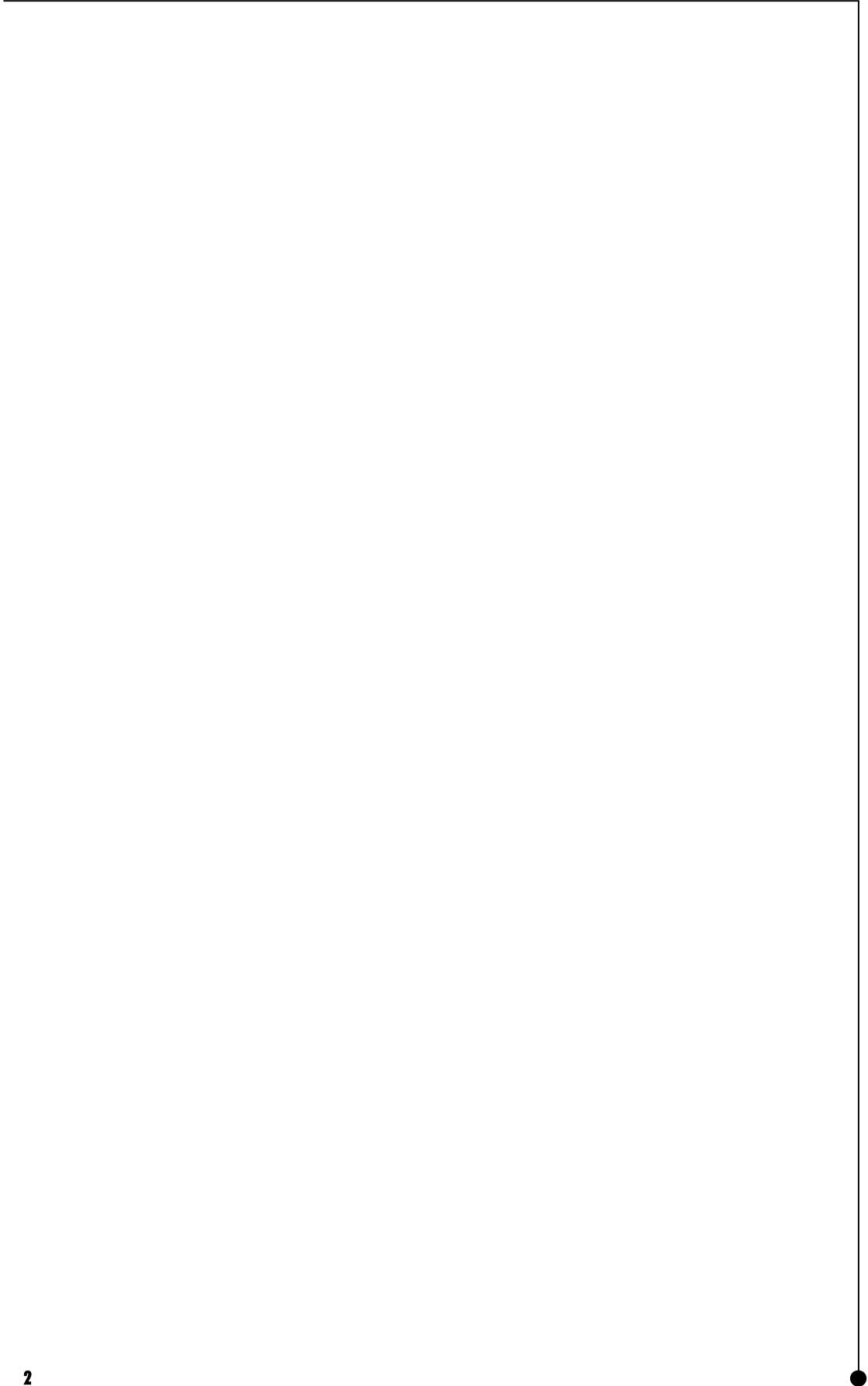
The core aim of revitalisation of the area has well and truly been achieved, as both commercially and socially Double Bay remains a vibrant area after a decade. The Public Domain Improvements Plan seeks to extend earlier improvements, and to increase the quantity and amenity of public open space available to the centre.

Improvements in the public domain have been considered as part of a wider urban design study, which considers built form, and the relationship of development and consolidation to public space. This part of the study – the Public Domain Improvements Plan - forms Volume 3 of the Double Bay Urban Design Study. Volume 3 is comprised of:

**Public Domain Strategy**, which sets objectives and outlines design principles for works in the public domain;

**Urban Projects**, which illustrates a series of projects in the public domain that improve or extend public spaces; and,

**Streetscape Design Manual**, which sets out the detail of streetscape design and maintenance.



# Public domain strategy

## PART 2

The public domain is the part of the Double Bay Centre accessible to the public. The streets, parks, and squares form recreation space and a focus for community activity. This study also encompasses a major infrastructure corridor, which could now be considered as marginal public space due to lack of access and amenity.

### 2.1

#### OBJECTIVES

The following objectives for public domain design reinforce the aims and objectives set out in the Development Control Plan.

To retain and enhance the existing urban quality of the centre, established in the earlier Civic Improvements Programme.

To improve the physical and visual connection between the Centre and the harbour foreshore, particularly to Steyne Park and the ferry terminal.

To reinforce the memorable image of the Centre.

To increase the amount of recreation space available in the proximity of the Centre by utilising the potential open space opportunity of the stormwater channel at Jamberoo Creek.

To provide a high level of pedestrian amenity and create improved public spaces for community focus.

To consider the needs of people with access difficulties in design of the public domain considering recommendations in AS1428 part 2 (1992) where appropriate.

To improve traffic and parking management and reduce vehicle/pedestrian conflicts.

### 2.2

#### DESIGN PRINCIPLES

##### Street tree planting

Tree planting can improve legibility in the urban environment by reinforcing the hierarchy of streets and enhancing sense of place. Placement of trees affects light and shadow, colour and views, which contributes to the quality of pedestrian experience. Trees also contribute to environmental quality in many ways.

In Double bay, tree planting in the parking lane, and at the pavement edge has been effective in reducing the apparent scale of the carriageway, and in providing separation between the footpath and traffic. The effectiveness of tree planting as a space defining element will depend on the size of trees relative to the width of streets and height of adjoining buildings. The narrow lanes have little scope for tree planting, and will rely on the strength of the built edge to establish a satisfactory street space.

The location of tree planting in the Centre is determined by the width of streets and the presence of awnings. Continuous awnings along New South Head Road restrict tree planting

in the footpath, and traffic conditions prohibit planting in the parking lane, as has been established in other streets.

Opportunities for planting build on the existing planting structure and range of species. There are opportunities to extend planting particularly along Bay Street and parts of Kiaora Road, as well as in the parks. A strategy for street tree planting is outlined in Section 7.4.

The existing street tree planting and the presence of large mature trees in private property at both ends of the retail strip along New South Head Road make a significant contribution to the visual quality of Double Bay, and compensate for the lack of street trees at this point. Trees at the southern extremity are protected by a heritage listing; the importance of the trees at the northern end should have similar protection.

### **Street furniture and paving**

While buildings and trees are the dominant structuring element of streets, other urban elements such as paving, lighting, furniture, information signage etc can be used to create a particular image in urban areas. A limited palette of paving and furniture has been used throughout the Centre to establish a design language and a grade of urban quality to unify the public domain.

Many streetscape elements, such as lights, bins, seats and pavers were designed specifically for Double Bay. During the past decade, these elements have been tested, resulting in the removal or replacement of some elements. Over time, changes to the original design intent have occurred through substitution of components, loss of shop drawings or differing approaches to design.

The intent of the Double Bay Streetscape Design Manual – Section 4 of this Volume - is to ensure continuity of the original design, to assist with ongoing maintenance, and to select appropriate materials or furniture for streetscape elements that are to be replaced or superseded. The Design Manual also aims to resolve technical issues associated with some elements.

Street furniture should be robust, attractive and fit for purpose. Attention to quality and functionality will create a comfortable and engaging environment for pedestrians.

The placement and density of furniture and lights should provide an appropriate level of amenity while avoiding clutter. Street furniture provides the detail of the streetscape, which should not compete with structuring elements such as buildings and trees.

Outdoor furniture associated with cafes, restaurants and hotels contributes to the image of the public domain, and should be considered together with other street furniture.

**Pedestrian amenity**

Attention to the geometry of street design plays an important part in reinforcing the urbanity and formality of the public domain. A consistent and strong geometry for streets, medians and traffic management structures has been established by the streetscape works.

Streets should be safe, convenient and comfortable pedestrian environments. They should cater to the needs of all users, including people with access difficulties, - people with prams, in wheelchairs, with walking difficulties, sight or hearing impaired, or intellectually handicapped.

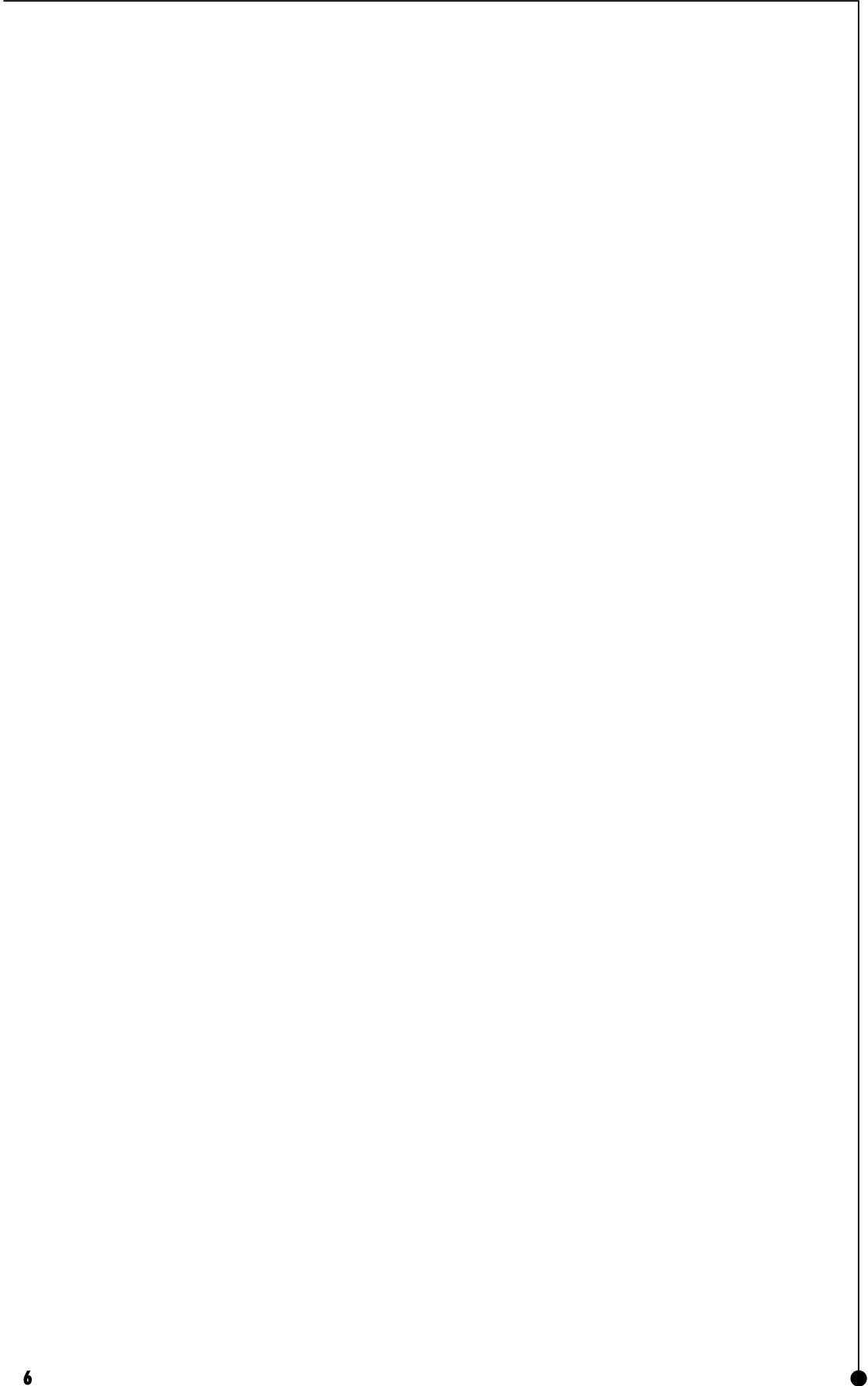
Design should aim to comply with 'best practice' standards and where appropriate meet recommendations of AS 1428 part 2 (1992). Ensure wherever possible a continuous accessible path of travel in accordance with the Human Rights and Equal Opportunity Commission guidelines on Access to Premises.

A clear separation between roadway and pedestrian areas is essential for legibility and safety on streets with a continuous flow of traffic, particularly for vision impaired people. Narrow lanes with a low traffic volume may allow pedestrians and traffic to share the street space. Where this principle is applied, visibility must be excellent along the street length, and there must be a safe space for pedestrians, in case of traffic movement.

Pavement width should allow for comfortable walking, unimpeded by obstacles. The placement of street furniture should provide adequate amenity without causing clutter or interrupting the major pedestrian flows and views.

Design for pedestrian amenity should maximise the actual and perceived sense of safety in the public domain. Active use of all spaces should be encouraged, particularly at night.

Avoid secluded areas surrounded by low shrubs where surveillance is limited. Provide high levels of lighting in carparks, lanes and at the interface between buildings and streets. Identify safe pathways through good lighting, maximum casual surveillance and minimal concealment opportunities.



# Urban projects

## PART 3

### List of projects

- 3.0 Outline plan of urban projects
- 3.1 Steyne Park
- 3.2 Foster Park
- 3.3 Guilfoyle Avenue
- 3.4 Bay Street extension
  
- 3.5 Steps at New South Head Road / Cross Lane
- 3.6 Gumtree, Goldman Lanes & Short Street
- 3.7 Knox Lane
- 3.8 Jamberoo Creek Linear Park
  - 3.8.1 Jamberoo Creek – existing conditions
  - 3.8.2 Sherbrooke Avenue
  - 3.8.3 Jamberoo Lane / Cross Lane
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  - 3.8.5 Kiaora Road (at Forest Road)
- 3.9 Other public spaces
- 3.10 Community Centres
  - 3.10.1 Kiaora Lane Community Centre
  - 3.10.2 Jamberoo Lane Community Centre
  - 3.10.3 Foster Park Community Centre

### Key



New Native trees



Existing trees



New Palms



New Chinese Elms



New 'Double Bay' Paving



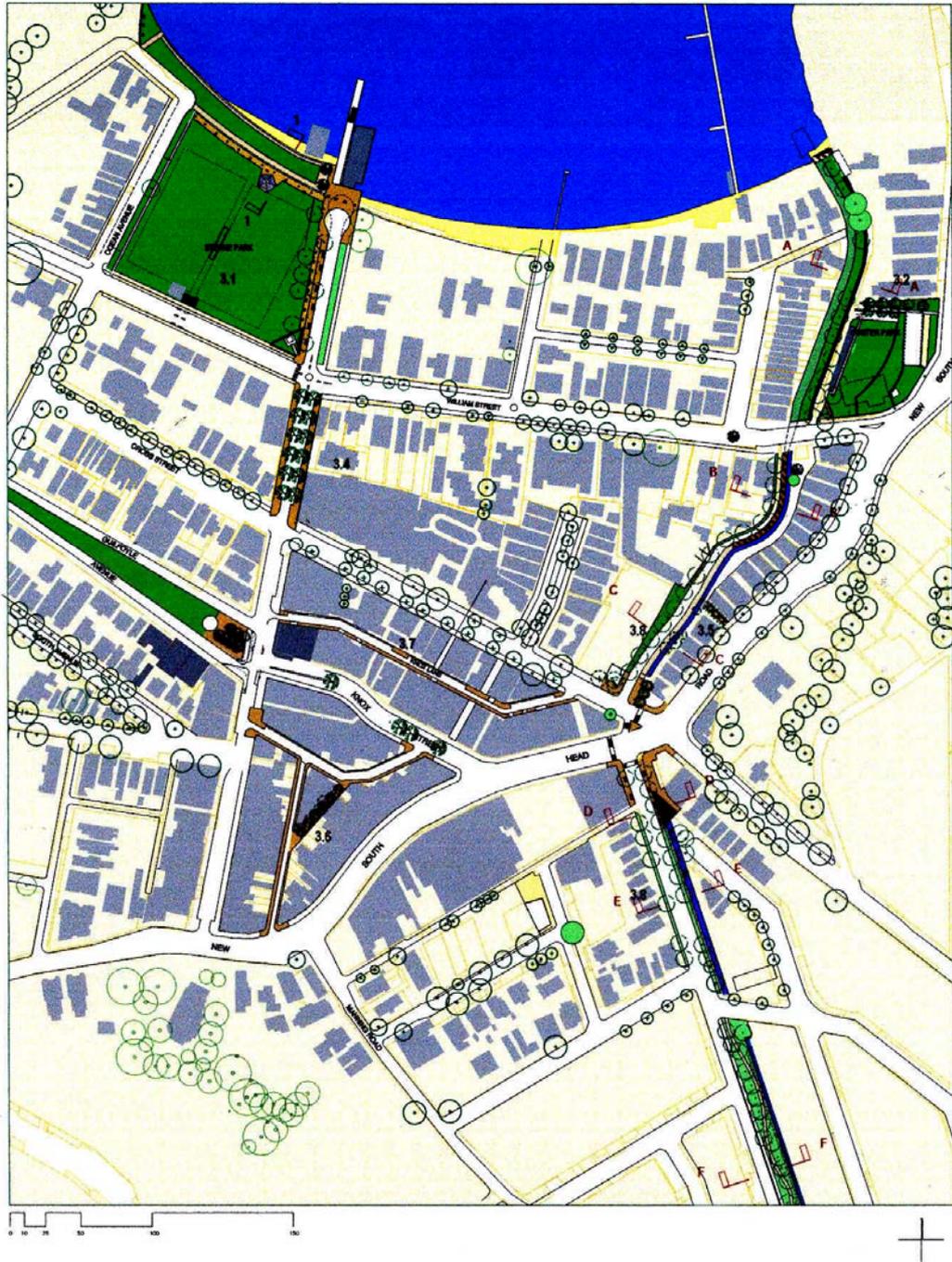
New Decomposed Granite Paving



New Timber Boardwalk

3.0

OUTLINE PLAN OF  
URBAN PROJECTS



3.0 Outline plan of urban projects

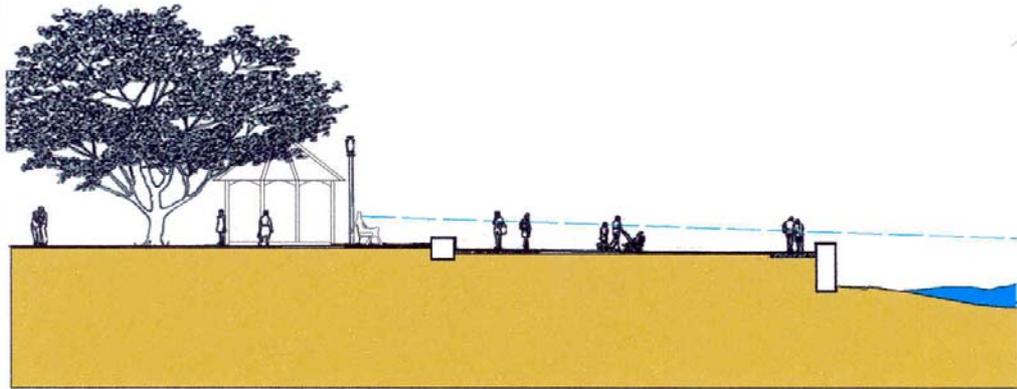
**3.1**  
**STEYNE PARK**



**3.1 Steyne Park**

- Create foreshore promenade to improve links to harbour edge.
- New shelter with potential for multi use, including kiosk.
- Improve street lighting along park edge of Bay Street.
- Relocate turning circle at the end of Bay Street to reinforce space at waters edge.
- Create seating area under trees.
- Upgrade paving.

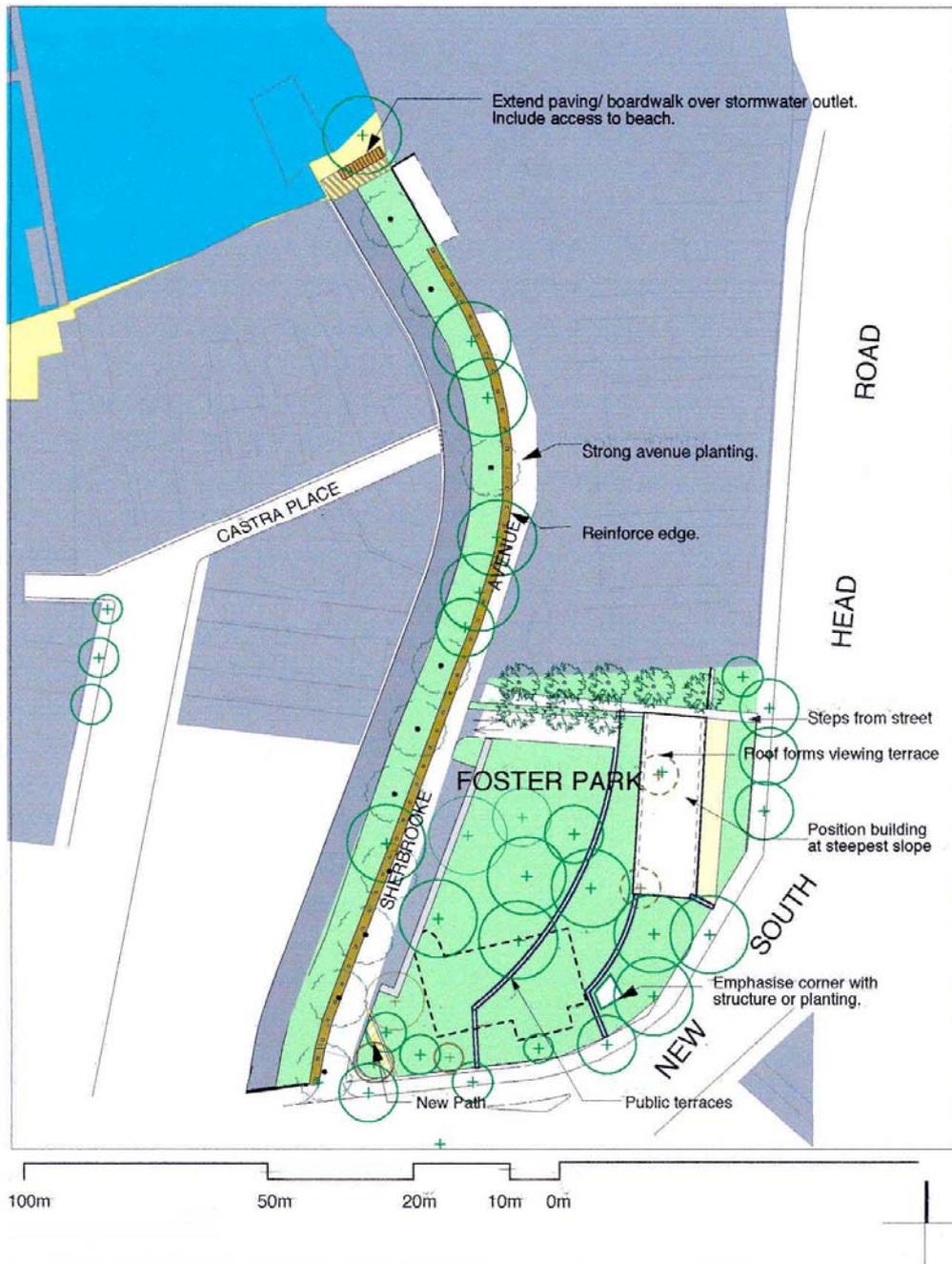
SECTION 1 - 1 AT  
STEYNE PARK



**Section 1 - 1 at Steyne Park**

- Broad path at level of playing field and rotunda gives views to bay.
- Childrens playground moved next to rotunda under shade of existing trees.
- Improve direct connection between beach and across park by establishing a promenade next to sea wall.
- Level change defines spatially the promenade area and the playing fields.
- Construct bus shelter on William Street as part of existing public facility structure.

**3.2**  
**FOSTER PARK**

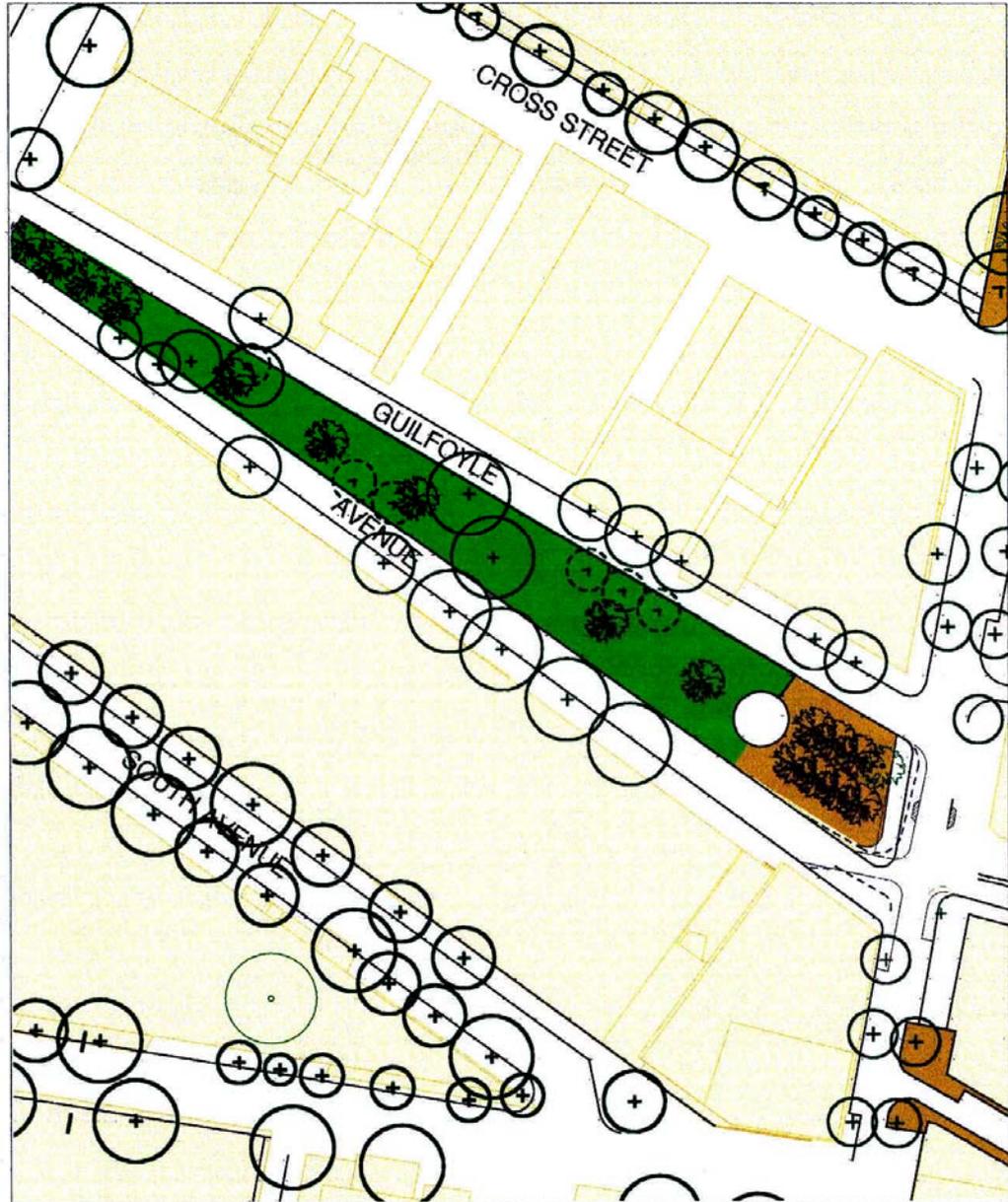


**3.2 Foster Park**

- Utilise unmanageable and underused landscape area to relocate and upgrade community facilities.
- Retain open space under trees as recreation area.
- Terrace bank to create a series of landscape spaces associated with building use.
- Widen lane to accommodate parking on one side.
- Provide parking under building.

3.3

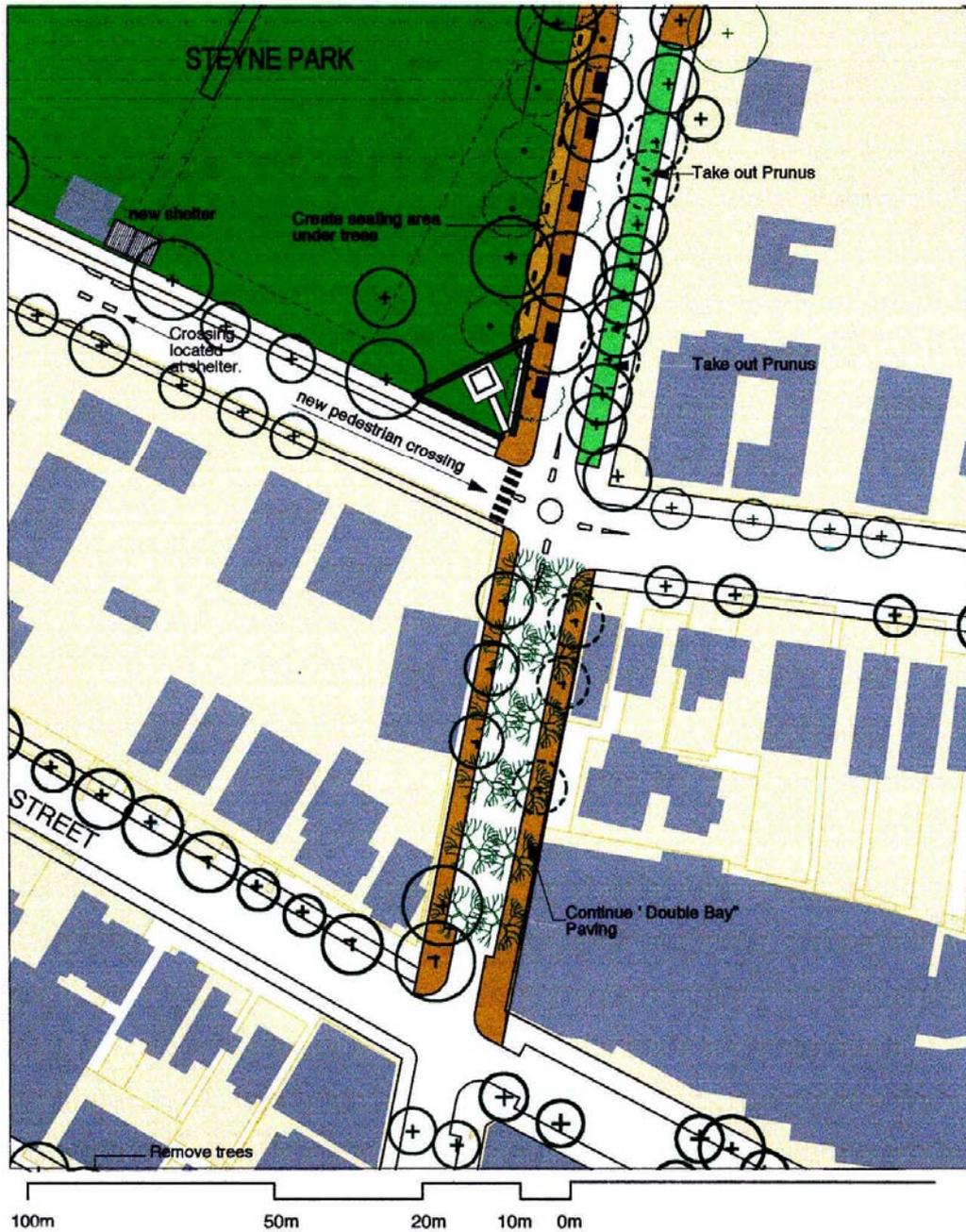
GUILFOYLE AVENUE



3.3 Guilfoyle Avenue

- Remove overmature Agonis and Crack Willow to improve spatial quality and maintain sight lines.
- Retain existing Weeping Willows to keep existing character.
- Complete Avenue of Washingtonia Palms in keeping with original concept.
- Improve geometry of carriageway entrance to align with Knox Street. Reduce entrance to 4.0m.
- Extend footpath on Bay Street at Guilfoyle Park. Locate new pedestrian crossover ramps here.
- Improve lighting.

**3.4**  
**BAY STREET**  
**EXTENSION**

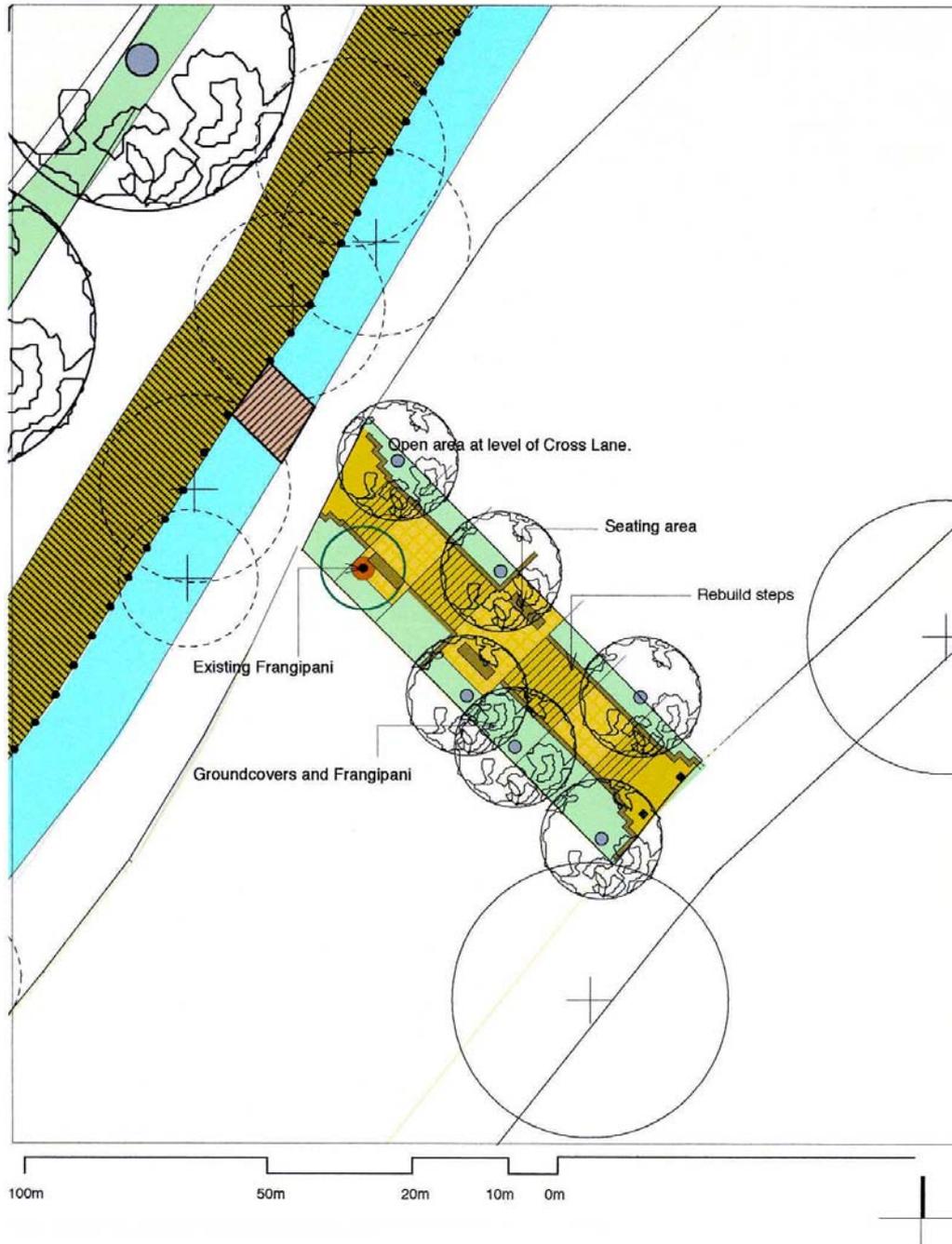


**3.4 Bay Street extension**

- Improve connection between the Bay and the Centre and enhance urban character along Bay Street by extending paving treatment and kerb extensions.
- Improve kerb geometry and pedestrian refuges at the corner of William Street.
- Improve lighting on the park side approach to the Wharf.
- Remove 3 impeded Jacarandas on eastern footpath.
- Continue planting of *Ulmus parvifolia* in carriageway.
- Take out low growing *Prunus* sp. on eastern side of Bay Street.

3.5

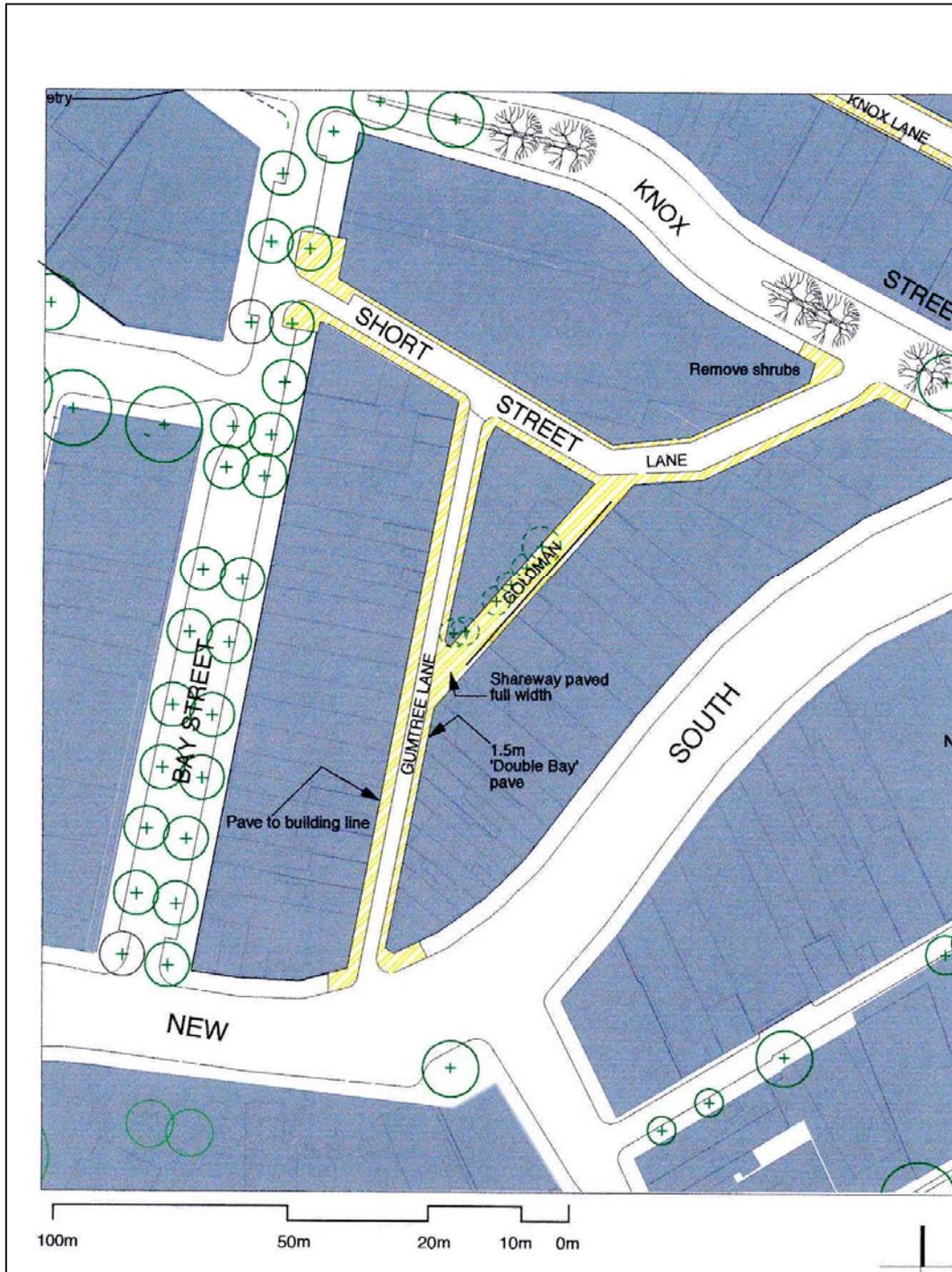
STEPS AT NEW  
SOUTH HEAD ROAD  
/ CROSS LANE



3.5 Steps at New South Head Road / Cross Lane

- Replace narrow zigzag stairway with wide and straight steps to improve legibility and visibility.
- Improve planting using clear stemmed trees with low colourful planting under, to upgrade image and enhance personal security.
- Provide a resting place with seats and a drinking fountain.
- Create a pedestrian refuge area at base of stairs, with good sight lines to Cross Lane.

**3.6**  
**GUMTREE,**  
**GOLDMAN LANES**  
**& SHORT STREET**

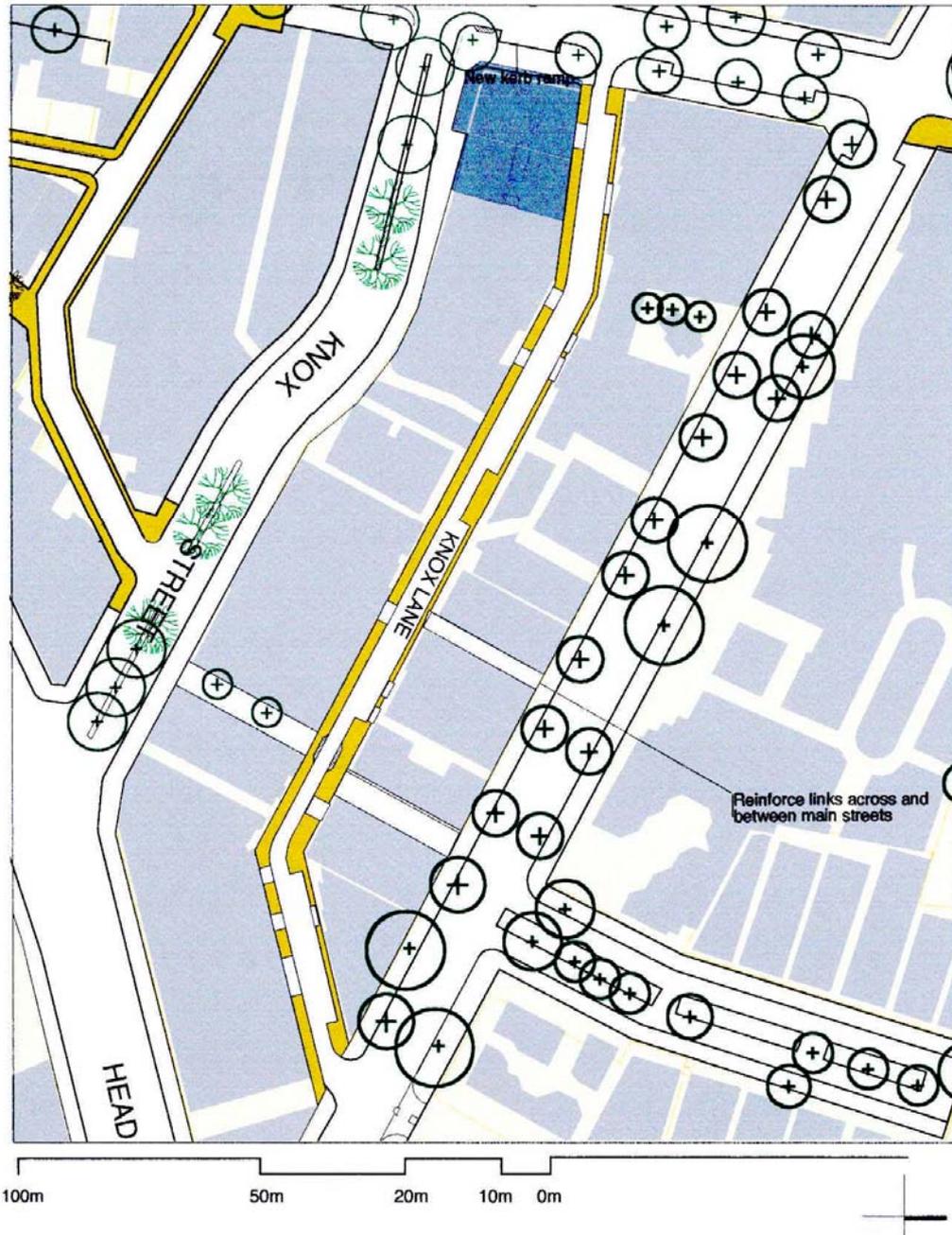


**3.6 Gumtree, Goldman Lanes & Short Street**

- Remove shrubs and garden beds to improve visibility.
- Provide a continuous footpath on eastern side of Gumtree Lane 1.5m wide.
- Provide continuous footpath on southern side of Short Street 2m wide.
- Create a Shareway along Goldman Lane.
- Realign kerbs to be parallel to building lane to reinforce space established by built form.
- Repave footpaths in paving to suit 'Double Bay' set.

3.7

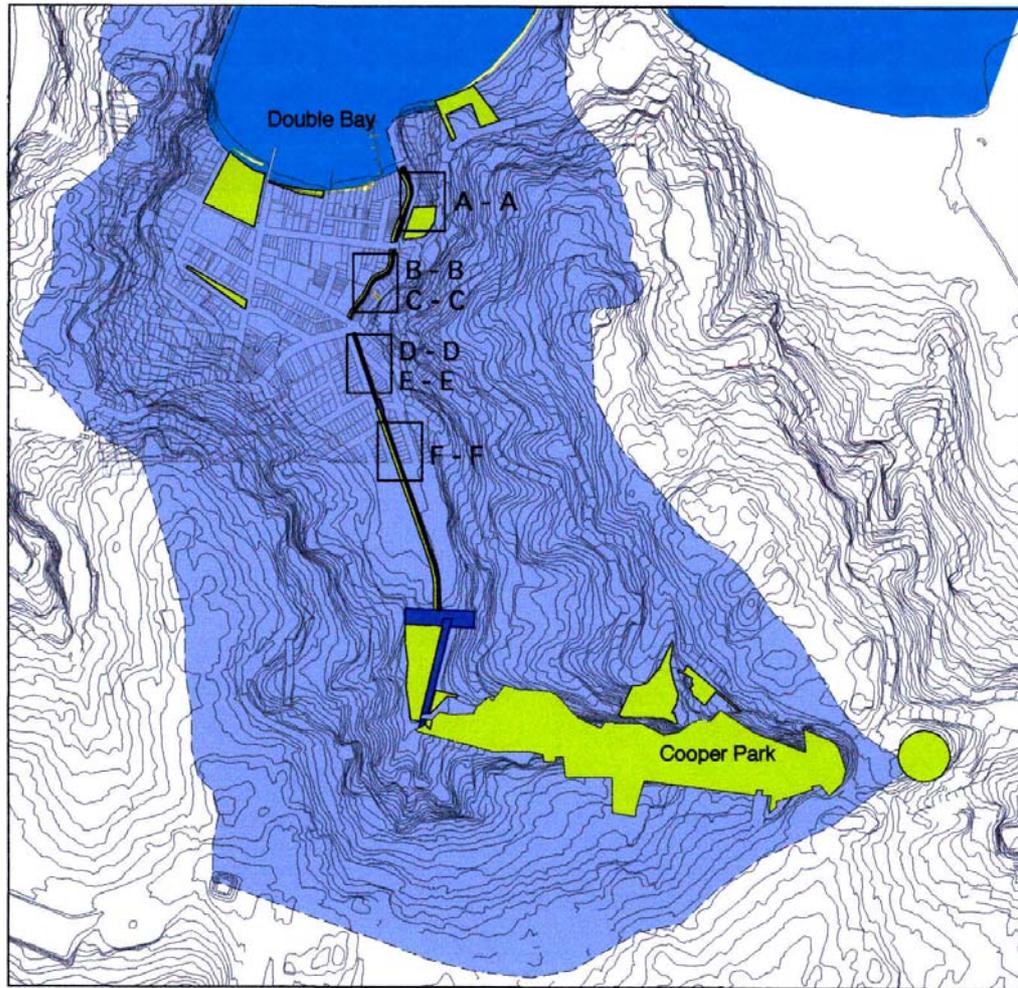
KNOX LANE



3.7 Knox Lane

- Provide a 2.4m wide continuous footpath on the southern boundary.
- A continuous footpath of 1.1m on the northern boundary, with widened pavements to 3.4m in non-parking areas.
- Encourage retail and commercial uses to face the lane.
- Fall the road pavement to a central gutter along the line of the parking bay.
- Provide the possibility to close the street from vehicular traffic with removable bollards.
- Repave footpaths in paving to suit "Double Bay" set.

**3.8**  
**JAMBEROO CREEK**  
**LINEAR PARK**



**3.8 JAMBEROO CREEK LINEAR PARK**



**3.8 Jamberoo Creek Linear Park**

- A system of open and closed concrete stormwater channels, owned by Sydney Water, runs from Cooper Park to the Bay, along the approximate line of the former Jamberoo Creek. The following urban projects describe a preliminary conceptual approach to improving water quality and better integrating channels into streets and parks. All these proposals are subject to further design, including hydraulic studies, to be undertaken in conjunction with Sydney Water.
- To better utilise the existing infrastructure corridor as a potential resource to increase the quality of open space available to the centre.
- To create a linear park connecting Cooper Park to the waterfront.
- To improve the image of the corridor and combine landscape treatment with water quality improvement measures to increase public awareness of stormwater issues.
- Wherever possible, use natural processes to improve water quality, to supplement the structural systems in place for filtration and sediment removal.
- To meet all Sydney Water requirements necessary to protect the structural integrity of drains, ensure public safety and minimise flooding.

3.8.1

JAMBEROO CREEK

EXISTING

CONDITIONS

**Sherbrooke Avenue**

- The exposed lid of the major channel forms a wide concrete path, the second channel is covered with a grass bank.
- The path provides pedestrian access to the rear of the residential properties.
- An intermittent avenue of *Liquidamber* runs beside Sherbrooke Avenue. Trees are interspersed with shrubby growth and weeds, which blocks view and creates unkempt appearance.
- A chain mesh fence restricts vehicle and pedestrian access to the rear of the houses.
- A fenced floodway runs under William Street.



**Jamberoo Lane**

- The exposed lid of the major channel is flanked by chain mesh fences, and in some places, dense planting of *Casuarina*.
- A very narrow footpath runs along Jamberoo Lane.
- The space is degraded and gloomy, and lacks visibility and pedestrian amenity.

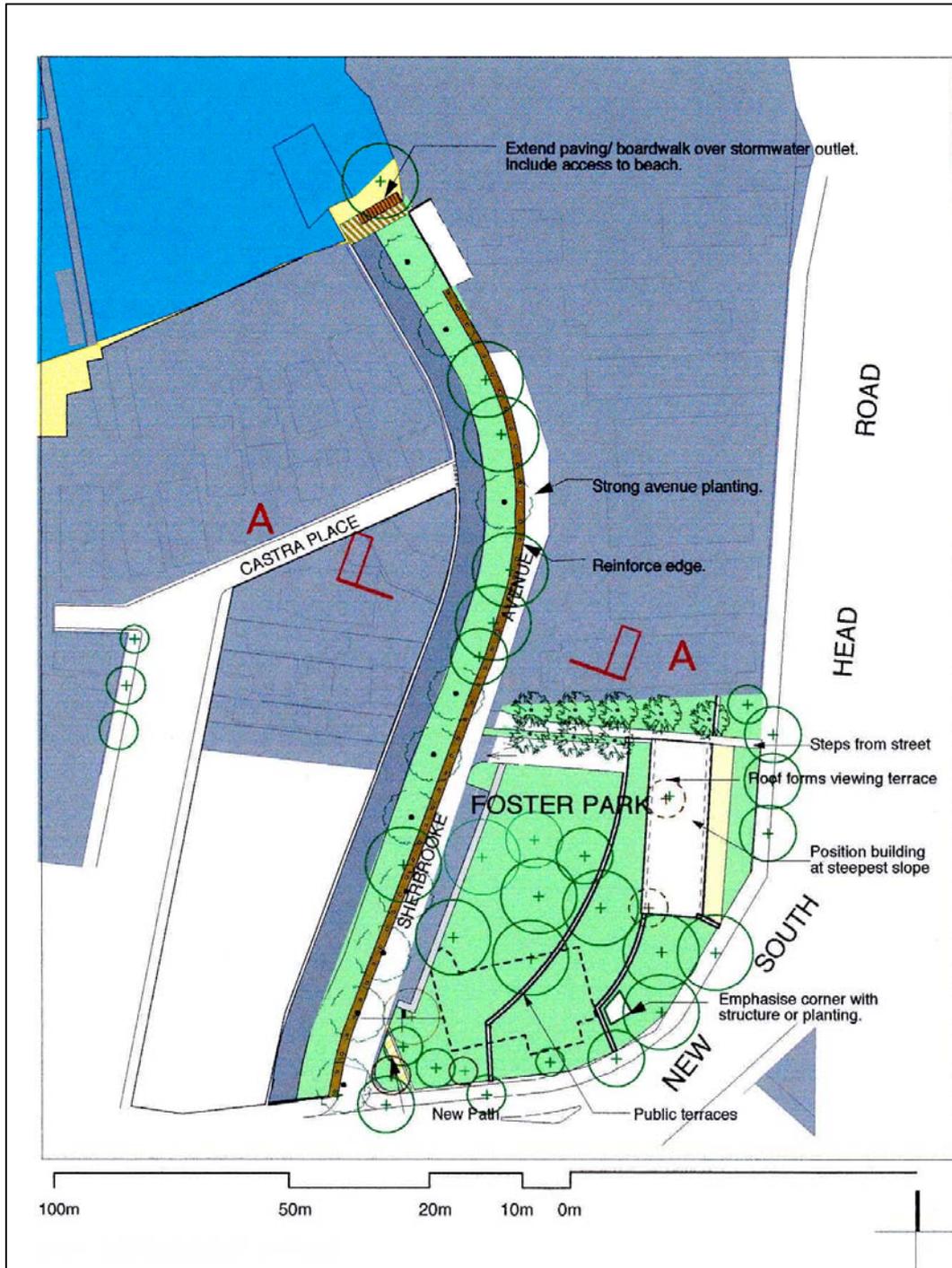


**Kiaora Road**

- The channel is open, except for a small part of the corner of New South Head Road, which is covered with a boardwalk.
- The exposed channel is fenced with welded mesh, and lined with shrubby growth, trees and weeds which screen views of the channel and buildings behind.
- A wide grass verge runs beside the channel in the south eastern sections of Kiaora Road.



**3.8.2**  
**SHERBROOKE**  
**AVENUE**

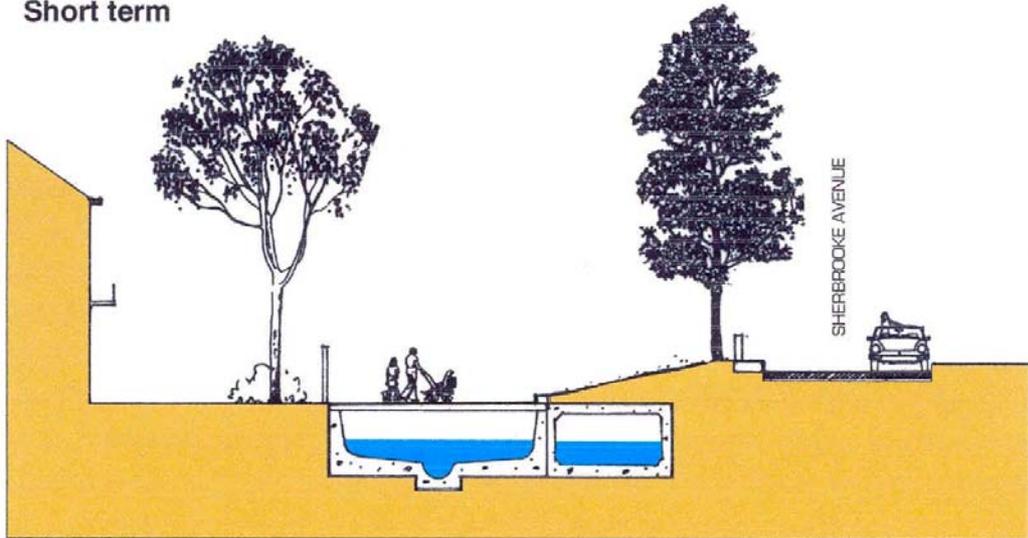


**3.8.2 Sherbrooke Avenue**

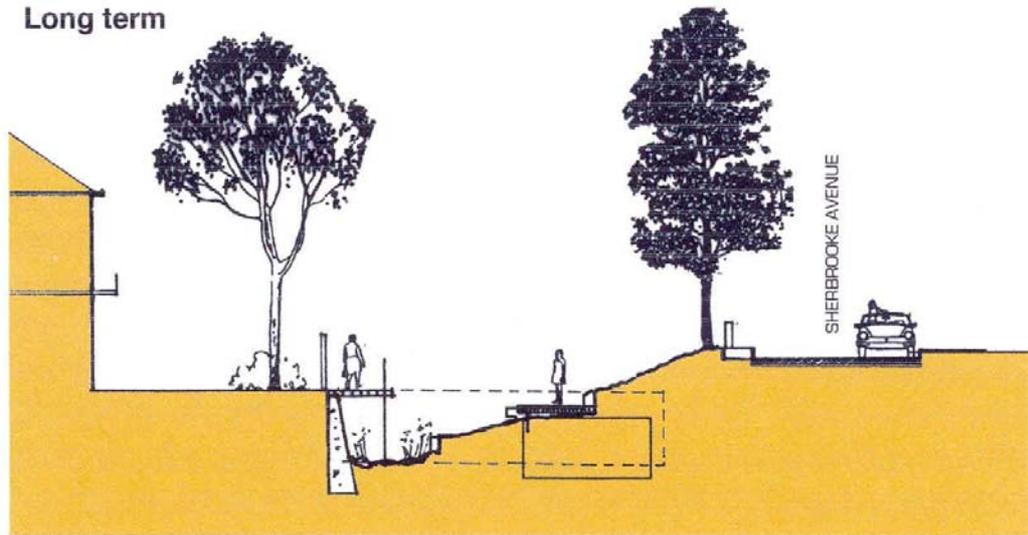
- Extend walkway out over beach and stormwater outlet to improve connection to the bay.
- Replace existing planting over time to create a strong edge of trees that reinforce the curve.

**SECTION A - A**

**Short term**



**Long term**



**Section A - A**

**Short term**

- Retain the existing lid of channel, use as path for pedestrian / cycle link.
- Remove shrubby growth and weeds to upgrade image and improve visibility.
- Provide a strong edge to both sides of grass verge, and replace fence with bollards to improve pedestrian accessibility.

**Long term**

- Replace concrete channels with a soft system which responds to tidal flow, and which allows for natural infiltration and filtering of stormwater. This would rely on a considerable reduction in volumes of runoff from sources upstream.
- Allow for pedestrian access to rear of houses.
- Provide a mid level pedestrian path connecting to a jetty at the bay.



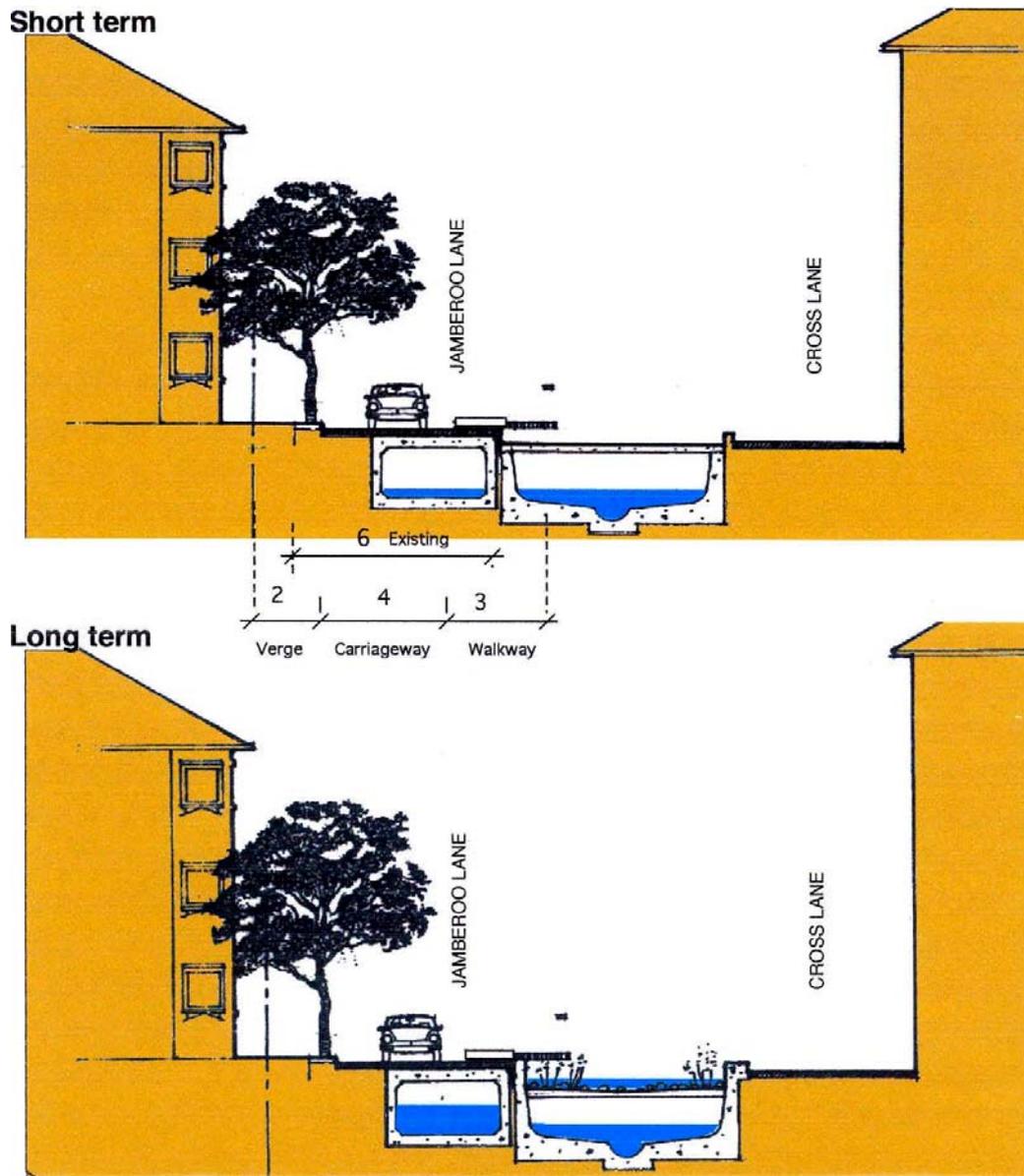
**3.8.3**  
**JAMBEROO LANE /**  
**CROSS LANE**



**3.8.3 Jamberoo Lane / Cross Street**

- Provide a pedestrian path between lanes.
- Open up stormwater channel to create a water feature, with low flow macrophyte treatment capability.
- Improve pedestrian lighting and safety.
- Define Jamberoo Lane with street planting.

**SECTION B - B**



**Section B - B**

**Short term**

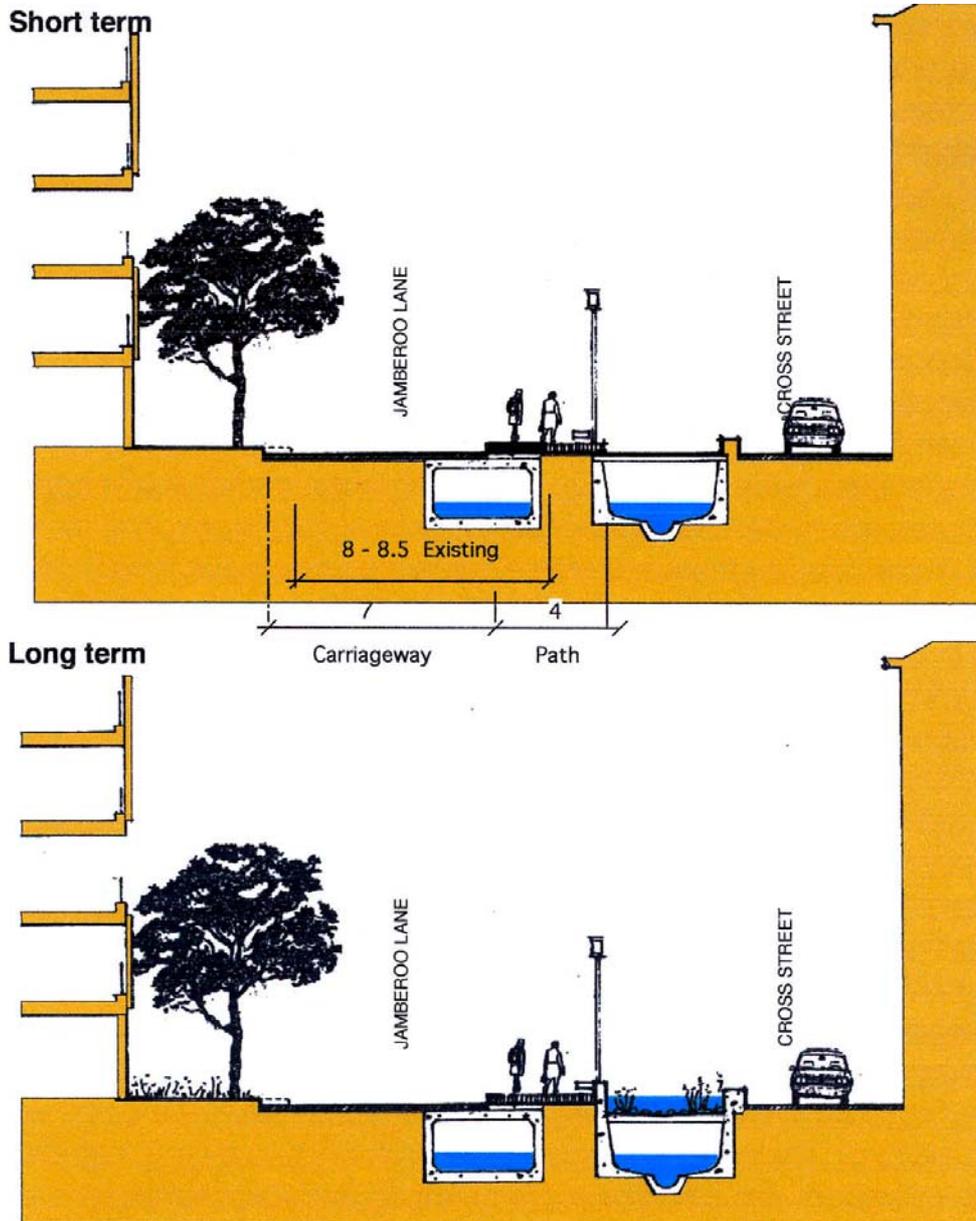
- Reduce width of carriageway (Jamberoo Lane) to:
  - create central walkway / cycleway as part of Jamberoo Creek corridor.
  - allow street tree planting in the verge, to emphasise curve of lane, and enhance urban image.
- Replace chain mesh fence and improve existing edges.
- Reinforce the urbanity of the space through the use of appropriate details, finishes and furniture. Walkway delineated in concrete / timber to avoid vehicle conflict.
- Tree planting to comply with Sydney Water requirements.

**Long term**

- Expose low flow stormwater in a shallow channel to:
  - add a measure of water treatment, through aeration and macrophyte beds.
  - provide an engaging urban feature which enhances awareness of the water system.



SECTION C - C



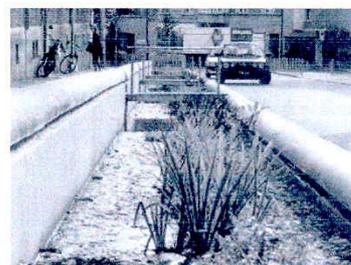
**Section C - C**

**Short term**

- Reduce width of carriageway (Jamberoo Lane) to:
  - create central walkway / cycleway as part of Jamberoo Creek corridor.
  - allow street tree planting in the verge, to emphasise curve of the lane, and enhance urban image.
- Replace chain mesh fence and improve existing kerbs and edges.
- Reinforce the urbanity of the space through the use of appropriate details, finishes and furniture.
- Tree planting to comply with Sydney Water requirements.

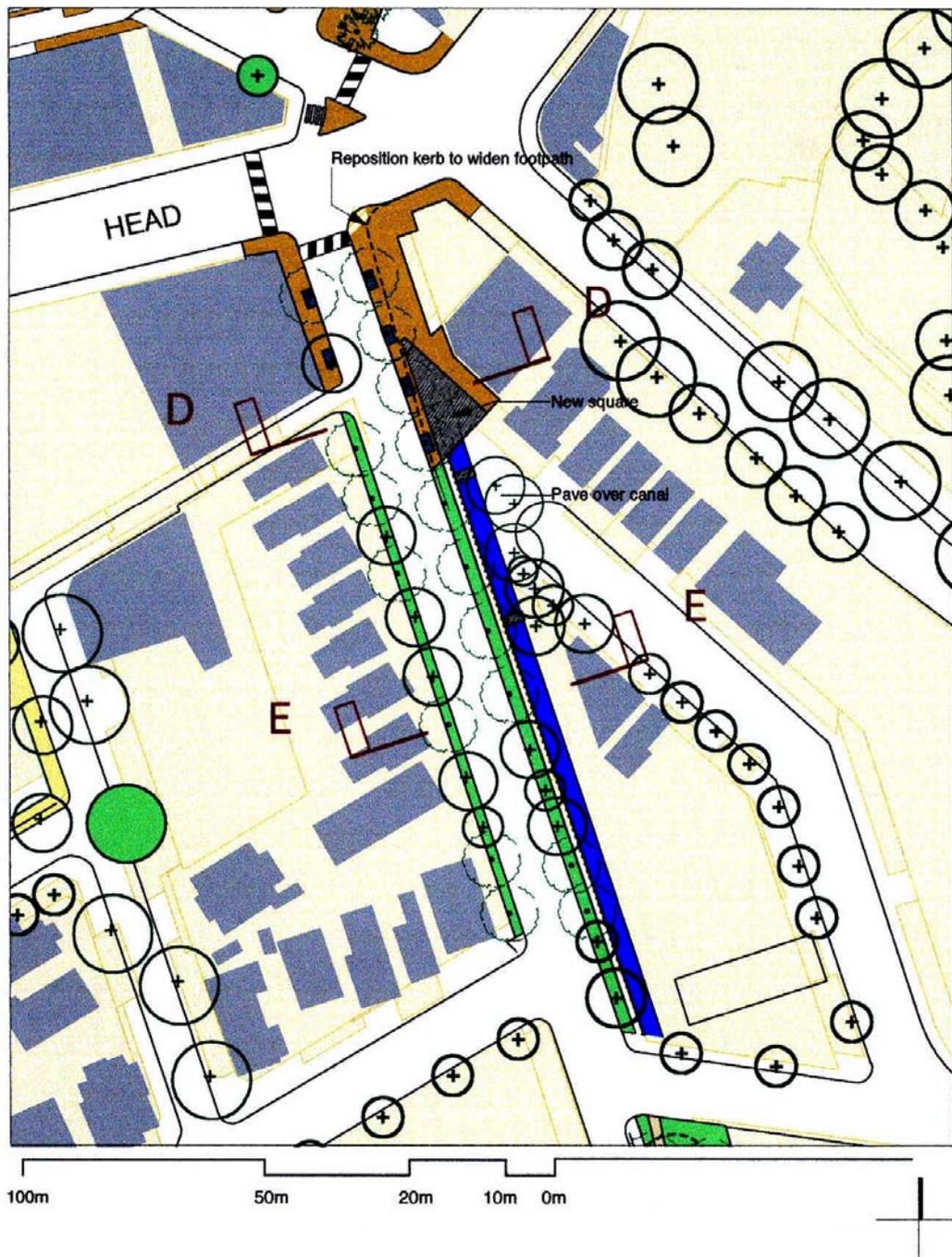
**Long term**

- Expose low flow stormwater in a shallow channel to:
  - add a measure of water treatment, through aeration and macrophyte beds.
  - provide an engaging urban feature which enhances awareness of the water system.



3.8.4

KIAORA ROAD

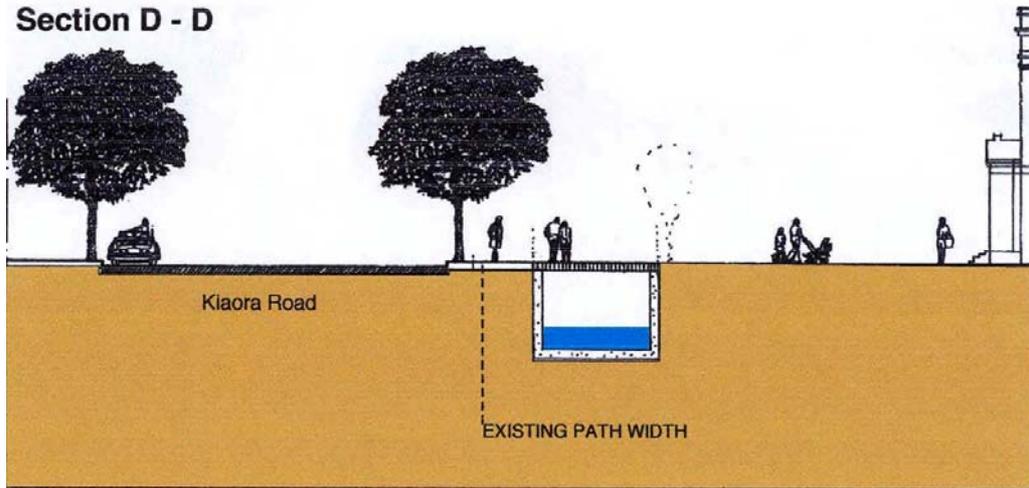


**3.8.4 Kiaora Road**

- New pedestrian island and pedestrian crossing at the corner of New South Head Road and Cross Street to improve pedestrian safety at 5-way intersection and facilitate connection of link between Cooper Park and Double Bay.
- Reduce width of carriageway to accommodate tree planting and footpath widening.
- Reinforce existing planting of Eucalyptus botryoides.
- Define new square outside Jewish Hall by covering over stormwater channel. Upgrade area with timber paving and Double Bay set.
- Upgrade image of stormwater channel.

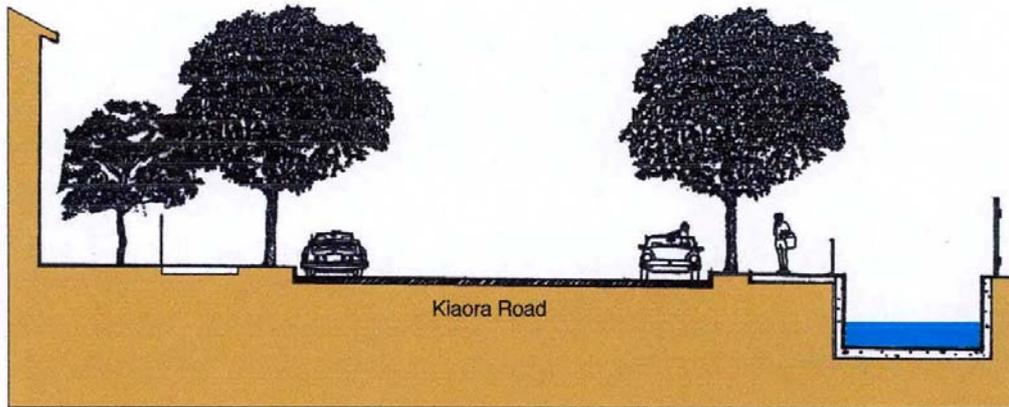
**SECTION D - D**  
**KIAORA ROAD**

**Section D - D**



**SECTION E - E**

**Section E - E**

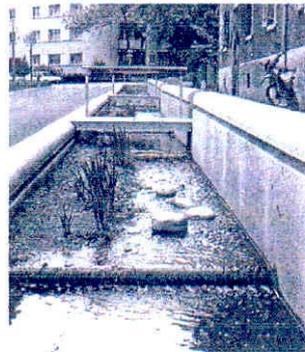


**Section D – D at Kiaora Road**

- Widen footpath adjacent to Post Office in Kiaora Road.
- Cover the channel and remove fences and vegetation to create a small square adjacent to the Jewish Hall.
- Upgrade paving and furniture consistent with quality throughout the centre.

**Section E – E**

- Remove the shrubby vegetation and replace mesh fences with a barrier that meets the quality of urban finishes throughout the centre, to better integrate the channel into the urban environment.
- Complete the line of street trees.
- Locate path adjacent to fence.



**3.8.5**

**KIAORA ROAD  
(AT FOREST ROAD)**

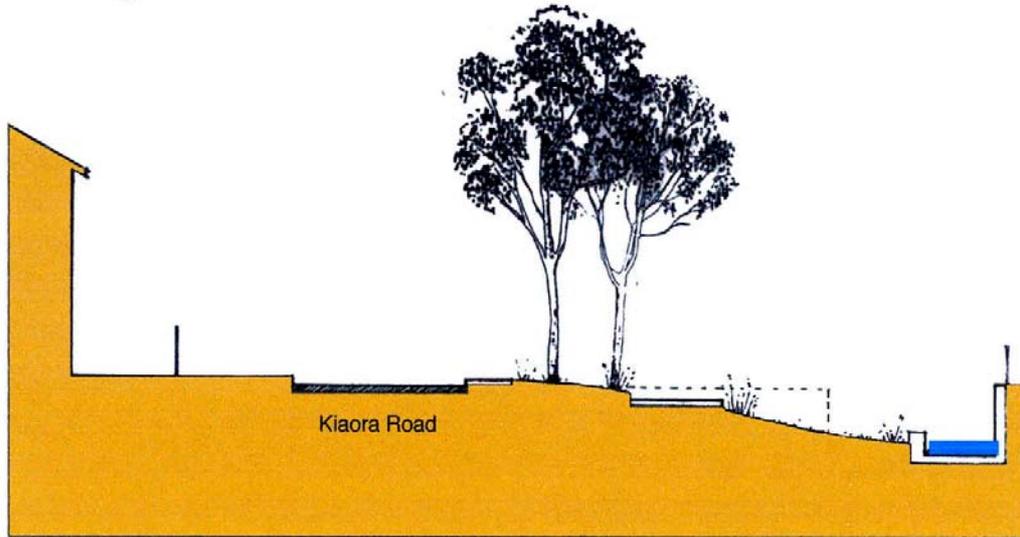


**3.8.5 Kiaora Road (at Forest Road)**

- Create a 'soft' stormwater system that contributes to improvement in water quality and provides passive recreational space.

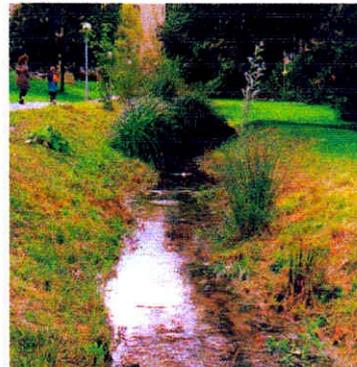
**SECTION F - F  
AT KIAORA ROAD**

**Long term**



**Section F - F at Kiaora Road**

- Remove the concrete channel and replace with a 'soft' system, which contributes to water quality through infiltration, aeration and macrophyte beds.
- The corridor becomes a wide green space, used for recreation with a pedestrian and cycle park linking to Cooper Park.
- Flood flows are contained within the green corridor.
- Landscape is suburban in character, with large trees and open green spaces.



## 3.9

## OTHER PUBLIC

## SPACES

**Kiaora Lane**

Upgrade Lane in conjunction with development of council car park sites, to match the principles standard and finishes of the Knox Street Lane. Incorporate a square associated with the new community centre.

**Knox Street**

Extend median and tree planting. Median should act as a pedestrian refuge and should have a paved surface.

**New South Head Road**

New South Head Road in the centre has a strong urban character, defined by the built edge. Awnings prevent successful street tree planting on both sides, and traffic volume restricts the use of extended kerbs or planting in the parking lane.

The Development Control Plan recommends measures to accentuate the street geometry, to enhance urban character.

Further measures to emphasise the pedestrian zone and to upgrade the existing image are:

provide roadway / pedestrian lighting with a distinctive design, in a regular setout along the street edge.

reverse the current paving matrix, to reduce the need for cleaning.

replace the existing planter boxes with boxes of a more robust, simpler design, to suit the colour of the paving.

Mature vegetation to the north and south of the centre creates a strong contrast with the centre, and visually contains the urban area. These stands of vegetation should be protected in the long term, and street tree planting encouraged in these areas.

## 3.10

## COMMUNITY

## CENTRES

At present there is only one community room within the Double Bay Centre. During the course of the study, the need for a community facility as well as a gathering place for young people in the Centre, were identified.

The existing community room is leased from the Sir Stamford Hotel. It has inadequate access and visibility from the street, for a public facility. Given the significant landholdings of Woollahra Council in Double Bay there is potential to provide additional public facilities, while improving the public image of the council's properties. This study has identified several projects, which realise this potential.

**3.10.1 Kiaora Lane Community Centre****Objectives**

- O1 Provide a focus for the Double Bay Centre on the southern side of New South Head Road.
- O2 Formalise pedestrian movement through the Centre from Guilfoyle Park along Knox Street and through a new arcade to a public facility.

### Strategies

- S1 A Community Centre with access to a public square.
- S2 Provide a ground floor community meeting room of min 100m<sup>2</sup>, a small gathering room of 20m<sup>2</sup> and an accessible public toilet.
- S3 The small gathering room at ground level could operate as a drop in centre for younger people having an intimate scale and basic self serve facilities ie make your own tea/coffee.

### 3.10.2 Jamberoo Lane Community Centre

#### Objectives

- O1 Improve the street address of the Cross Street Carpark, to Cross Street and the five ways intersection.
- O2 Improve access to and security within the carpark, by introducing additional uses.

#### Strategies

- S1 A multi level community centre addressing Cross Street and Jamberoo Lane. This could involve adapting one corner of the existing Cross Street Park and extend up to the roof level.
- S2 Address a public square at the end of Jamberoo and Cross Lanes (in proximity to Jamberoo Linear Park).
- S3 Provide sporting facilities (ie. aerobics, weights, gym) on numerous levels and an accessible public toilet.
- S4 Provide a small gathering room possibly at roof level. This could operate as a centre for older people.

### 3.10.3 Foster Park Community Centre

#### Objectives

- O1 Improve the address, connection and useability of Foster Park.
- O2 Provide a new community building which maximises the site potential particularly its outlook and topography.

**Strategies**

- S1 Reinststate as a minimum the existing floor area, and the level of existing services: Baby Health Centre, Local History Library, and Child Care Centre.
- S2 Establish a connection between the building and the landscape (ie. topography, established trees) to create outdoor rooms and gathering places, such as. viewing terrace, play ground.
- S3 Ideally these connections should integrate with an external stair connecting New South Head Road to Sherbrooke Avenue.
- S4 Provide accessible public toilets.
- S5 Provide a safe vehicular drop-off and pick-up area as well as some limited stay parking.

# Traffic and parking

## PART 4

### 4.1 FORMULATION OF MANAGEMENT STRATEGY

#### 4.1.1 Recommended traffic strategy

##### Strategies

In order to address the existing and anticipated problems within the Double Bay Centre the following improvements: (illustrated in Figure 7 Major Recommended Improvements)

- S1 Provide a median in New South Head Road opposite Bay Street to prohibit the right turning movement to and from Bay Street.
- S2 Introduce a right turning arrow for vehicles turning from New South Head Road into Bellevue Road (completed since).
- S3 Provide line marking and sign posting at the intersection of Bay street, Knox Street and Guilfoyle Avenue, so it is treated as a cross intersection rather than two T-Junctions.
- S4 Provide better signage at the Greenoakes and Ocean Avenue roundabout.
- S5 Consider banning the right turn movement from New South Head road into Kiaora Road during the afternoon peak periods in conjunction with the redevelopment of Kiaora Lane car park.

#### 4.1.2 Recommended parking strategy

##### Strategies

- S1 The following measures are recommended for implementation in the short term:

*The following parking rates, be adopted to cater for all future commercial demands:*

##### Parking spaces per 100 m<sup>2</sup> (GFA)

Requirements	Retail	Office/Personal Services/Financial
Spaces	3.5	2.0
Short Stay : Long Stay Parking %	60:40	15:85

- S2 Convert of all existing short-stay spaces in Henrietta Street (34), Cooper Avenue (36), South Avenue (22) and Guilfoyle Avenue (50 spaces) to long-stay spaces together with the installation of parking metres. The fees should be such as to be equal or more than those charged in the Cross Street parking facility. Vehicles of local residents displaying a Double Bay parking permit should be exempt.
- S3 Install parking meters in all remaining on-street short and long stay spaces. Vehicles of local residents displaying a Double Bay parking permit should be exempt.
- S4 Implement an appropriate sign posting scheme to facilitate access to and from the parking facilities within the Centre.
- S5 Provide line marking of street parking spaces where required.
- S6 Adopt a parking strategy that allows between 65 and 75 percent of spaces necessary for private development to be provided by contribution-in-lieu, in order to fund a parking structure of about 360 spaces on the existing council car park located in Kiaora Lane.

- S7 Allow the payment of a cash contribution-in-lieu of on site parking being constrained by site or access constraints.
- S8 Negotiate with developers of major sites west of New South Head Road for the provision of additional on-site spaces in conjunction with their development to accommodate spaces required through Section 94 contributions.

#### **4.1.3 Recommended pedestrian strategy**

##### **Strategies**

- S1 Provide of a flushed pedestrian threshold in Goldman Lane north of Short Street.
- S2 Provide of footpaths along laneways particularly in Knox Lane.
- S3 Formalise pedestrian crossing points across Knox Lane at the arcades by providing flushed thresholds.
- S4 Install a kerb ramp on the south corner of Guilfoyle Avenue and Bay Street.
- S5 Provide of a kerb ramp on the median strip on the exit to the car park east of Transvaal Avenue.

#### **4.1.4 Recommended public transport improvements**

##### **Strategies**

- S1 Increase the waiting area for intending passengers to reduce congestion outside the supermarket.
- S2 Increase sheltered area for intending bus passengers.
- S3 Provide a pedestrian crossing on the western approach of the roundabout in William Street at Bay Street.
- S4 Discuss with State Transit improvements to integration between bus and ferry services such as time tabling and the bus stop location.
- S5 Investigate the provision of an additional shelter to the wharf precinct, linking the buses in William Street.
- S6 Provide time tabling information in commercial centre for bus, rail and ferry services.
- S7 Provide information in the commercial centre mapping the different locations of bus, rail, ferry and taxi services.
- S8 Provide better lighting on the wharf approaches along Steyne Park.

# Stormwater strategy

## PART 5

The Double Bay Centre occupies the low point of an extensive stormwater catchment. Stormwater runoff from the catchment is conveyed along Coopers Creek, which originates as a steep sided gully in the upper reaches of Cooper Park. From there the creek flows under Lough Playing Fields, where it enters a trunk drainage channel at Kiaora Road. The drainage line is an open concrete channel at Kiaora Road, which splits into a double covered system leading from New South Road to the Bay. The trunk drainage system is maintained by Sydney Water.

The catchment was included in the recently completed Port Jackson South Stormwater Management Plan, which addresses the issue of stormwater quality. The issues identified for the Double Bay catchment were concerned with accumulation and sediment resulting in foul odours at the outlets and pollution of runoff with litter and dog faeces. Recommendations arising from the Management Plan are largely for structural interventions at points along the existing channel to reduce sediment and litter.

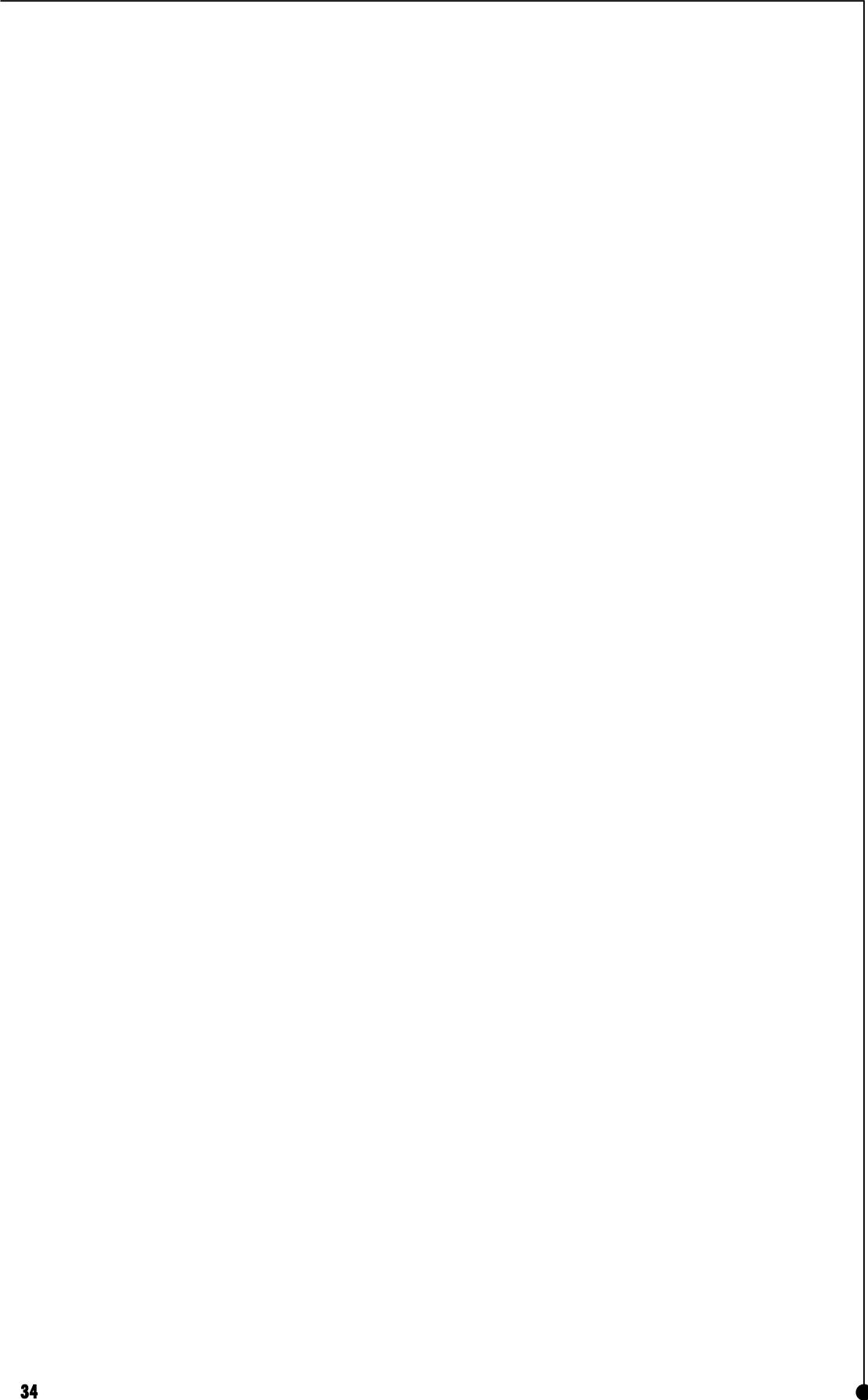
The public domain improvements proposed for the trunk drainage line aim to build on the intentions of the Management Plan for improving water quality. Equally, improvements to the drainage system should make a positive contribution to the public domain, in terms of recreational potential and visual amenity.

Proposals for public domain improvements are preliminary only, as no formal hydrologic or hydraulic study has been carried out to assess the existing system and the level of flooding. It is recommended that a catchment study be undertaken to:

- document 100 yr flood levels for development control around the town centre.
- investigate the viability of proposed drainage channel improvement works, with respect to stormwater volumes and flooding.
- provide catchment management options directed at improving water quality for the catchment and to improve flood protection for the community.

Improvements to the existing channel system will require a multidisciplinary investigation and design approach, involving hydraulic, geotechnical, and structural as well as urban design and landscape considerations. The outcomes of such an approach should be:

- a drainage system which is physically and visually integrated into the fabric of the public domain.
- improvement to water quality in the catchment and the harbour.
- an increase in open space in Double Bay Centre.
- mitigation of flood risk.



# Streetscape design manual

## PART 6

### 6.1

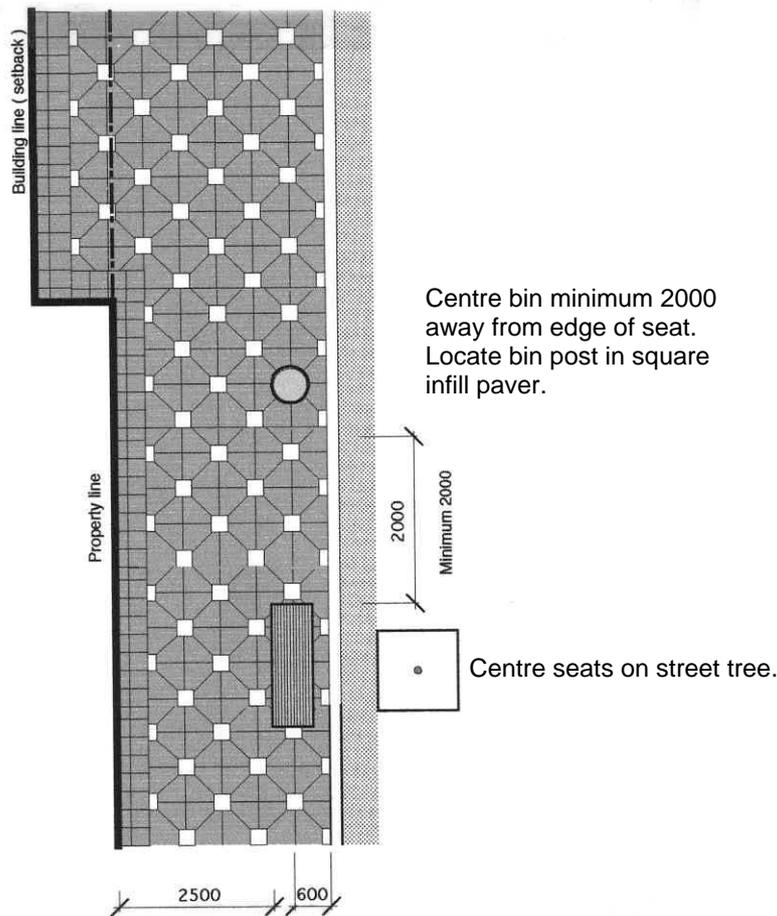
### STREET FURNITURE

Woollahra Council has adopted a range of street furniture for use throughout the Double Bay Centre. Most elements have been specifically designed for inclusion in the Double Bay Centre; their exclusive use in existing and future works is important to maintain an integrated streetscape.

Seats, lights and bins should be positioned outside the main pedestrian flow, with enough room to move between elements.

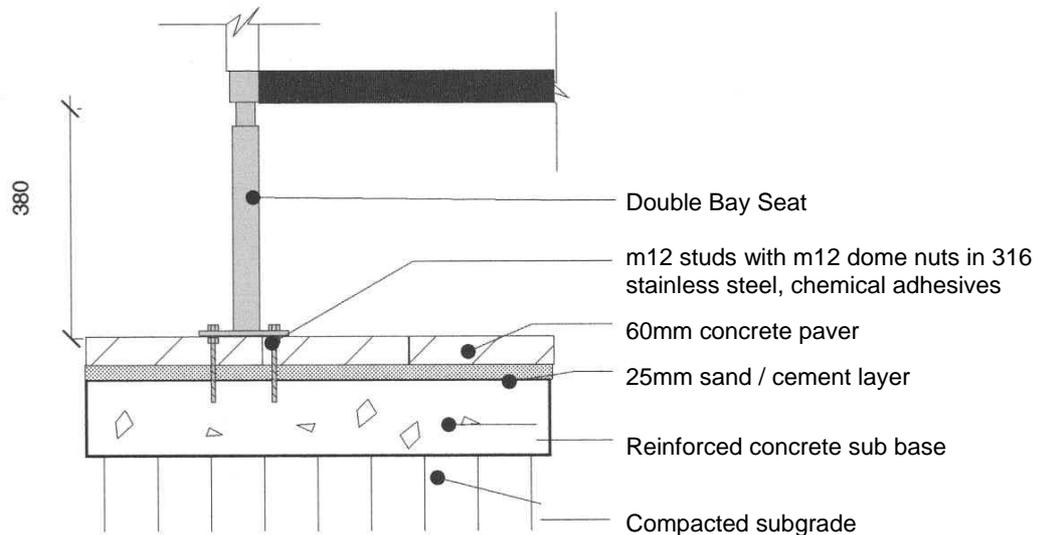
Preferred width of unimpeded footpath is 2.5 metres.

NB - Shop drawings are held by Council.



**6.1.1 Double Bay seat**

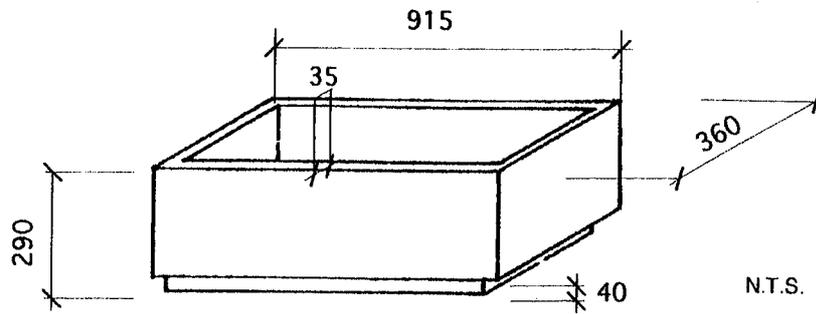
<b>Type</b>	“Double Bay Fabricated Seat”.
<b>Supplier</b>	Zebra Landscape Furniture Pty. Ltd.
<b>Colour</b>	Steel frame, Dark ferrodore finish. Timber inserts treated with a natural oil finish. Use Feast Watson “Woodshield” . On new inserts recoat within the first 3 months, then once every 12 months. Do not varnish as this leads to reduced life.
<b>Location</b>	Streets, generally one seat every 60 - 100m and at bus stops. Not suitable for use along the waterfront.  NB - Shop drawings held by Council.





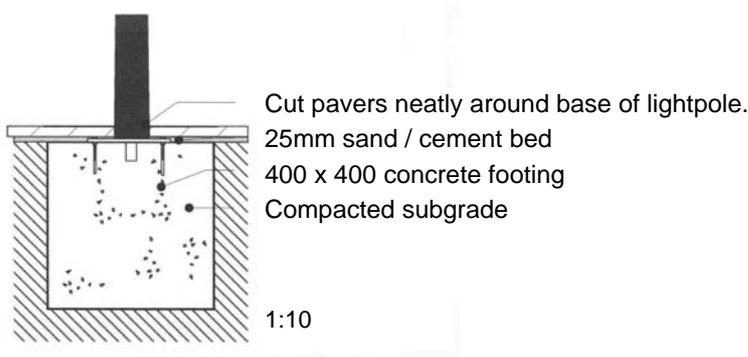
**6.1.3 Planter box**

<b>Type</b>	Off form concrete trough.
<b>Supplier</b>	Jolly Rogers Concrete Products Pty. Ltd.
<b>Colour</b>	Integral colour – Medium Grey.
<b>Location</b>	Use to supercede existing troughs along New South Head Road, where street tree planting is not possible. To be used in this location only.  Centre 600mm off back of kerb, in line with other street furniture.



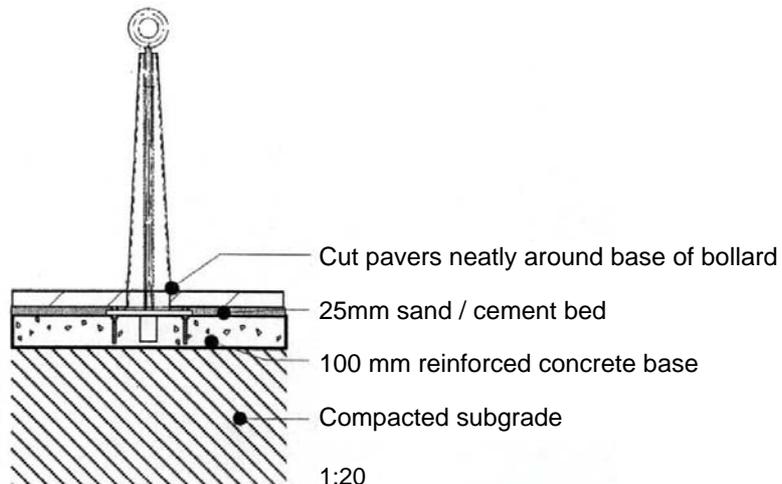
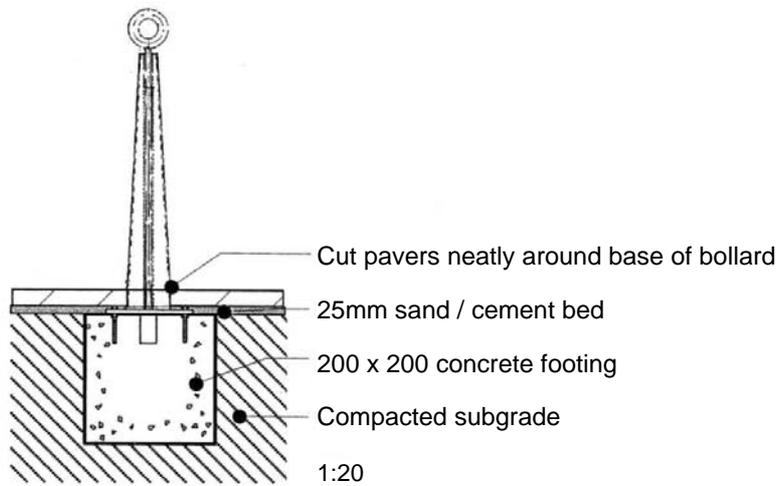
### 6.1.4 Pole light

<b>Type</b>	<p>Luminaire – “Double Bay Sphere”.</p> <p>Poles - G.M. Pole to replace the current pole, which is incompatible with the luminaire fitting.</p>
<b>Supplier</b>	<p>Luminaire - Sylvania Lighting.</p> <p>Pole – Grahame W. Vaughan Pty. Ltd is the NSW distributor.</p>
<b>Colour</b>	<p>Luminaire – frosted globe with dark Ferrodore finish to frame</p> <p>Pole - dark Ferrodore finish</p>
<b>Location</b>	<p>Presently located along New South Head Road, Cross, Knox and Bay Streets, Goldman Lane, Gumtree Lane Gilbraith Walk, Steyne Park and recent works in Guilfoyle Park.</p> <p>Used in future works to continue Guilfoyle Park and extension of streetscape works in Bay Street between Cross Street and the waterfront.</p> <p>Position where awnings are absent. Poles are spaced approximately 8 metres apart, fixed in the centre of square pavers in the “Double Bay Set.”</p> <p>To prevent the presently shaky join between luminaire and pole, it is essential that the recommended lubrication barrier is used on the hex screws that attach the luminaire to the pole. Alternatively a stainless steel helicoil thread for attaching will help reduce the electrolytic corrosion.</p> <p>These tasks can be carried out as part of the regular maintenance programme.</p> <p>NB - Shop drawings held by Council.</p>



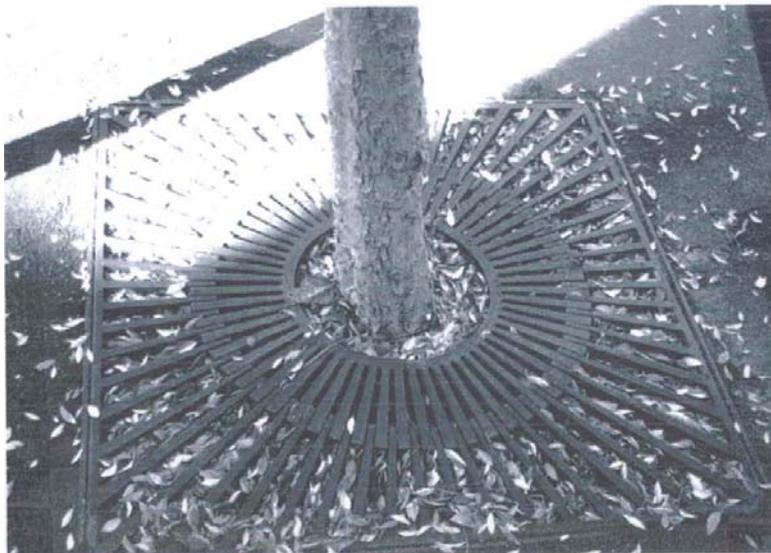
### 6.1.5 Bollard

<b>Type</b>	"Double Bay" fabricated steel bollard.
<b>Supplier</b>	Bay Steel Pty. Ltd.
<b>Colour</b>	Dark ferrodore finish.
<b>Location</b>	Where barriers to vehicular movement are required and where fences, walls and kerbs are not appropriate. Currently located in Cross and Bay Streets.  NB - Shop drawings held by Council.



### 6.1.6 Cast metal tree grate

<b>Type</b>	Radial Cast Steel Grate.
<b>Supplier</b>	Zebra Landscape Furniture Pty. Ltd.
<b>Colour</b>	Untreated finish.
<b>Location</b>	Location sporadically on street corners on Bay and Cross Street. The practice of planting street trees in the pavement is being phased out in Double Bay, with planting in the parking lane becoming standard practice. The use of grates is not necessary in the parking lane.  NB - Shop drawings for the tree grate are unobtainable.



### 6.1.7 Timber tree guard

<b>Type</b>	Hardwood timber.
<b>Supplier</b>	Constructed in situ as necessary.
<b>Colour</b>	Finished in exterior timber acrylic, light grey.
<b>Location</b>	Along streets where trees are to be planted in the parking lane, such as Bay Street extension. Guards should be installed as a temporary measure, to protect the tree until it is well established.

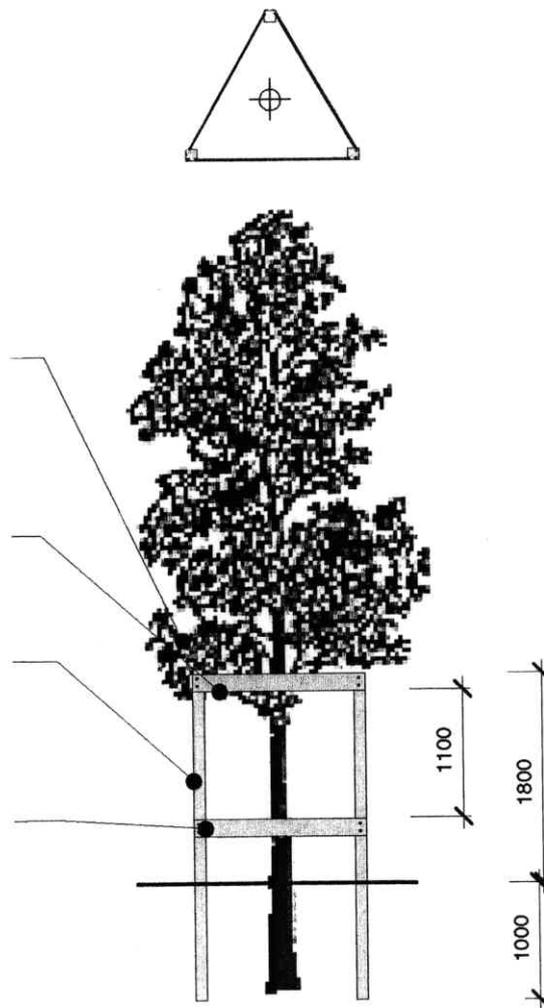
Undercut street tree to 2m to prevent rubbing and damage to lower limbs.

3 x 150 x 38mm hardwood timber rails. Recess frames 38mm into posts. 2 x 75mm screws for rails.

3 x 100 x 100 x 2800mm hardwood timber post. 5mm chamfer to all edges.

340 x 150 x 1 galvanised sheet corner.

1: 50



**6.2**  
**PAVING**

A strong and consistent paving design with attention to detail has been established in the Double Bay Centre.

*Future paving works should aim to rectify difficult footpath level changes, correct uneven pavements and create a smooth, continuous and even pedestrian surface with a single nominal slope from shop front to kerb.*

Presently the Double Bay paving set extends to the edge of the property line only. Where the built edge occurs beyond the boundary, a section of different paving may occur. In the interest of continuity and an integrated image, the Double Bay set should extend in all cases to the built edge.

Presently an Urbanstone concrete paver with a grid of 100mm squares embossed –type 3- is used to resolve differences in dimension at edges to avoid cutting pavers. These pavers are now no longer manufactured as standard and can be reproduced but only if it is feasible by ordering a large run.

A better alternative in this situation may be a larger concrete paver, such as a 300mm square. This unit is less liable to cracking and provides more flexibility when cutting into the building line.

In future work it is imperative to maintain the practice of using whole pavers only for the Double Bay Set, with no cutting in as far as possible.

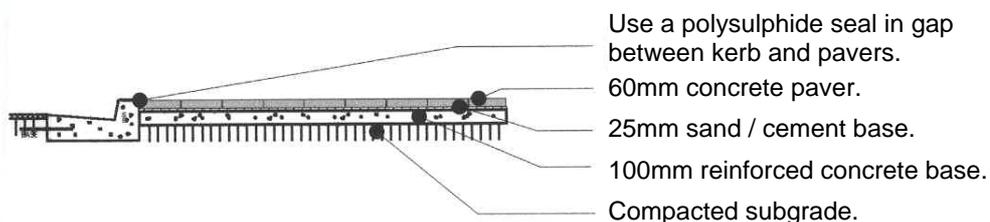
Existing pavements in some areas have been damaged by vehicles and tree roots. New paving should have a concrete base course. The base course of areas likely to carry vehicular traffic should be reinforced.

Generally the paving pattern consists of a matrix of Urbanstone Double Bay Set in gunmetal grey, with lighter inserts. This is reversed along New South Head Road, with a matrix of white Urbanstone pavers with a gunmetal insert. This pattern requires more frequent cleaning. It is suggested that the paving be replaced with the standard paving pattern.

The extension of streetscape works to include lanes should continue the use the Double Bay Set, but in a simplified pattern. The recommendation is to use a 300 x 300mm square pavers only in these areas. For ease of cleaning, the dominant colour should be Urbanstone Gunmetal Grey.

Pavers in lanes should be 60mm thick to take vehicle loads.

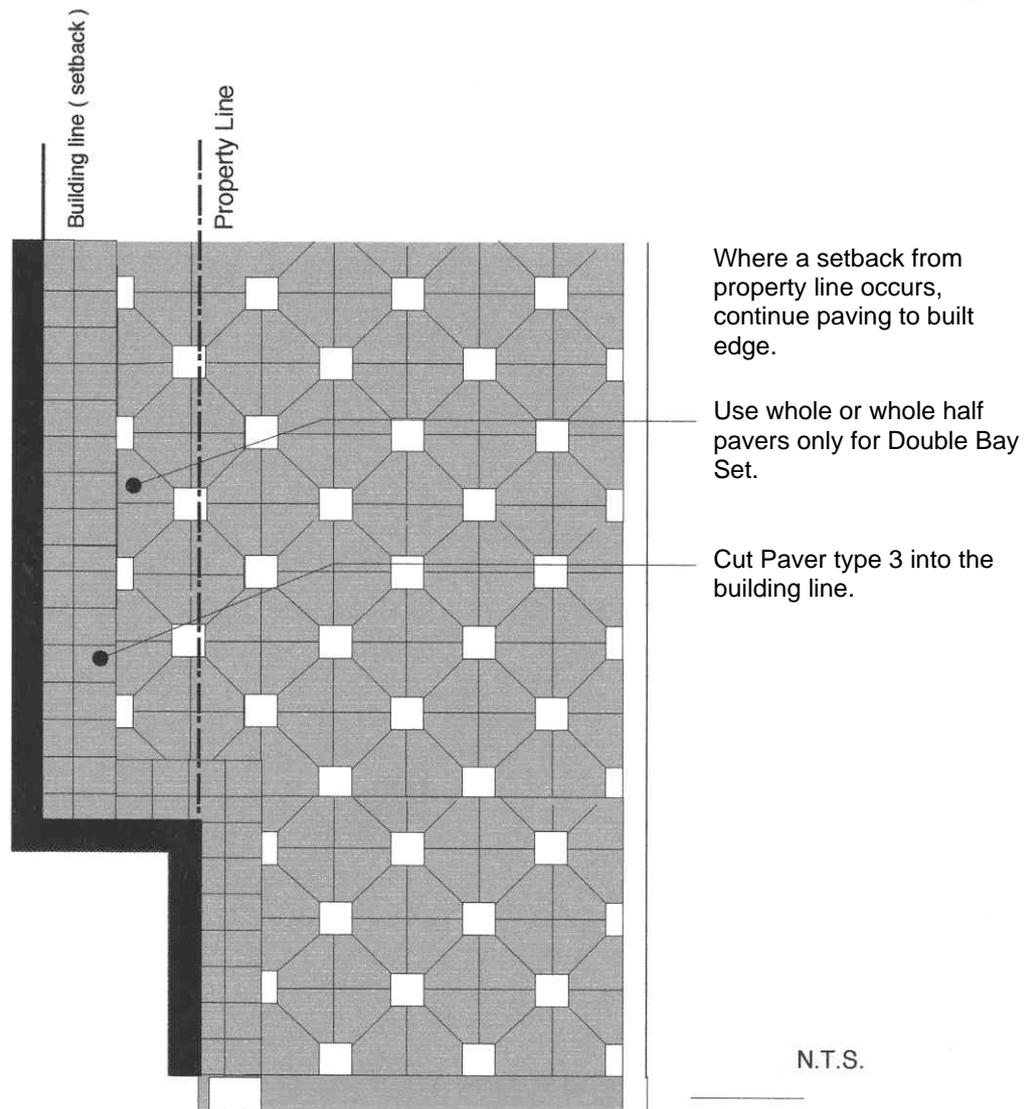
The following pavers are the standard range developed for use throughout the centre.



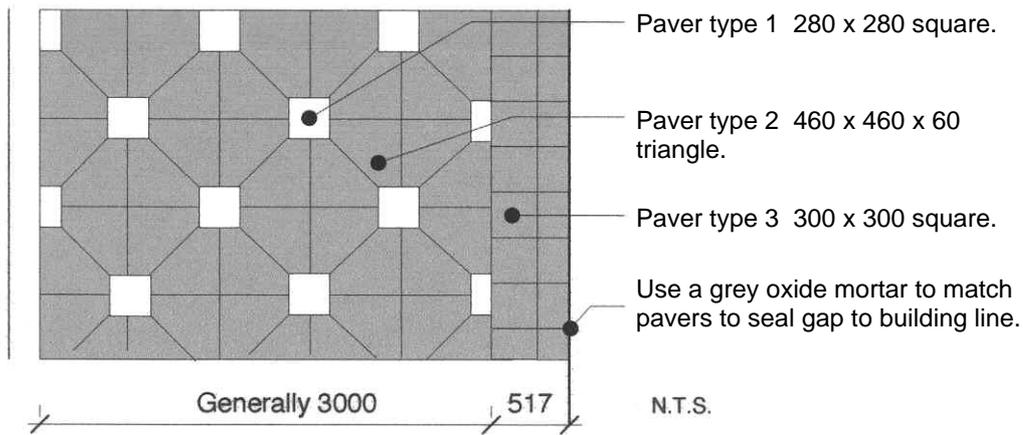
**PAVING FOR PEDESTRIAN TRAFFIC AND ABLE TO BEAR VEHICLE LOADS**

N.T.S.

The following pavers are the standard range developed for use throughout the centre.



The following pavers are the standard range developed for use throughout the centre.



### 6.2.1 Pavers

The following pavers are the standard reange developed for use throughout the centre.

	Description	Colour	Location
<b>Type 1</b>	Concrete Paver "Double Bay Set" 280 x 280 x 40 square, shot blast finish. Supplied by Urbanstone	White	Footpaths generally
<b>Type 2</b>	Concrete Paver "Double Bay Set " 460 x 460 x 40 triangle, shot blast finish, Supplied by Urbanstone	Gunmetal	Footpaths generally
<b>Type 3</b>	Urbanstone Concrete Paver	Gunmetal	Footpaths as infill along the building line
<b>Type 4</b>	Pedestrian Crossovers 300 x 300	Gunmetal	Pedestrian kerb crossovers.
<b>Type 5</b>	Arcade paving 300 x 300	Gunmetal	Arcades and lanes
<b>Type 6</b>	Brick to match existing		<i>Transvaal Avenue</i>

### 6.2.2 Pavement Details

Detail new paving at corners, tree holes, pits, covers, posts and boxes to ensure neat joining and maintain a continuous smooth paving surface.

Reduce the intrusion of service covers in the pavement as far as possible by infill paving surfaces of larger covers to match surrounding paving, and by minimising or avoiding concrete surrounds to covers.

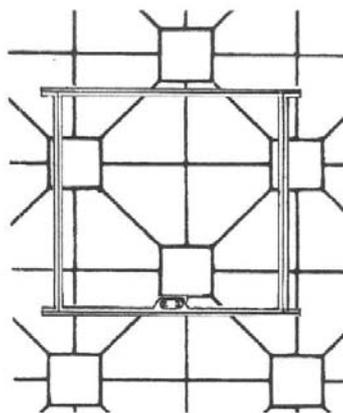
Establish throughout the Double Bay commercial centre a smooth, non-slip, durable and even pedestrian footpath surface with a single nominal slope from shop front to kerb. Comply with Australian Standards for accessibility, safety, and slip resistance (friction coefficient).

The following access covers are suitable for infilling and may be used to replace existing covers which cannot be altered.

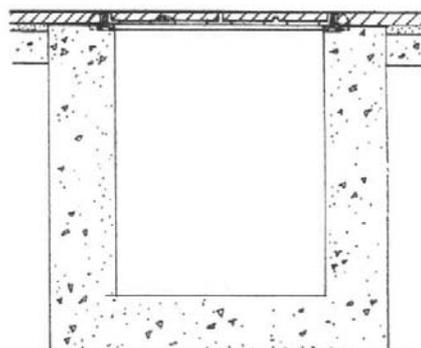
Infill with mortar if necessary.

ACO Polycrete single and multi part access covers. Heavy gauge steel frames.

2379L Stormwater pit covers.



Cross paving pattern across service cover.



Ensure top of pit enables clearance by 60mm paver width or 40mm paver width. Ensure flush with finished level. No concrete lip at surface.

N.T.S.

Where possible fix street furniture within the white infill paver in the Double Bay pattern. Remove concrete collar at base of light poles, as this is a pedestrian safety hazard. Replace by cutting white infill paver neatly around pole and flush with finished ground level. Infill gap with polysulphide seal.

Where street furniture cannot be fixed on the infill paver, cut pavers neatly around intrusions (such as posts) in the paving. Infill the gap with polysulphide sealant coloured to suit the paving.

Detail paving carefully at corners, kerb ramps and intersections. Each change of direction in paving should be detailed before construction.

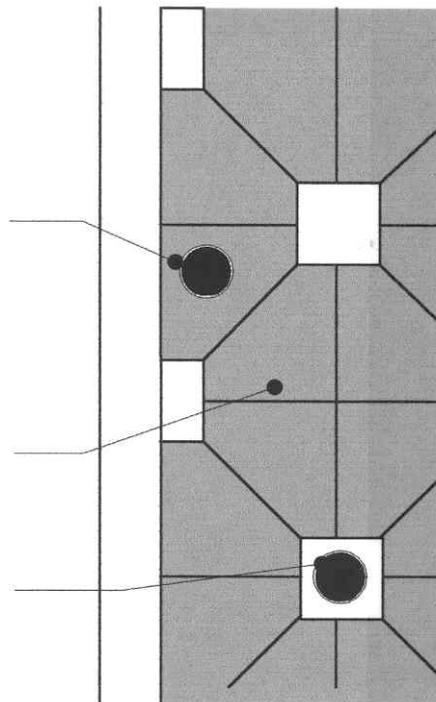
Cut pavers neatly to follow shape of intrusions if signage/furniture is unable to be positioned in white infill paver.

Maximum 10mm joint. Expansion joint to be 10mm below surface.

Seal with polysulphide seal, colour to match pavers at surface.

Favoured location for positioning of street furniture to follow original design concept.

N.T.S.



6.3

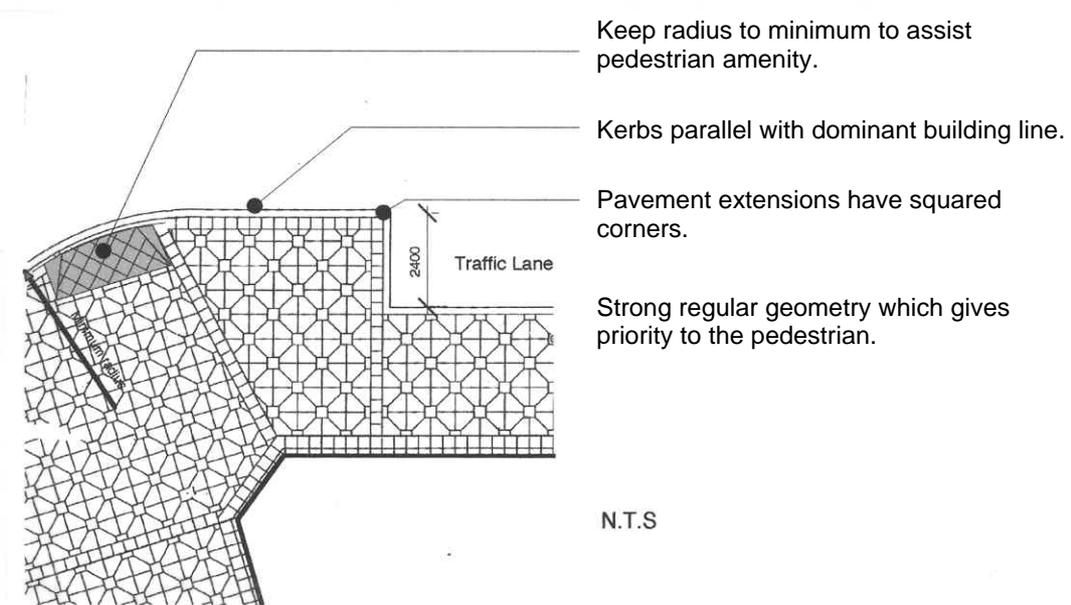
URBAN GEOMETRY

A well-designed urban geometry was established by the original streetscape scheme. A consistent geometry for kerblines, medians and pedestrian refuges emphasises the dominant geometry created by built edges and reinforces the urbanity of the pedestrian environment.

This established geometry should be adopted in the design of extensions to existing streetscape works, and in the design of lanes. Integrate the needs of the disabled with those of traffic, paving and urban furnishings; marker strips, ramps etc should not only respond functionally, but be part of the overall image.

Provide a pavement surface that is consistently graded both along and across the pedestrian route. Avoid sharp changes in level and crossfalls greater than 1:40. Design to best practice rather than to minimum standards.

Kerbs should provide a clear separation between the pedestrian space and traffic. If bollards are used as a barrier, they should not dominate the streetscape or obstruct pedestrian flow.



Position kerb ramps along the direction of travel. Ramps should ideally be at 90 degrees to the roadway, although where this is not possible, such as at radius corners, some compromise must be made.

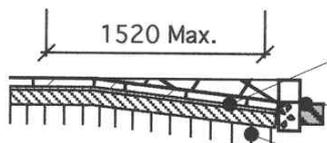
Pedestrian kerb ramps should have a contrast in luminance to general paving. Paving contrasts, and any change in texture should be used to represent a change in the pedestrian environment for partially sighted users. Pavers on kerb ramps should have a textured non-slip surface.

Design corners and intersections to suit pedestrian comfort and safety. Use of minimum radii at corners will enhance pedestrian convenience and safety.

Pedestrian crossings should be clearly defined with zebra stripes. Avoid ambiguity.

*Pram ramps shall comply with the relevant Australian Standard for disabled access. Ramps to be installed with 1800mm width (wherever possible) and ideally have a slope no greater than 1 in 12 (up to 1 in 8) to allow ease of movement for pedestrians, people in wheelchairs, people with prams or trolleys and the visually impaired.*

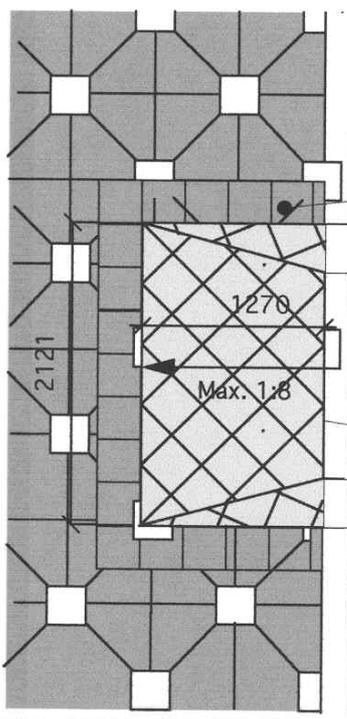
Ensure paving on pedestrian ramp contrast with surrounding paving to facilitate vision impaired pedestrians.



25mm sand/cement bed on 100mm reinforced concrete base.

Ensure kerb edge is maximum 20mm above road.

Compacted subgrade.



Header course of Type 3 paver 300 x 300. Use whole pavers only.

Type 4 Ramp paver 300 x 300. Contrasts with surrounding pavers for the visually impaired.

1:50

## 6.4

## STREET TREES

**6.4.1 Engineered Soil Solutions**

Recent research into the performance of trees in urban situations has led to the development of specialised planting details, which seek to provide maximum air, water and nutrients to the root zone of trees in pavements. Ideally, approximately 5 cubic metres of growing medium should be provided for each tree. In situations such as streets and squares, where the surface area of the tree hole must be limited, the use of a zone of structural soil around the root zone may be beneficial to the long-term health of the tree.

'Structural Soil' is a permeable subgrade which provides a base for paved areas surrounding tree pits, but allows penetration of air and soil to the root zone. The soil mix is a combination of four parts of aggregate to one part of filler soil (50/50 sandy loam and Dolorite blend).

The base between the paved surface and structural soil will vary with paving type. In situ concrete paving may be laid directly over the structural soil subgrade.

Asphalt and unit paving over structural soil will require a base of graded aggregate to prevent the passage of fines into the structural soil subgrade. Geofabric should be used along the edges of the structural soil pit

Typical Structural Soil Mixes are listed below:

Structural Soil 40mm. (where depth of excavation is greater than 120mm)

80% 40mm basalt aggregate.  
20% Filler Soil ( 1 part Screened Menangle Sandy Loam ).  
Additives of fertilizers and trace elements.

Structural Soil 20mm. (where depth of mix is less than 120mm)

75% 20mm basalt aggregate.  
25% Filler Soil ( 1 part Screened Menangle Sandy Loam ).  
Additives of fertilizers and trace elements.

### 6.4.2 Planting detail – Engineered soil solutions

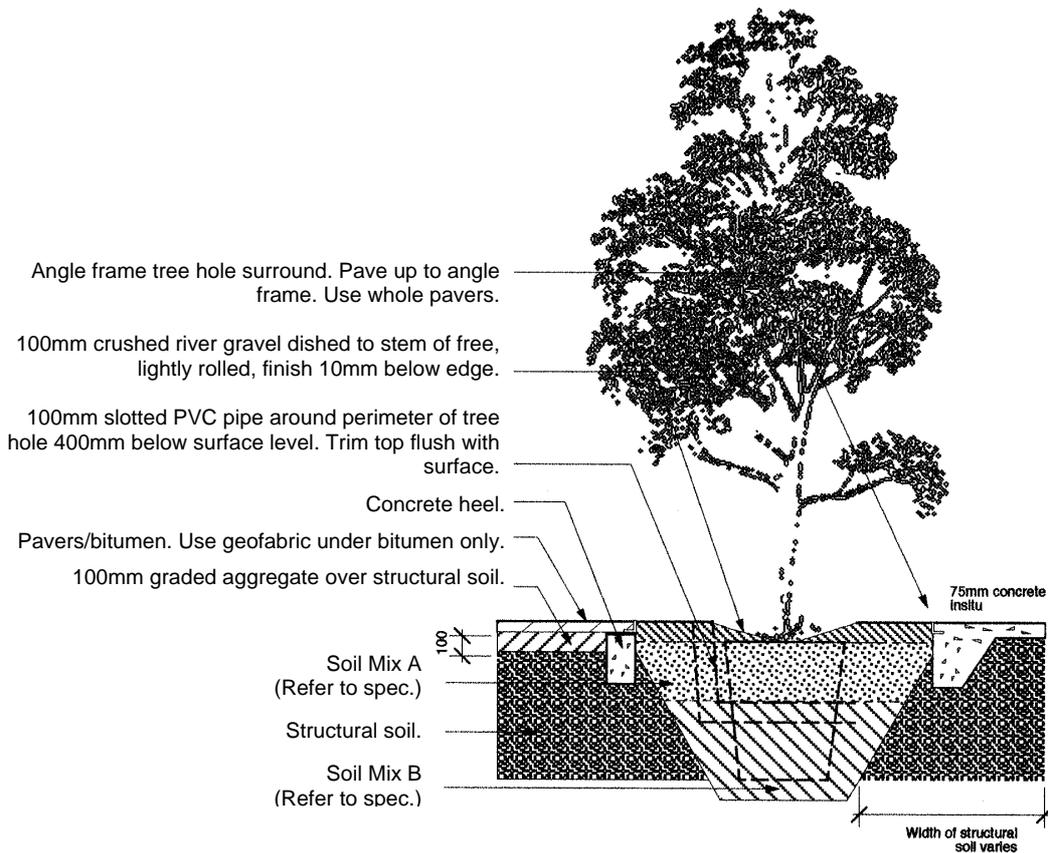
Typical planting detail for trees in paved areas. Australian Standard 2223 specifies a Soil Mix A, which is an imported soil with a high organic content. This is suitable for back filling the top 300mm of the planting hole. Soil mix B is the excavated site soil, mixed with sand suitable for the lower 1500mm of the planting hole.

#### Topsoil mix A

Site soil	20%
Medium sand	70%
Lime	0%
Compost	10%
Fertiliser	Controlled release fertiliser.

#### Topsoil mix B

Site soil	20%
Medium sand	80%
Lime	0.5% per cubic metre.



### 6.4.3 Street tree planting

The planting concept for the streetscape improvements of 1989 established a cohesive pattern that attempted to unify the streetscapes of the commercial centre. Prior to this, many of the street trees were patchy and often inappropriate to the situation.

Presently many of the large trees such as the Hills Figs and Camphor Laurels are planted in the footpath, which are being phased out. The original planting of the streets surrounding the commercial centre have a successful tree planting, however supplementing of trees that have died or are overmature needs to take place.

The Chinese Elms that were planted in Cross and Bay Streets have set a strong pattern that provides the correct scale for the street and do not damage the pavement. Many of these have been planted in the parking lane, freeing pedestrian space.

The proposed Urban Projects will supplement the existing planting surrounding the commercial centre, and to extend the planting concepts of the original streetscape concepts. For the Jamberoo Creek corridor, the planting will make a reference to the change in ecological type that existed before clearing by Europeans. These changes in ecotype would begin at Bellevue Park, through Cooper Park all the way to the harbour at Double Bay.

#### New South Head Road

As existing, no trees in commercial centre under awnings. Reinforce planting to southeast and north west of the commercial centre. This will strengthen the sense of arrival and departure through the centre.

#### Ocean Avenue

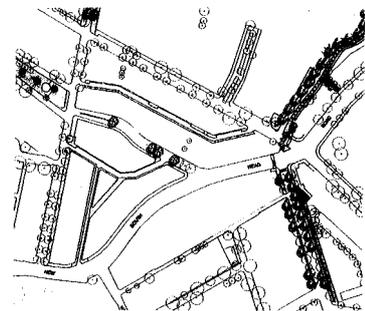
Reinforce existing planting of Brushbox (*Lophostemon conferta*), along Steyne Park, between parking spaces.

#### William Street

Retain Brushbox (*Lophostemon conferta*), supplements as needed.

#### Bay Street

Extend planting of Chinese Elms (*Ulmus parvifolia*), to William Street. Under cut to 2 metres to maintain sightlines. Use Brushbox (*Lophostemon conferta*), on oval edge to reinforce existing. Remove Cherry trees and shrubs from northern side to restore sightlines. Retain Jacaranda and existing Canary Island Palms (*Phoenix canariensis*). Supplement with more Canary Island Palms to create a strong edge with views to bay.





**Guilfoyle Avenue**

Remove overmature Willow Myrtle (*Agonis flexuosa*) and Crack Willow (*Salix fragilis*). Retain Weeping Willow (*Salix babalonica*) to keep existing character. Extend planting of Cotton Palms (*Washingtonia robusta*), to complete original design intent, along the length of Guilfoyle Avenue.

**Cross Street**

Retain and supplement avenue of Chinese Elms (*Ulmus parvifolia*).

**Transvaal Avenue**

Retain existing street tree planting.

**Knox Street**

Extend median planting of Oriental Plane Trees (*Platanus orientalis* 'Digitata').  
Remove Mock Orange (*Murraya panicula*) Hedge at the corner of Goldman Lane to improve useable space and maintain sightlines.

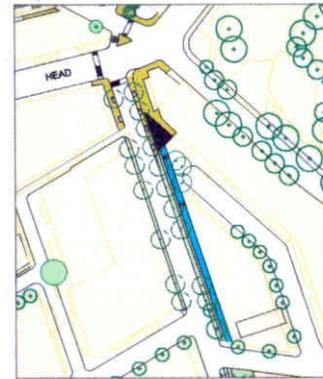


**Jamberoo Lane**

Remove Swamp Oaks (*Casuarina glauca*) to improve spatial definition and appearance of lane. Replace with single avenue of Tuckeroo (*Cupaniopsis anacardioides*) to emphasise curve in road and reflect on indigenous condition. Undercut to 2 metres and develop single trunk.

**Kiaora Road**

Consolidate existing avenue of Bangalays (*Eucalyptus botrioides*) between Court Road and New South Head Road. Where the verge widens after Court Road a woodland planting of Sydney Red Gums (*Angophora costata*) and Forest Red Gum (*Eucalyptus tereticornis*). This association would make reference to the indigenous forest type.



**Sherbrooke Avenue**

Replace existing Liquidambers (*Liquidamber styraciflua*) over time. Replace with single avenue of Paperbarks (*Melaleuca quinquinervia*) to be indicative of indigenous ecological type. Undercut to 2 metres and develop single trunk.



**Kiaora Lane**

Remove unhealthy Tallowwoods (*Eucalyptus microcorys*), retain English Oak (*Quercus robur*).