

# ***Parklands Elements Design Manual***

## **S y d n e y O l y m p i c P a r k l a n d s**

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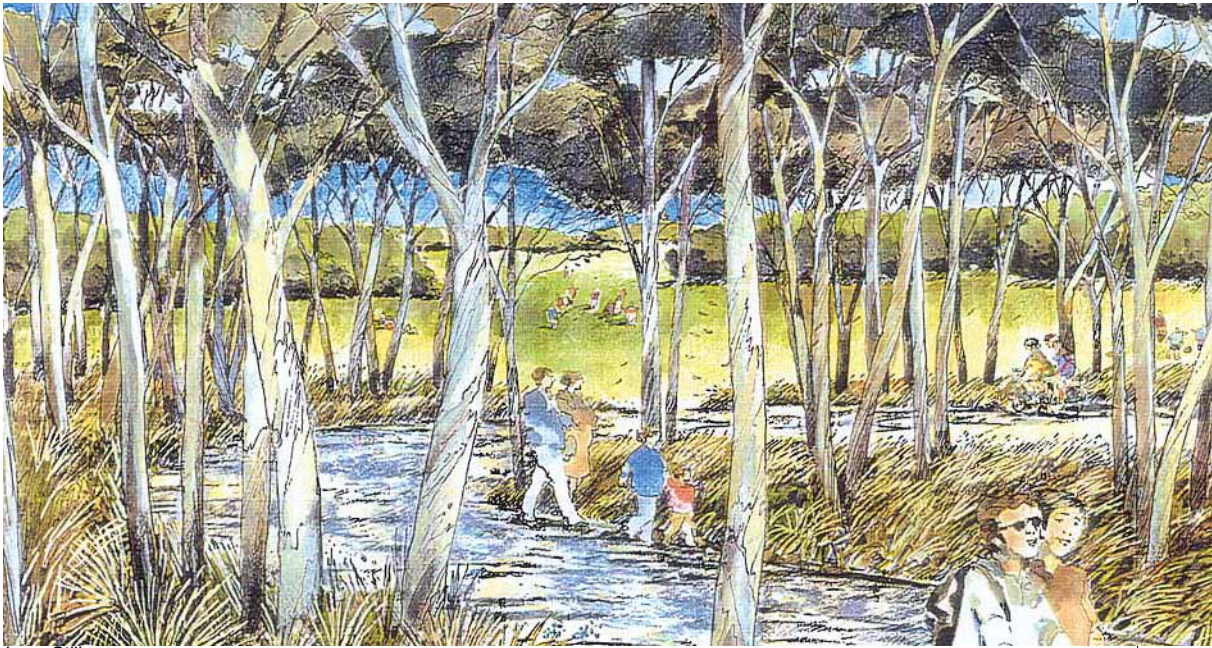
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- \* Lighting Specification

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# The Parklands Elements Design Manual



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# ***The Parklands Elements Design Manual***

## **Introduction to the Manual**

The Sydney Olympic Parklands, previously known as Millennium Parklands, Parklands Elements Design Manual (PEDM) is the outcome of a comprehensive design and study of the landscape of the Parklands. It provides the basis for the selection and palette of architectural structures, paving, lighting, park furniture and signage in the Parklands, both in the immediate term and over the next 10 to 15 years. All items are conceived as a co-ordinated suite of elements that give character and identity to Sydney Olympic Parklands. The manual is a compilation of existing selected design elements from the Urban Elements Design Manual (UEDM) designed for the public domain in the Urban Core of Sydney Olympic Park, selected items from the UEDM Appendix 1, Non-SOP Venues and new elements specific to the Parklands. The UEDM elements chosen are design elements that are suited to the parkland setting of Sydney Olympic Parklands and reinforce consistency and links of elements between Olympic Park and the Parklands. The relevant UEDM elements have been included in the PEDM for reference.

The Parklands Elements Design Manual contains four sections: Introduction; How to use the Manual; Parkland Elements Design; Design Guidelines. This manual allows designers to develop detailed designs for the Parklands which will be consistent site-wide.

## **Sydney Olympic Parklands Concept Plan & Related Documents**

In summary, the Millennium Parklands Concept Plan approved in 1997 and designed by park designers HASSELL, Peter Walker and Partners and Bruce Mackenzie Design is the guiding document providing the basis and vision for all design work within the Parklands. The Illustrative Concept Plan and Study Area Boundary Plan are included for reference at the end of this section and the precinct concept plans can be referred to in Appendix C. The Concept Plan was developed further in 1998 resulting in the production of the "Millennium Parklands Concept Development Report", the "Site Wide Planting Strategy" and their accompanying drawings. These documents provide further guidance and rationale behind the siting and design of the parkland elements within the greater context of the Parklands.

The term Millennium Parklands has been used for some years. It is widely known and has been used throughout the legislation. The Sydney Olympic Park Authority is reviewing the naming of areas since 'Sydney Olympic Park' has been registered by the Geographical Names Board as a formal place name. Therefore, 'Sydney Olympic Parklands', and the more general term 'Parklands', are used in this document so as not to pre-empt the naming process.

The concept for the Parklands is to provide a place and a program, which is treasured by the community for the recreational, inspirational and educational experiences, derived from a diversity of distinctly Australian natural and cultural settings. The purpose of the concept plan is to join the diverse landscape and cultural elements within the Parklands to form a cohesive,



understandable, visually and spatially rich park for the 21st Century and beyond. The landscape settings of the Parklands (fresh and saltwater wetlands, forest, mangroves, grasslands, remediated areas etc.) provides park patrons with a story or narrative of the Parklands. Herein lies the essence of the Sydney Olympic Parklands physical concept - it is not about elements being added to the landscape, but instead the landscape itself that it is implicit and integral to the parkland experience.

The landscape of the Parklands is:

- \* **identifiable** as Sydney Olympic Parklands.
- \* **believable** - being authentic to its time and place.
- \* **sustainable** - robust, based on inbuilt systems diversity.
- \* **educational** - by example, how people can co-exist in harmony with their environment.
- \* **renewing** - to its users.
- \* **nurturing** - to the plants, animals and people who live in and enjoy the parklands.

The role of the parkland elements is to unite the various settings and enhance the user experience of the Parklands; and to assist in the creation of a distinctive and special place, which is treasured by the community.

### **The Design Image of Sydney Olympic Parklands**

The image of the Sydney Olympic Parklands is of an inspiring set of unique natural and built resources which are maintained, managed, programmed and used in a way which creates a national and international treasure.

The Parklands design image moves well beyond the concept of the picturesque landscape, beyond images of embalmed nature and beyond the realm of landscape as a spectacle. The Parklands image is rich and diverse as the imagination and creativity of 21st century people.

The image of the landscape of the Parklands is one of a series of functioning and self-sustaining ecosystems that offer settings of great beauty and renewal to the people who enjoy them. The objective of the physical concept is to ensure that users receive an "experience of nature" that is as close as possible to that obtainable from immersion in pristine environments of a similar type.

The experience of the Parklands should be unique. The image described above guides this objective and the Parklands Elements Design Manual addresses this image by the selection of parkland elements which are of simple materials, uncomplicated detailing, appropriately scaled, functional, robust and responsive to the principles of environmentally sustainable development (ESD).





**LEGEND**

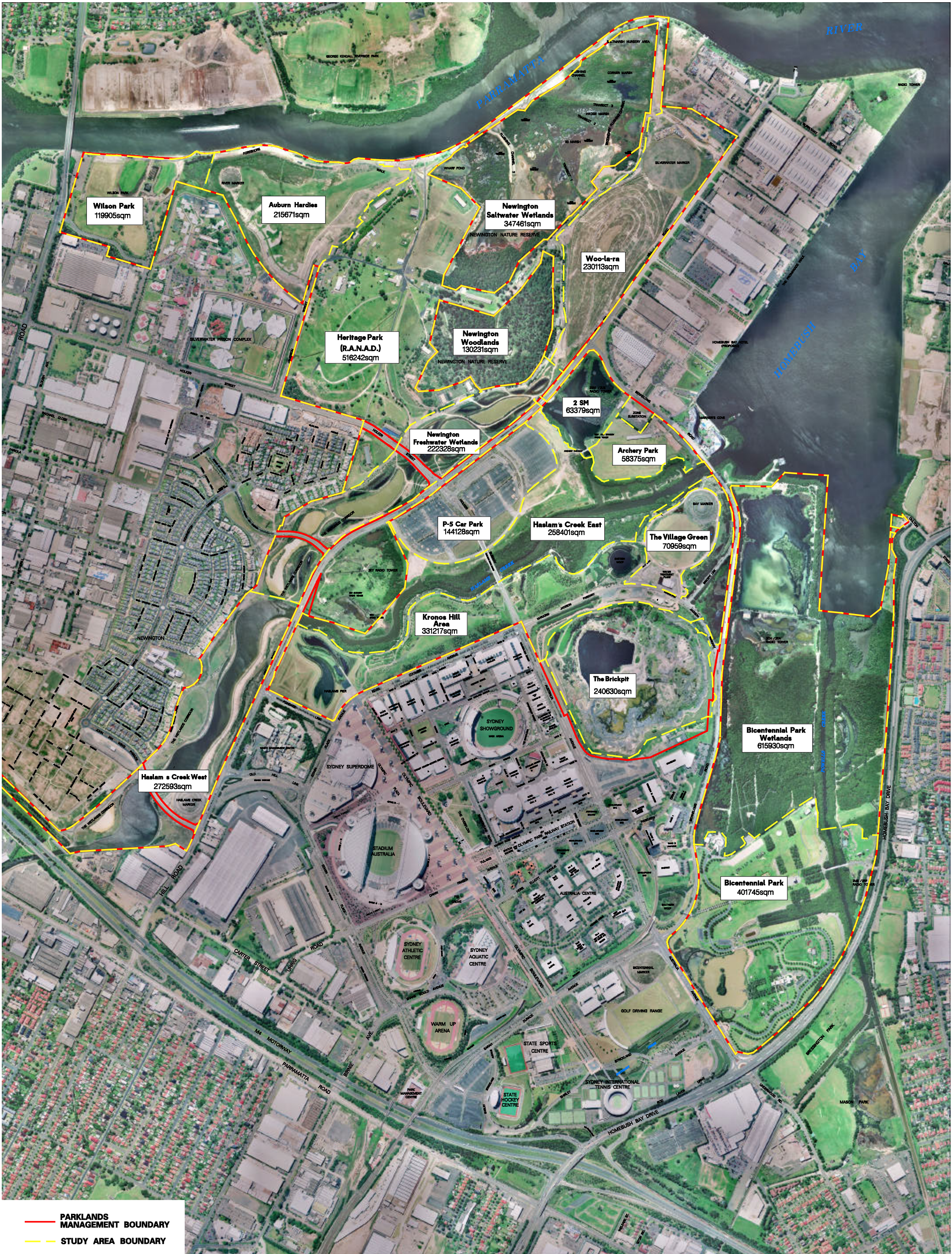
- 1 RECREATION / COMMERCIAL
- 2 COMMERCIAL / RESIDENTIAL
- 3 AUSTRALIA CENTRE
- 4 GRASSLANDS
- 5 MANGROVES / WETLANDS
- 6 ARCHERY FIELD
- 7 INTENSIVE RECREATION
- 8 BRICK PIT
- 9 NEWINGTON FOREST
- 10 GOLF DRIVING RANGE
- 11 TENNIS CENTRE
- 12 BICENTENNIAL PARK SOUTH
- 13 HILL ROAD CARPARK
- 14 RAS FACILITIES
- 15 TEMPORARY CARNIVAL
- 16 PLAZA PARK
- 17 MAJOR SPORTS AND ENTERTAINMENT COMPLEXES
- 18 FRESHWATER WETLANDS
- 19 SALTMARSH / WETLANDS
- 20 HASLAM'S CREEK
- 21 NORTH NEWINGTON GRASSLANDS
- 22 HERITAGE BUILDINGS
- 23 NORTHERN WATER FEATURE
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- 25 OLYMPIC VILLAGE
- 26 NEWINGTON HOUSE AND CHAPEL
- 27 PARRAMATTA RIVER
- 28 MILLENNIUM MARKER
- 29 FERRY TERMINAL
- 30 OLYMPIC PARK RAIL STATION
- 31 MILLENNIUM PARK ENTRANCE MARKER
- 32 TREILLAGE
- 33 NAVAL WHARF
- PEDESTRIAN PATH
- SHARED PEDESTRIAN / CYCLE PATH
- HORSE / PEDESTRIAN TRAIL

  
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 dwg no. MPLA064C  
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**HASSELL**  
 Bruce Mackenzie Design  
 Peter Walker and Partners

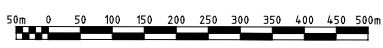
Illustrative Concept Plan





— — — PARKLANDS MANAGEMENT BOUNDARY  
— — — STUDY AREA BOUNDARY

PRODUCT OF SOPA CAD UNIT (02) 976 7875



**DRAFT**

## SYDNEY OLYMPIC PARK AUTHORITY STUDY AREA BOUNDARY

PHOTOGRAPHY DATE: 22-02-2002



DRG. NO. : HS-P-167 REV. H  
 DATE : 26TH JUNE, 2002  
 SCALE : 1 : 4000 AT A0



## How to Use the Manual



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## **Overview**

The Parklands Elements Design Manual is a comprehensive guide to the detailed design elements of the Sydney Olympic Parklands including architectural large elements (shade structures, picnic shelters), paving, park furniture, lighting and signage.

Its primary objective is to ensure a consistency of detail and quality in the various precincts of the Parklands, whilst ensuring flexibility for the parkland elements to respond to their particular setting.

The Parklands Elements Design Manual is organised into four main sections: Parklands Elements Design Manual; How to use the Manual; Parklands Elements Design and Design Guidelines.

## **Layout of the Manual**

The layout of the PEDM is based on the layout of the Urban Elements Design Manual (UEDM), allowing both documents to be coordinated.

The first three sections of the PEDM provide a design overview and a description on how to use the manual and are titled as follows:

- The Parklands Elements Design Manual
- How to Use the Manual
- Parklands Elements Design

The fourth section of the PEDM: Design Guidelines is divided into separate parts dealing with Large Elements, Paving, Park Furniture, Lighting and Signage.

The Parklands Elements Schedule at the beginning of this section lists all the design elements selected for Sydney Olympic Parklands. The listings that are shaded are items particular to Sydney Olympic Parklands and have been specially designed / chosen for the Parklands. The elements on a white background are items chosen from the UEDM and UEDM Appendix 1 that are suited to the setting of the Parklands and have been included in the PEDM for reference.

The Design Guidelines sheets illustrate each Parklands Element in detail with required technical data and design descriptions and is referred to by a discipline letter code and element reference number (eg. PLE1 - Parklands Large Elements item 1; PSF05 - Parklands Furniture item 05). The status of each of these Parklands Elements is also shown, whether the element is design intent only, or has been fully resolved with final details.

## ***How to Use the Manual***

For selected large elements there are also two appendices that can be referred to for more information. Appendix A details the materials palette selected for each large element. Appendix B contains the briefing notes specific to each elements' siting, program requirements, maintenance and management considerations, intended function and level of use.

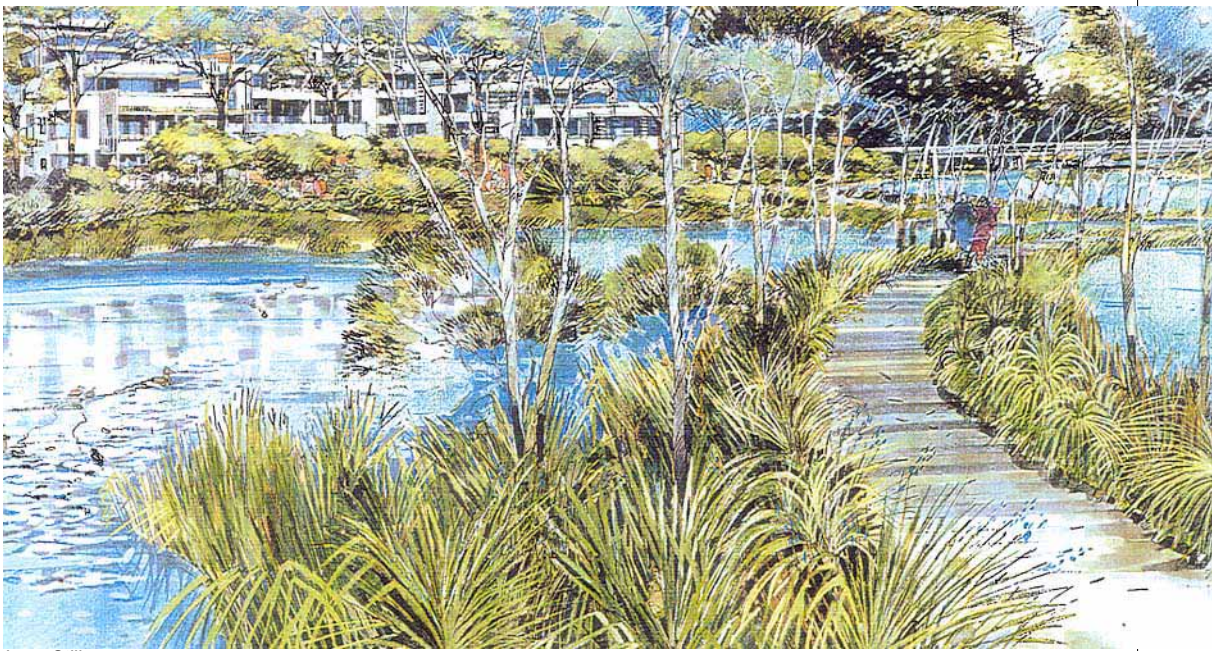
The structure of the Manual allows for information to be updated. The Design Guidelines sections have reference numbers with a specific discipline letter code enabling expansion or deletion within the section. The PEDM is seen to be a flexible document enabling new details to be inserted over time and existing elements to be reviewed.

### **Relationship to Other Documents**

The following list of documents are to be used as reference material when preparing detailed designs for the Parklands and to gain a further understanding of the masterplan concepts for the Parklands:

- \* "Millennium Parklands Concept Plan" report, December 1997
- \* "Millennium Parklands Concept Development", December 1998
- \* "Millennium Parklands Site Wide Planting Strategy", December 1998
- \* Urban Elements Design Manual, October 2001
- \* Draft OCA Fencing Strategy, October 1997
- \* SOPA Access Guidelines, First Edition, 2002
- \* Draft Access Strategy, Sydney Olympic Parklands, (under revision)
- \* Parklands 2020 - The Concept Plan for Sydney Olympic Parklands, August 2002
- \* Plan of Management, Millennium Parklands (under preparation)
- \* Sydney Olympic Park Master Plan, May 2002

# ***Parklands Elements Design***



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## **Introduction to Parklands Elements**

The Parklands Elements Design Manual schedules those items that occur within the Parklands and assist in its appreciation. These include: large elements, paving, park furniture, lighting and signage. The Parklands elements are derived from an architectural language of simple materials, uncomplicated detailing and direct construction. The design and detailing of the elements are expressive of their principle functions. The elements are seen as part of a broader 'family' with some localised variations reflecting the character of the Parklands settings. Accessibility has been a primary consideration in the detailing of the various elements and their finishes.

## **Design Principles and Strategies**

The guiding design principles and strategies for the Parklands have emerged from the design work of the Concept Designers: Hassell Pty Ltd, Peter Walker & Partners and Bruce Mackenzie Design. These design principles respect the following considerations:

### **\* Park Identification**

Elements provide an image that is memorable, identifiable across the Parklands and the design responsive to the surroundings.

### **\* Uncomplicated / Direct Design**

Elements derived from simple materials, uncomplicated detailing and direct construction.

### **\* Functional Considerations**

The elements consider a consistent management and maintenance strategy. The design and detailing of the elements are expressive of their principle functions. The elements have been designed and selected for future availability of parts, longevity, robustness and cost effectiveness. Structural systems should be sought that are flexible and can be adapted to cater for a number of elements and site applications.

### **\* Environmental Considerations**

Environmental considerations are clearly expressed in the design of elements and pursue the environmental sustainable principle. The use of renewable resources and the elements are responsive to ESD principles.

### **\* User comfort Considerations**

The elements have been developed to provide full amenity to all users including meeting OCA's access requirements.

### **\* Parklands Program Considerations**

Design of the elements should be flexible to allow for future adaptations or uses.

The Parklands elements should generally be clustered around activity nodes. Within such areas elements are tucked into, and clustered together in the broad reafforested bands of vegetation or 'walls' - one of the central themes of the Parklands Concept Plan.



The Parklands elements are simple, robust and designed as part of the Parklands settings in which they occur, rather than being features in the setting. In remote parts of the Parklands sparse provision of facilities is desirable so as to promote the experience of 'nature' and isolation.

### **Colour and Finish Selection**

In keeping with environmental sustainability practices consideration has been given to material life cycles; manufacturing & transportation energy costs; and recycled materials are used where possible:

- \* recycled or sustainable unstained hardwood timber
- \* galvanised steel / stainless steel
- \* unfinished, off form, exposed aggregate concrete
- \* decomposed granite / gravels
- \* recycled crushed brick
- \* asphaltic concrete

### **Access Considerations**

A site that is accessible to all people, regardless of their physical or mental ability is a major consideration in the design of the Parklands. The area extensive and will provide a range of challenges and opportunities.

Major nodes of access in all precincts, will incorporate integrated amenities / information facilities, shelter, seating etc. at these nodes. The nodes will establish bases for all people, including those with disabilities. The extent of movement beyond these bases will be discretionary, an individual will be able to make a decision about suitable access from the nodes by appropriate signage and interpretive material.

The key aim of the Sydney Olympic Parklands Access Strategy is to facilitate the policies of the NSW Government and OCA to demonstrate best practice in the provision of equitable access for all. Key objectives are to provide:

- \* an understanding of the operating methods of people with a range of disabilities
- \* specific design information to meet the needs of these people
- \* a mechanism ensuring full implementation and maintenance of accessible environments.

The implementation of the recommendations of the PEDM details alongside the Parklands Access Strategy and AS1428.1: Design for Access and Mobility will ensure a consistent approach to access in the Parklands.

# Parklands Elements Schedule



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## Parklands Elements Schedule

Ref	Description	Principle	Document	Revision	LARGE ELEMENTS
LARGE ELEMENTS					
PLE0	Major Walls - Gabions	To be used for large scale retaining works	PEDM	July 2002	
PLE1	Minor Walls - Concrete	To be used where a high quality finish is required eg, park entries, car parks, etc	PEDM	July 2002	
PLE2	Typical Steps	For use on minor embankments	PEDM	July 2002	
PLE3	Typical Ramp	Material to match adjoining path type	PEDM	July 2002	
PLE4.01	Boardwalk - Typical Section	To be used in freshwater wetlands and mangrove areas	PEDM	July 2002	
PLE4.02	Boardwalk - Wetlands	Used to cross water-bodies in wetland areas	PEDM	July 2002	
PLE4.03	Boardwalk - Examples of Platforms	To be located at changes of direction and rest points	PEDM	July 2002	
PLE4.05	Boardwalk - Edge Details	Vary to suit viewing and interpretation opportunities	PEDM	July 2002	
PLE5.01	Footbridge	To be used where terrain becomes rough or water course cuts across path	PEDM	July 2002	
PLE5.02	Boardwalk - Balustrade Details	For use above height of 600mm	PEDM	July 2002	
PLE5.03	Boardwalk - Balustrade Details	For use above height of 600mm	PEDM	July 2002	
PLE6.01	Brick Pit Viewing Platforms	To be used at selected places on Brick Pit rim only	PEDM	July 2002	
PLE6.02	Platforms - Haslams Creek	Associated with pathways along Haslams Creek	PEDM	July 2002	
PLE6.03	Platforms / Lookouts	Informal and hill top lookouts	PEDM	July 2002	
PLE6.04	Formal Lookout – concrete / stone wall	Formal viewing lookouts	PEDM	July 2002	
PLE7.01	Picnic Shelter	For use in various locations throughout the Parklands			
PLE7.02	Picnic Shelter - Siting	Should be sited along edges of clearings	PEDM	July 2002	
PLE7.03	Picnic Shelter - Elevations / Plan		PEDM	July 2002	
PLE7.04	Picnic Shelter	Materials & drainage	PEDM	July 2002	

Ref	Description	Principle	Document	Revision		
PLE7.05	Picnic Shelter	Construction details	PEDM	July 2002		
PLE7.06	Picnic Shelter - Enclosing Walls	May be introduced to provide shelter or privacy	PEDM	July 2002		
PLE7.07	Picnic Shelter - Roof Edges	Can be modified to introduce filtered light	PEDM	July 2002		
PLE7.08	Picnic Shelter - Large Formats	Standard extended to cater for larger groups	PEDM	July 2002		
PLE8	Parklands - Shade Structure	For use where permanent shade is required	PEDM	July 2002		
PLE9	Barbecue	To be installed adjacent to picnic shelters	PEDM	July 2002		
PLE10	Enclosure Wall Unit / Drinkstation	To provide further functional extensions & amenities to picnic shelters	PEDM	July 2002		
PLE11	Vehicle Gate	To be used where necessary to block vehicular access	PEDM	July 2002		
PLE12	Vehicle Barrier	To be used where necessary to control vehicular parking & access	PEDM	July 2002		
PLE13	Bird Hide	TBC	PEDM	TBC		
PLE14	Shade Structures	Off the shelf	PEDM	July 2002		
<b>PAVING</b>						<b>PAVING</b>
P3	Typical Insitu Kerb	Typical detail for access roads or car park areas	UEDM	Oct. 2001		
P5	Typical Insitu Swale	Reduced dimensions to suit scale.	UEDM	Oct. 2001		
PP6	Typical Insitu Flush Kerb	UEDM adapted-500 width. Reduced dimensions to suit park scale.	PEDM	July 2002		
PP8a+b	Typical Planted Swales	Turf or native options	PEDM	July 2002		
P11	Typical Decomposed Granite	Permeable pavement for special use areas ie, RANAD precinct.	UEDM	Oct. 2001		
P12	Typical Asphaltic Concrete - Standard	Primary pathways, shared-ways & accessible routes	UEDM	Oct. 2001		
PP13a	Washed Concrete Pavement	Pathway junctions and nodes	PEDM	July 2002		
PP13b	Washed Concrete Pavement – Joint Details	Pathway junctions and nodes	PEDM	July 2002		
P15	Typical Kerb Ramp	To signal hazard	UEDM	Oct. 2001		



Ref	Description	Principle	Document	Revision	
P16	Typical Vehicle Crossover - Asphalt	To signal vehicle crossovers at the kerb	UEDM	Oct. 2001	
PP17	Typical Hazard Tactiles	To be used only when there is a potential conflict between pedestrians and vehicles	PEDM	July 2002	
P22	Typical AC Edge	Minimal finishing edge to AC pavement	UEDM	Oct. 2001	
PP23	Typical Timber Edge	Flush edge to grass or planting	PEDM	July 2002	
P25	Typical Sump Grate	Flush detail for sump grate in various paving types	UEDM	Oct. 2001	
P26	Typical Service Cover - General	Minimise impact of service covers & ensure integration with surrounding pavements. Details for <600mm	UEDM	Oct. 2001	
PP36	Leaf Litter Pavement	Tertiary paths, for low use trails, ie Newington Woodlands	PEDM	July 2002	
<b>PARKLANDS FURNITURE</b>					<b>PARK FURNITURE</b>
PSF02a+b	Parklands Seat	UEDM SF02a+b adapted	PEDM	July 2002	
PSF05	Parklands Table Seats (1800)	UEDM SF05 adapted	PEDM	July 2002	
PSF05a	Parklands Bench	UEDM SF05a - Table Seat 900mm adapted	PEDM	July 2002	
PSF06	Waterfront Bench	Recycled timber baulk, for use in foreshore areas	PEDM	July 2002	
PSF08	Picnic Set	For use in & around picnic shelters, wall mounted or freestanding	PEDM	July 2002	
SF10	Bubbler – Building Mounted	Mounted on building wall / Wheelchair accessible	UEDM	Oct. 2001	
PSF11	Bubbler – Freestanding	Where Required	PEDM	July 2002	
PSF15	Park Bollard - Removable & Fixed	Where required	PEDM	July 2002	
SF21	Bin Mount - Perpendicular	For use around catering sites/car parks. Contingent on operational requirements	UEDM	Oct. 2001	
SF22	Bin Mount - Parallel	For use around catering sites/car parks. Contingent on operational requirements	UEDM	Oct. 2001	

Ref	Description	Principle	Document	Revision	
SF24a	Bin Station - Temporary	Using 240L bins, custom designed pictograms, visible recycling station to facilitate waste management. Contingent on operational requirements	UEDM	Oct. 2001	
SF25	Bike Rack - Free Standing	Simple, robust rack for short term, secure storage; in car parks, & selected locations	UEDM	Oct. 2001	
SF28	Phone - Wall Mounted	Standard Telstra telephone – Majestic booth for single or multiple installation	UEDM	Oct. 2001	
SF35	Standpipe & Housing	Protection for standpipe	UEDM	Oct. 2001	
PSF38a	Permanent Frog Fence	Refer to SOPA Frog Management Plan for location principles	PEDM	July 2002	
PSF38b	Permanent Frog Fence		PEDM	July 2002	
PSF38c	Permanent Frog Fence		PEDM	July 2002	
PSF39	Chainmesh Fence	Standard galv. Chainmesh fence Non PVC for low profile areas	PEDM	July 2002	
PSF41	Flagpole	As installed at Homebush Bay Ferry Terminal	PEDM	July 2002	
SF42a	Typical Fencing - Palisade	UEDM fence provides design intent. Detail design for specific applications in high profile landscapes only	UEDM	Oct. 2001	
SF42b	Typical Fencing - Palisade	Photographic illustrations	PEDM	July 2002	
SF43	Typical Gate - Palisade		PEDM	July 2002	
SF44	Replica Heritage Fence	To be confirmed	PEDM	July 2002	
SF45	Café Chairs		UEDM	June 2002	
SF46	Café Tables		UEDM	June 2002	
SF47	Café/Market Umbrellas		UEDM	June 2002	
<b>LIGHTING</b>					<b>LIGHTING</b>
PL3a	Parklands Solar Light Option 1	Option available	PEDM	July 2002	
PL3b	Parklands Solar Light Option 2	Option available	PEDM	July 2002	
L8c	12m pole light	Taperline series as in UEDM - associated with sports fields	UEDM APPX1	Oct. 2001	
L8d	7m pole light	Taperline series as per UEDM	UEDM	Oct. 2001	
Lf	Luminaires	For use on light poles (see Design Guidelines; Lighting)	UEDM	Oct. 2001	
Lg					

Ref	Description	Principle	Document	Revision	<b>SIGNAGE</b>
Li	Uplight	Inground uplight	UEDM	Oct. 2001	
Ln	Recessed wall light		UEDM	Oct. 2001	
<b>SIGNAGE</b>					
PS69a	Sign Types	Signage Overview	PEDM	July 2002	
PS69b	Sign Types	Signage Overview	PEDM	July 2002	
PS70a	Typeface for Directional signs	Typeface selection	PEDM	July 2002	
PS70b	Typeface for Interpretive signs	Typeface selection	PEDM	July 2002	
PS70c	Message Guidelines	Wording for signs	PEDM	July 2002	
PS70d	Messages and text	Letter spacing and word structure	PEDM	July 2002	
PS70e	Access Issues	Viewing distances, legibility and letter heights	PEDM	July 2002	
PS70f	Arrows	Using arrows and keeping consistency	PEDM	July 2002	
PS70g	Graphic Set Out - Directional Panels	Layout of arrows, messages and symbols	PEDM	July 2002	
PS70h	Directional 'fingers' <sup>1</sup>	Layout of messages and symbols	PEDM	July 2002	
PS70i	Destination sign Graphic	Layout of destination name	PEDM	July 2002	
PS71a	Colours	Specifications for paint, vinyl and timber colours.	PEDM	July 2002	
PS72a	Materials and Finishes	Specifications for timber, concrete, aluminium and paving	PEDM	July 2002	
PS72b	Surfaces and Materials Protection	Anti graffiti coating, and surface protection treatments	PEDM	July 2002	
PS73a	Graphics Reproduction	Graphic application methods for directional and interpretive signs.	PEDM	July 2002	
PS74a	Pictograms – Services	Symbols to recognise services available.	PEDM	July 2002	
PS74b	Pictograms – Information	Symbols to inform.	PEDM	July 2002	
PS74c	Pictograms – Activities, Access	Activities and symbols to assist people in wheelchairs, hearing and visual disabilities.	PEDM	July 2002	
PS74d	Pictograms – Regulations	Pictograms for prohibitory and regulation signs	PEDM	July 2002	

<b>Ref</b>	<b>Description</b>	<b>Principle</b>	<b>Document</b>	<b>Revision</b>
PS75a	Orientation Sign	Sign type used at Facility Nodes - providing a map and entry information	PEDM	July 2002
PS75b	Footings elevation	Front elevation/section of footing detail for Orientation and Map signs	PEDM	July 2002
PS75c	Footings section	Side elevation/section of footing detail for Orientation and Map signs	PEDM	July 2002
PS76a	Map sign	Sign type used at intersections - providing a map and directional information.	PEDM	July 2002
PS76b	Directional panels fixing	Method to attach directional slats to Map sign face	PEDM	July 2002
PS77a	Circulation sign	Sign type used to provide directional information at major pathway junctions.	PEDM	July 2002
PS77b	General Assembly	Assembly of directional 'finger blades' to post.	PEDM	July 2002
PS78a	Destination sign	Sign type used to identify a place or building name.	PEDM	July 2002
PS78b	Destination name fixing	Sign type used to identify a place or building name.	PEDM	July 2002
PS79a	Large Regulation sign	Fixing method for destination name sign plates.	PEDM	July 2002
PS80a	General assembly	Sign type used to advise regulations and/or warnings.	PEDM	July 2002
PS80b	Pad Footings FP1 and FP2	Footing & footing bracket assembly for Circulation, Destination and Regulation signs.	PEDM	July 2002
PS80c	Footings and bracket details	Typical pad footing details for all sign types.	PEDM	July 2002
PS81a	Minor Circulation sign	Footing & bracket details for Circulation, Destination and large Regulation signs.	PEDM	July 2002
PS82a	Small regulation sign	Sign type used to provide directional reinforcement at minor pathway junctions.	PEDM	July 2002



<b>Ref</b>	<b>Description</b>	<b>Principle</b>	<b>Document</b>	<b>Revision</b>
PS83a	Footing and bracket details	Sign type used to advise limitations and constraints.	PEDM	July 2002
PS84a	Plaques - In-ground	Footing & bracket details for minor Circulation and small Regulation signs.	PEDM	July 2002
PS85a	Commemorative sign	Commemorative or directional elements.	PEDM	July 2002
PS85b	General assembly	Freestanding sign with a plaque to remind or celebrate an event or person.	PEDM	July 2002
PS85c	Footing and Bracket details	Footing & bracket assembly to sign posts.	PEDM	July 2002
PS86a	RTA advance warning sign	Footing & bracket details for Commemorative plaque signs.	PEDM	July 2002
PS87a	Touch Screen Interpretive Sign	Vehicular directional sign type.	PEDM	July 2002
PS87b	Touch Screen Technology	High technology, audio visual interpretive tool.	PEDM	July 2002
PS88a	Large Interpretive Sign	Conceptual technology diagram.	PEDM	July 2002
PS89a	Medium Interpretive Sign	Sign type to provide a broad overview of interpretive information of the immediate vicinity.	PEDM	July 2002
PS89b	Medium Interpretive sign assembly	Sign type to provide site specific interpretive information.	PEDM	July 2002
PS89c	Footing and bracket details	Footing & footing bracket assembly for the Medium Interpretive sign.	PEDM	July 2002

# Design Guidelines



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# Design Guidelines

## Large Elements



Ref	Description	Principle	Document	Revision	LARGE ELEMENTS
LARGE ELEMENTS					
PLE0	Major Walls - Gabions	To be used for large scale retaining works	PEDM	July 2002	
PLE1	Minor Walls - Concrete	To be used where a high quality finish is required eg, park entries, car parks, etc	PEDM	July 2002	
PLE2	Typical Steps	For use on minor embankments	PEDM	July 2002	
PLE3	Typical Ramp	Material to match adjoining path type	PEDM	July 2002	
PLE4.01	Boardwalk - Typical Section	To be used in freshwater wetlands and mangrove areas	PEDM	July 2002	
PLE4.02	Boardwalk - Wetlands	Used to cross water-bodies in wetland areas	PEDM	July 2002	
PLE4.03	Boardwalk - Examples of Platforms	To be located at changes of direction and rest points	PEDM	July 2002	
PLE4.05	Boardwalk - Edge Details	Vary to suit viewing and interpretation opportunities	PEDM	July 2002	
PLE5.01	Footbridge	To be used where terrain becomes rough or water course cuts across path	PEDM	July 2002	
PLE5.02	Boardwalk - Balustrade Details	For use above height of 600mm	PEDM	July 2002	
PLE5.03	Boardwalk - Balustrade Details	For use above height of 600mm	PEDM	July 2002	
PLE6.01	Brick Pit Viewing Platforms	To be used at selected places on Brick Pit rim only	PEDM	July 2002	
PLE6.02	Platforms - Haslams Creek	Associated with pathways along Haslams Creek	PEDM	July 2002	
PLE6.03	Platforms / Lookouts	Informal and hill top lookouts	PEDM	July 2002	
PLE6.04	Formal Lookout – concrete / stone wall	Formal viewing lookouts	PEDM	July 2002	
PLE7.01	Picnic Shelter	For use in various locations throughout the Parklands			
PLE7.02	Picnic Shelter - Siting	Should be sited along edges of clearings	PEDM	July 2002	
PLE7.03	Picnic Shelter - Elevations / Plan		PEDM	July 2002	
PLE7.04	Picnic Shelter	Materials & drainage options	PEDM	July 2002	

Ref	Description	Principle	Document	Revision
PLE7.05	Picnic Shelter	Construction details	PEDM	July 2002
PLE7.06	Picnic Shelter - Enclosing Walls	May be introduced to provide shelter or privacy	PEDM	July 2002
PLE7.07	Picnic Shelter - Roof Edges	Can be modified to introduce filtered light	PEDM	July 2002
PLE7.08	Picnic Shelter - Large Formats	Standard extended to cater for larger groups	PEDM	July 2002
PLE8	Parklands - Shade Structure	For use where permanent shade is required	PEDM	July 2002
PLE9	Barbecue	To be installed adjacent to picnic shelters	PEDM	July 2002
PLE10	Enclosure Wall Unit / Drinkstation	To provide further functional extensions & amenities to picnic shelters	PEDM	July 2002
PLE11	Vehicle Gate	To be used where necessary to block vehicular access	PEDM	July 2002
PLE12	Vehicle Barrier	To be used where necessary to control vehicular parking & access	PEDM	July 2002
PLE13	Bird Hide	TBC	PEDM	TBC
PLE14	Shade Structures	Off the shelf	PEDM	July 2002

### **Approach to Large Elements** (see *Introduction to Selected Large Elements* for further information)

- Ecological sustainability
- Longevity
- Adaptability
- Currency of approach
- Form
- Cost effectiveness
- Assemblage / directness
- Direct use of materials
- Siting / application

## **Introduction**

The following section outlines the design rationale and design details for the large elements of the Parklands Elements Design Manual and builds upon ideas embodied in the Concept Development Report (HASSELL, 1998). This document should be seen as a guide to future designers and aims to ensure the development of detailed designs for Sydney Olympic Parklands that will be consistent site wide.

For more information in relation to the material palette selected for individual elements refer to Appendix A. For briefing notes specific to each elements' siting, program requirements, intended function and level of use, as well as more general notes on Parklands design, maintenance and management considerations, refer to Appendix B.

## **Design Approach**

The landscape of Sydney Olympic Park is not intended to be seen as a fixed element but as an ongoing process of nature evolving.

A primary objective of the Parklands Concept plan is to ensure that users receive an experience of nature that is as close as possible to that obtainable from immersion in pristine environments of a similar type. Hence it is the landscape itself and the lessons of its re-creation on remediated land that should be implicit and integral to the Parklands experience.

The resulting experience of Sydney Olympic Park will be one of juxtaposition; of the subtle complexities of nature and the contrasting spectacle of the Sydney Olympic Park Urban Core's built environment.

The Parklands elements should contribute to this juxtaposition while being in harmony with the landscape of the Parklands. They should be designed and positioned so as to strike an empathy with the landscape and reinforce and enhance the experience of the setting.

Elements should generally be easily demountable and removable, leaving little trace on the underlying landscape.

## **Role within Parklands**

The role of the Parklands Elements will be to assist visitors to enjoy and appreciate the Parklands environment. In particular, Parklands elements will, where appropriate, provide:

- a heightened experience for visitors;
- appreciation of the landscape and its natural systems and processes;
- access to the park environs for all;
- shelter from the elements;
- comfort through provision of seating, amenities and drink stations;
- legibility and understanding of the Parklands through their layout, the use of signage and interpretive text.

## **Characteristics**

Elements should be of a high quality and designed to exhibit the following characteristics:

### **\* Ecological Sustainability**

Elements should have minimal physical impact upon the landscape, to preserve the integrity of the landscape and to allow the flexibility of future generations to utilise the Parklands as they see fit. Elements should be demountable, if possible, leaving little trace.

Elements should use sustainable and or recycled materials with low levels of embodied energy. They should also display an economy of means and minimise energy consumption in their installation, maintenance and ultimately in their removal and disposal.

### **\* Longevity**

Elements should be designed to be long lasting, preferably developing character over time, and where possible, involve minimum maintenance. Elements should be designed so that component parts can be replaced easily if they become damaged or require renewal. In order to achieve consistency throughout the development of the Parklands, materials and finishes should be selected which are ageless or are unlikely to be discontinued.

### **\* Adaptability**

Elements should be designed to allow unrestricted use of the Parklands for both the current and future programs of use.

### **\* Currency of Approach**

Elements should reflect a currency in their design and use of available technologies and in effect become reflections of the aspirations of their era.

### **\* Form**

The form of the various Parklands elements should be purposeful, responding to their program of uses. However, this needs to be balanced with the contextual ideal that the elements exist in harmony with the landscape and reinforce the landscape character.

### **\* Cost Effectiveness**

Elements should be designed to provide cost-effective solutions through the appropriate selection of materials and practical methods of construction.

### **\* Assemblage/Directness**

The assemblage of materials and components should exhibit directness and should be reduced to those which are essential to the elements' function. A variety of complex structural systems to suit individual locations should be resisted in favour of the development of a structural system and method of detailing that is flexible and able to be adapted to cater for a range of elements and site applications.



## ***Introduction to Selected Large Elements***

### **\*Material Selection**

The Parklands elements should exhibit a responsible and direct use of materials. For these reasons, a simple palette of materials has been chosen (refer to Appendix A for a detailed list of each element and its material breakdown).

### **\* Siting/Application**

The elements are in the majority of instances to be sited within or on the fringes of the forested 'walls' that form the major movement corridors throughout the Parklands. In this way the elements do not become spectacles in themselves but instead become integral to the landscape experience. For specific siting notes which apply to each individual element refer to Appendix B or for more information refer to the Millennium Parklands Concept Development Plans and Report (HASSELL, 1998).

# Design Guidelines



## Major Walls - Gabions

### MATERIAL:

Galvanised prefabricated wire baskets filled with suitable rock material

### COMPOSITION:

Rock can be hand faced to suit or machine placed if not visually significant.

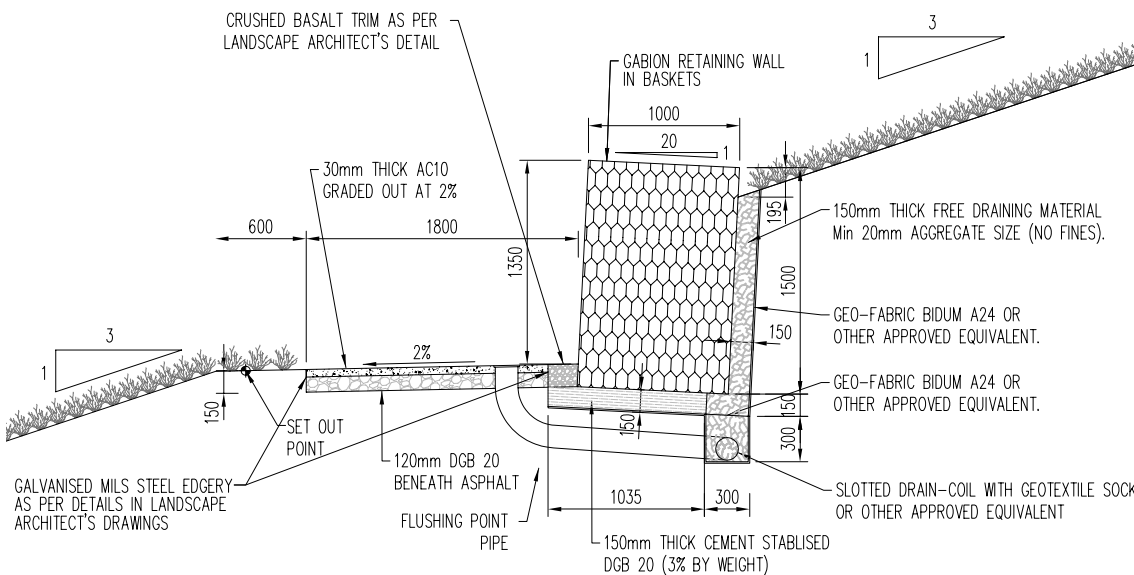
### CONSTRUCTION:

To engineers final specification

### NOTE:

Basket size:

- 1000 x 1000 x 2000 (standard)
- 500 x 500 x 2000



### SECTION 1:50

CONTEXT Landscape Design

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

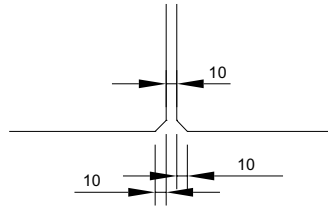
DESIGN INTENT ONLY

PLEO

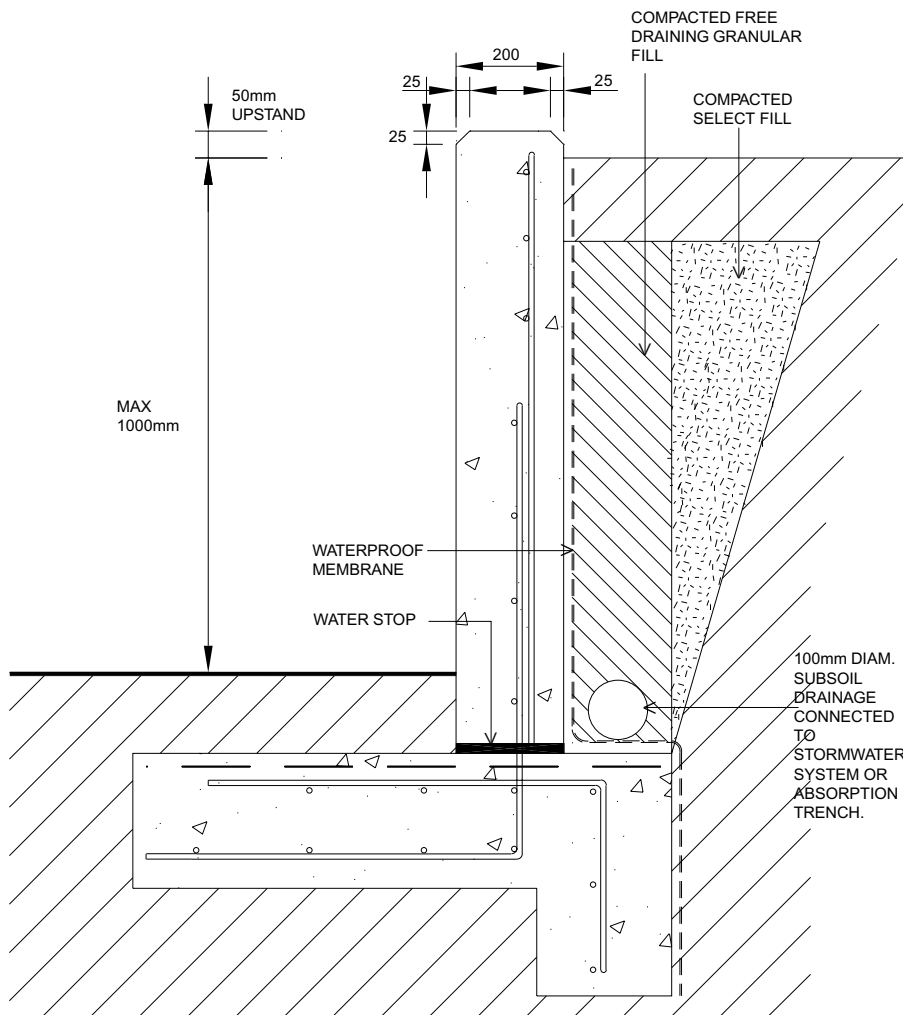
# Design Guidelines

## Minor Walls - Concrete

These walls may be used in areas adjacent to the urban core, Parklands entries, car parks and other zones where a high quality finish is desirable and/ or the use of a gabion wall is not appropriate.



TYPICAL VERTICAL JOINT DETAIL PLAN



### MATERIALS/ FINISH:

- Unfinished concrete.
- White cement, selected sand 'Nepean river gravel' aggregate (20mm) .
- Steel reinforcing.
- Light sand blasted finish.
- Vertical joints at 2000 mm max. centres.
- Matt finish anti graffiti paint.

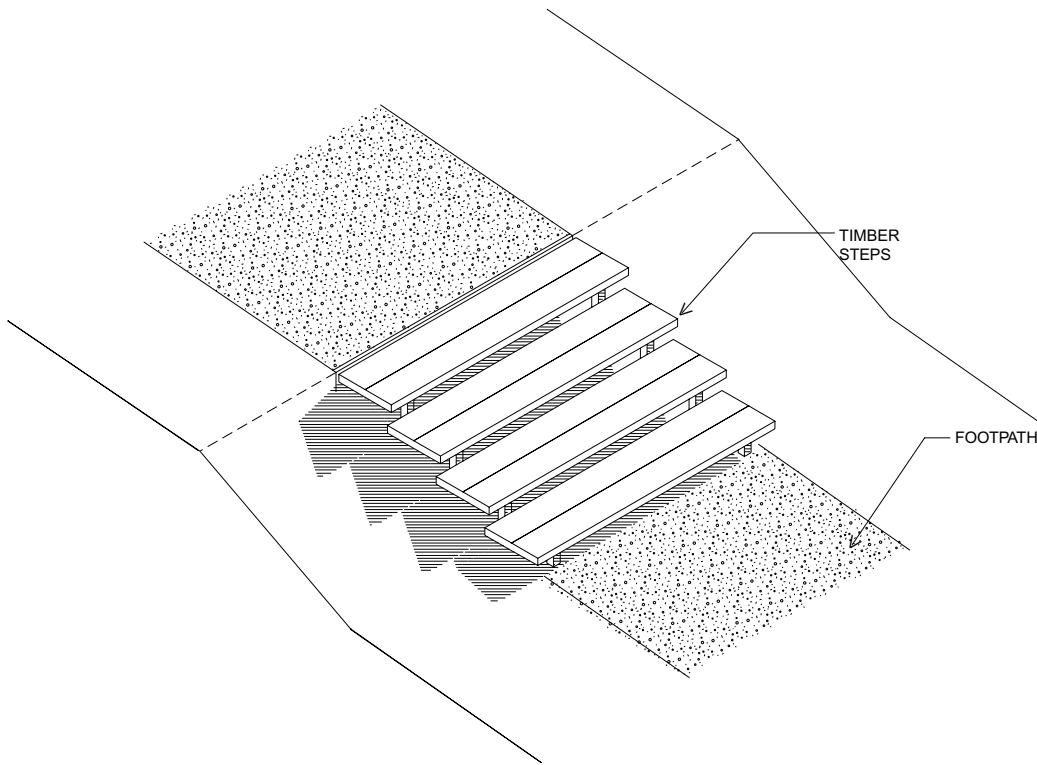
NOTE: Wall can also be used as a freestanding element to act as support base for other attachments ie. signs, seats, bins, bike racks etc.

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PLE1**

# Design Guidelines



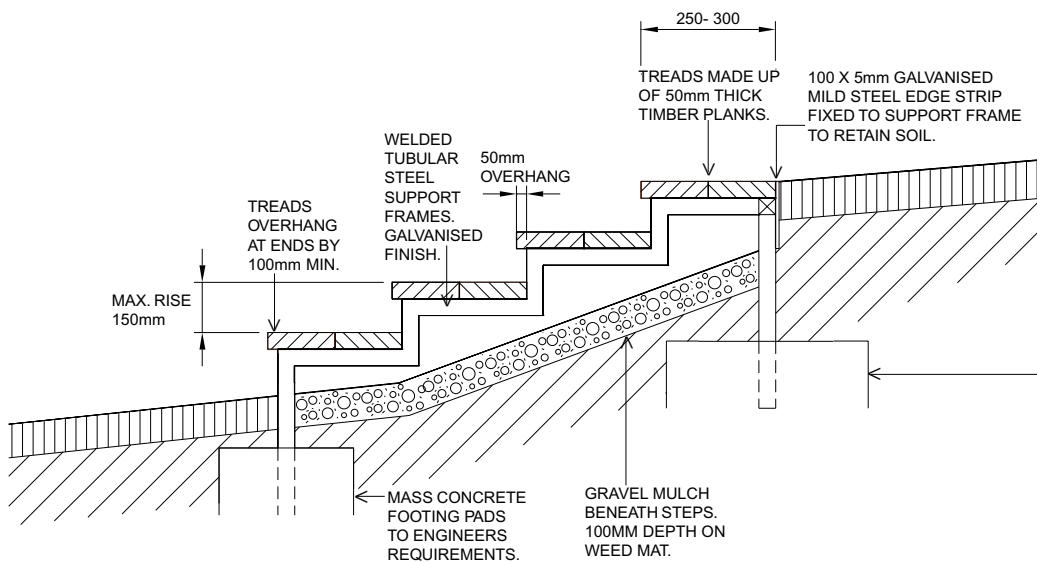
## Typical Steps

Steps are intended for use on minor embankments. Similar principles of design can be applied to more extended applications.

### MATERIAL/ FINISH:

Treads: Class 1, F17 sawn finish recycled hardwood structural timbers (preferred). Alternative is treated timber with Copper Azole. All timber left unfinished. Support frame: fully welded galvanised SHS tube.

NOTE: Overall width to suit pathway. For details outlining the application/ use of balustrades refer PLE4.04 (Boardwalk Balustrade Details).



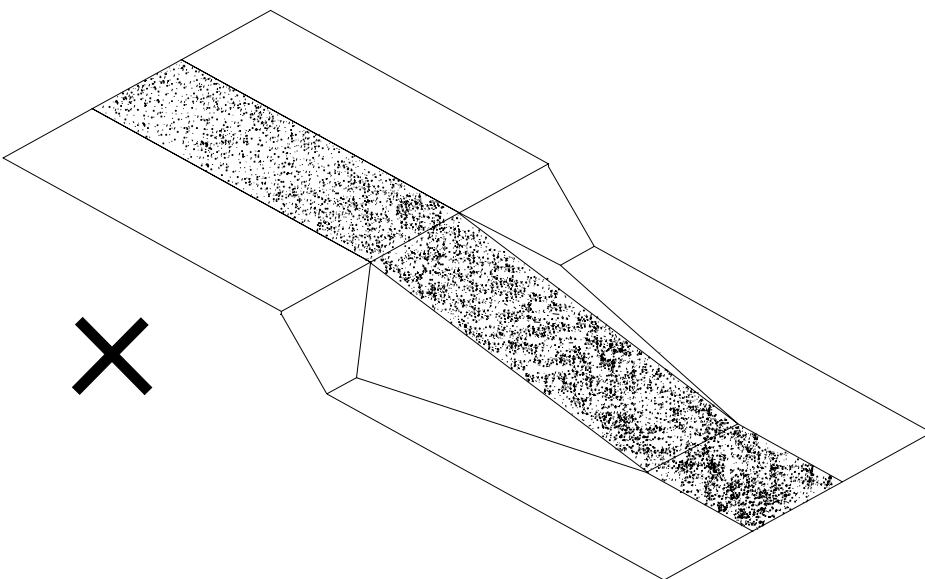
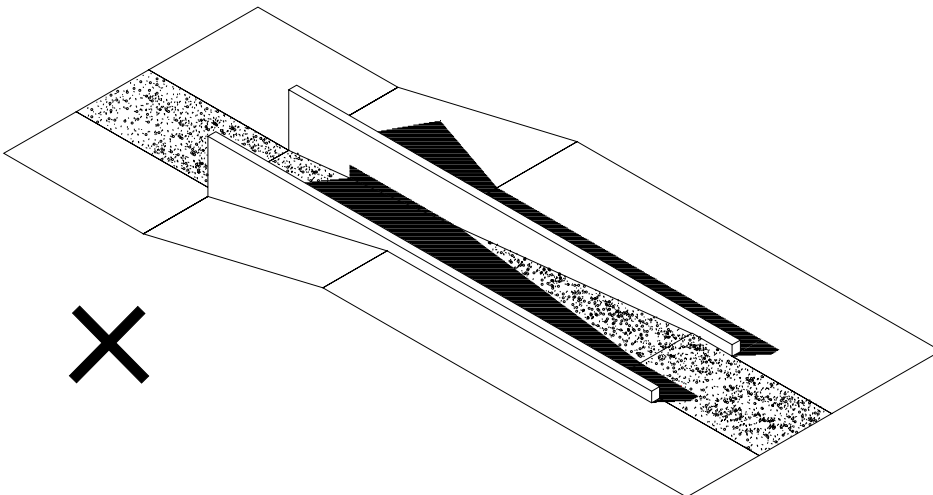
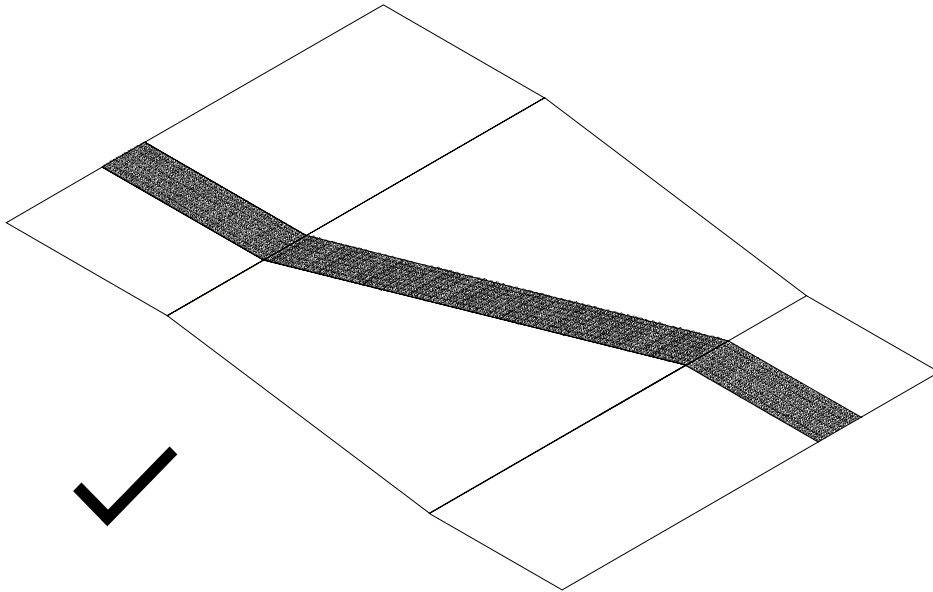
FOOTING DETAIL SHOULD RESPOND TO GROUND CONDITION WHICH MAY INCLUDE REMEDIATED SOIL.

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE2

# Design Guidelines



## Typical Ramp

Ramps should conform to the requirements of AS1428.1- 'Design for Access and Mobility' and the 'Sydney Olympic Parklands Access Strategy'.

Ramp materials are to match the adjoining path type. Refer Paving section of PEDM for details of path materials.

Pathways and ramps should be designed to follow natural landform and have minor visual impact.

Ramps cut into ground and thereby requiring retaining walls should be avoided.

Ramps requiring earth fill and banks should be avoided.

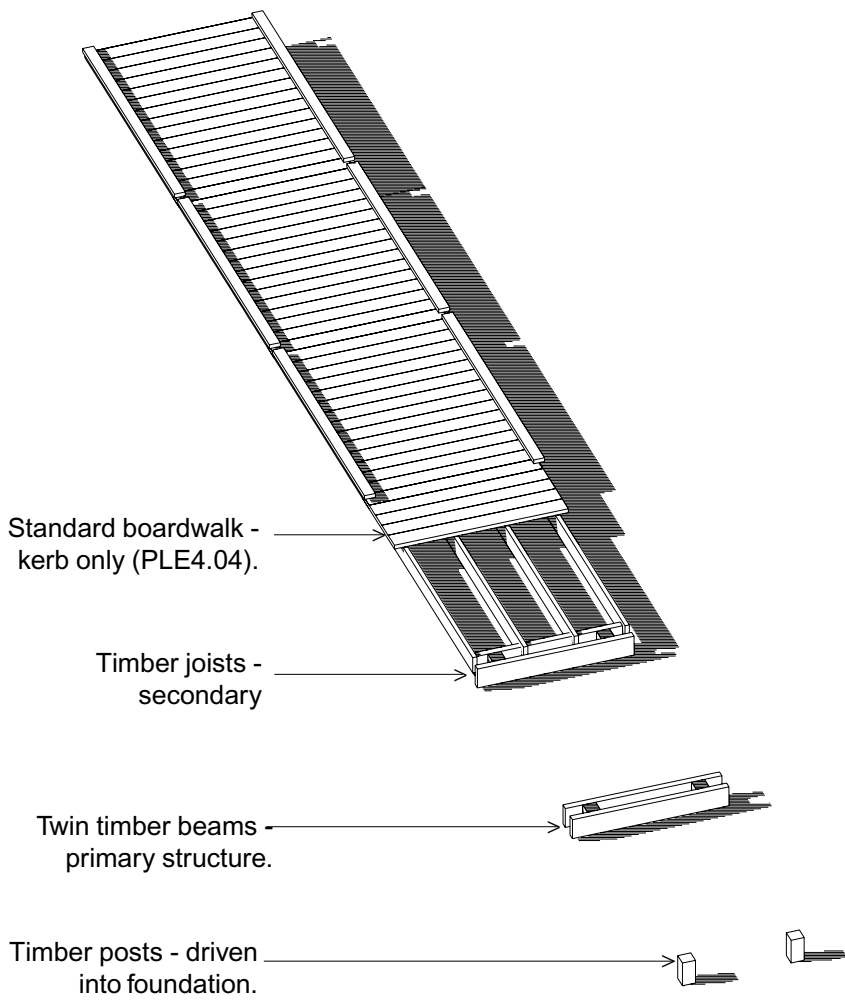
Note: For details outlining the appropriate application of balustrades refer PLE4.04 (Boardwalk Balustrade Details).

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE3

# Design Guidelines



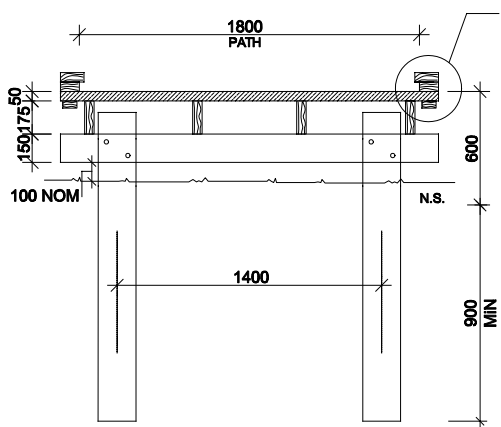
## Boardwalk Typical Section

Boardwalks are used in freshwater wetlands and in tidal mangrove areas.

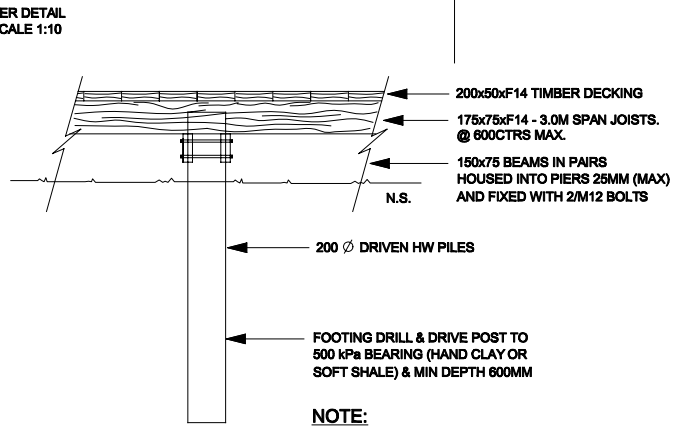


### MATERIALS:

Class 1, F17 sawn finish recycled hardwood structural timbers and decking (preferred). Alternative is treated timber with Copper Azole. All timber left unfinished. Galvanised mild steel structural steel elements. Galvanised bolts and other fixings.



**CROSS SECTION**  
Mather & Associates



**LONG SECTION**  
(NOTE: KERB NOT SHOWN)

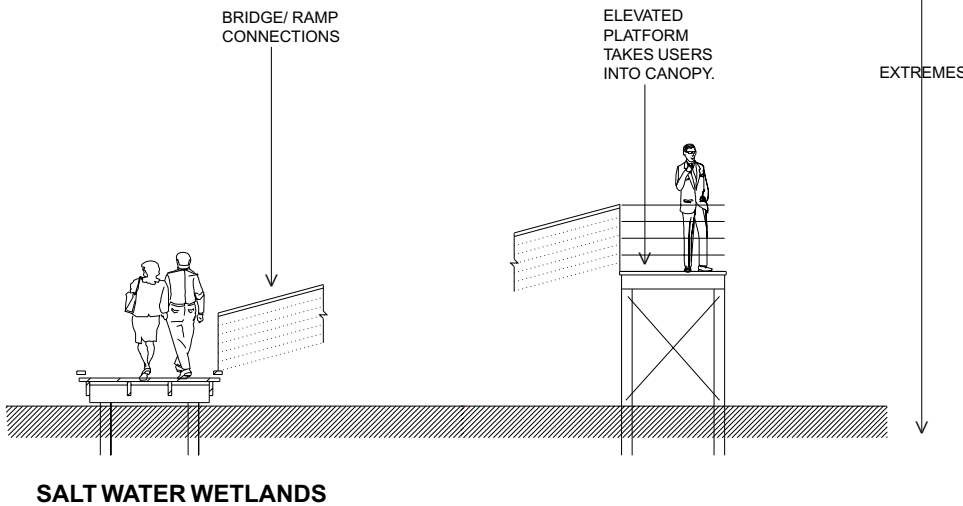
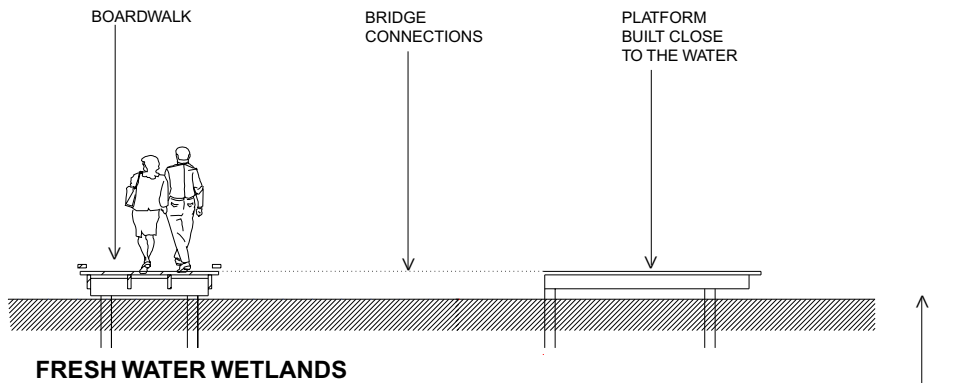
**NOTE:**  
1. DESIGN LOADING 4.5kN POINT LOAD 4.0kPa U.D.L.  
2. TIMBER SIZE b FOR RECYCLED HARDWOOD

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

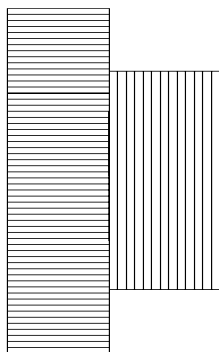
**DESIGN INTENT ONLY**

**PLE4.01**

# Design Guidelines

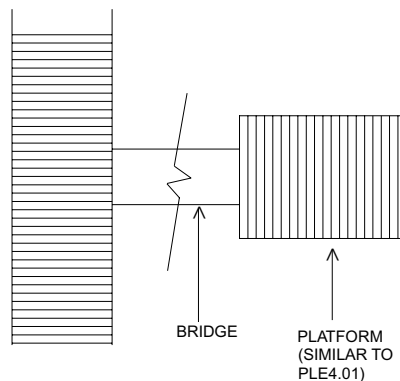


PLATFORM DIRECTLY ALONGSIDE BOARDWALK.



**PLAN FORMS**

ELEVATED PLATFORM. THE CONNECTION BETWEEN THE BOARDWALK AND THE PLATFORM MAY TAKE THE FORM OF A RAMP.



## Boardwalks Wetlands

Boardwalks will be used to cross water bodies and connect islands throughout wetlands areas. In freshwater wetlands boardwalks will be constructed low to the water to allow park users close access to the wetland vegetation and to make the boardwalks visually unobtrusive.

Boardwalks can be extended by the use of lookout platforms which will be placed at points of visual interest. These platforms may be placed directly alongside and at the same level as the boardwalk or away from and elevated above the boardwalk system. This elevated form of platform can be used for viewing the upper reaches of the mangrove foliage.

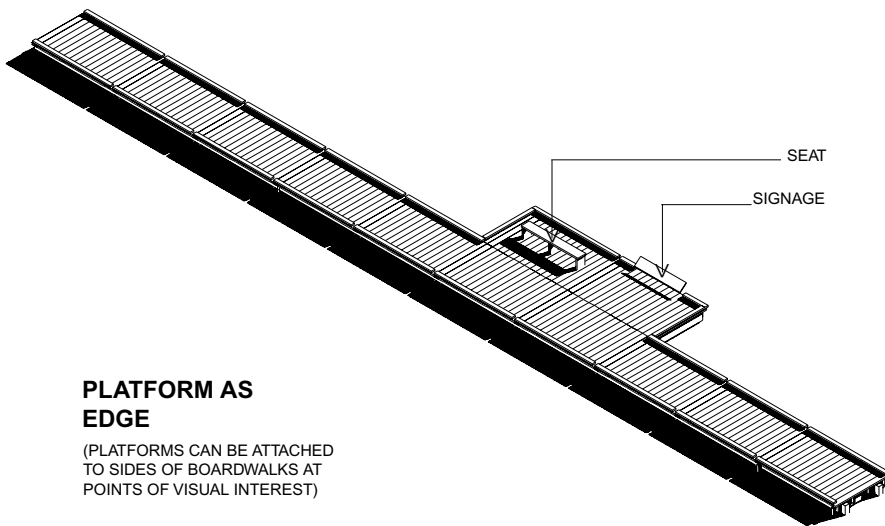
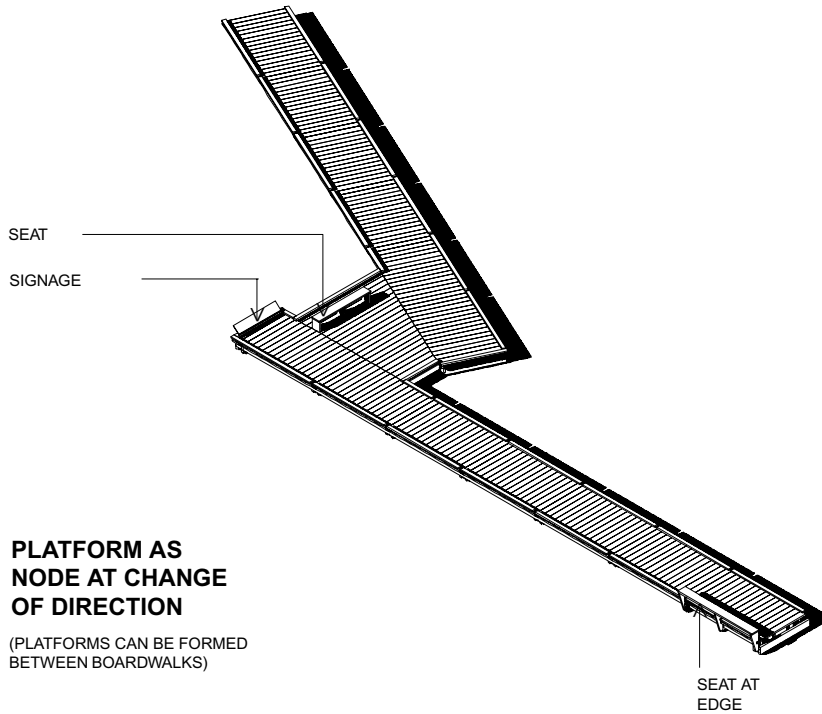
ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PLE4.02**



# Design Guidelines



## Boardwalks Examples of platforms

*Platforms should be located at logical changes of direction and rest points which take advantage of viewing and interpretive opportunities.*

Locations of seats and signage are shown as a guide only.

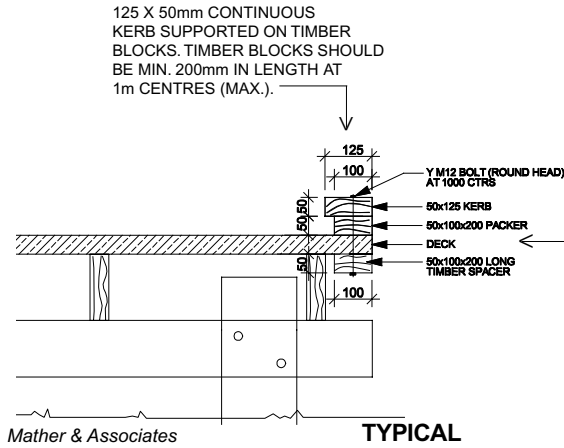


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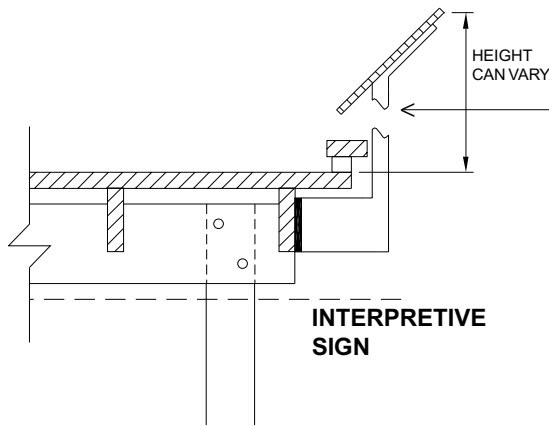
DESIGN INTENT ONLY

PLE4.03

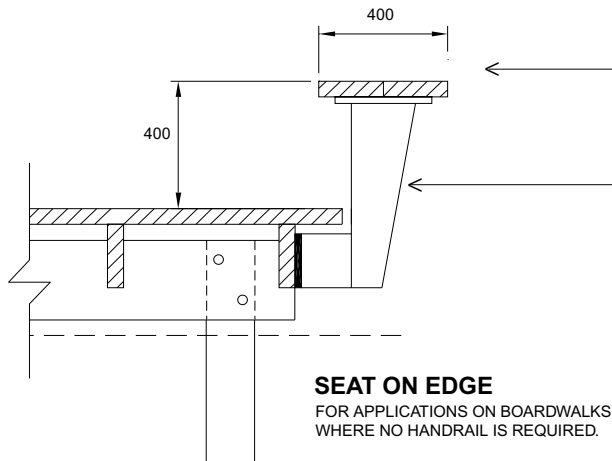
# Design Guidelines



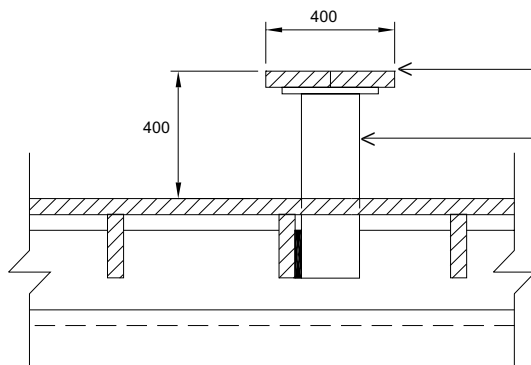
**TYPICAL KERB**



**INTERPRETIVE SIGN**



**SEAT ON EDGE**  
FOR APPLICATIONS ON BOARDWALKS WHERE NO HANDRAIL IS REQUIRED.



**SEAT ON BOARDWALK**

## Boardwalk Edge Details

Edge conditions may vary to suit viewing and interpretation opportunities, safety considerations and rest points.

NOTE: Kerb height to conform to requirements of AS 14281.1: 'Design for Access and Mobility'.

Galvanised steel bracket supports for sign board fixed to boardwalk structure.

200 x 50mm timber boards.

Galvanised steel bracket support fixed to boardwalk structure.

200 x 50mm timber boards.

Galvanised steel bracket support fixed to boardwalk structure.

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

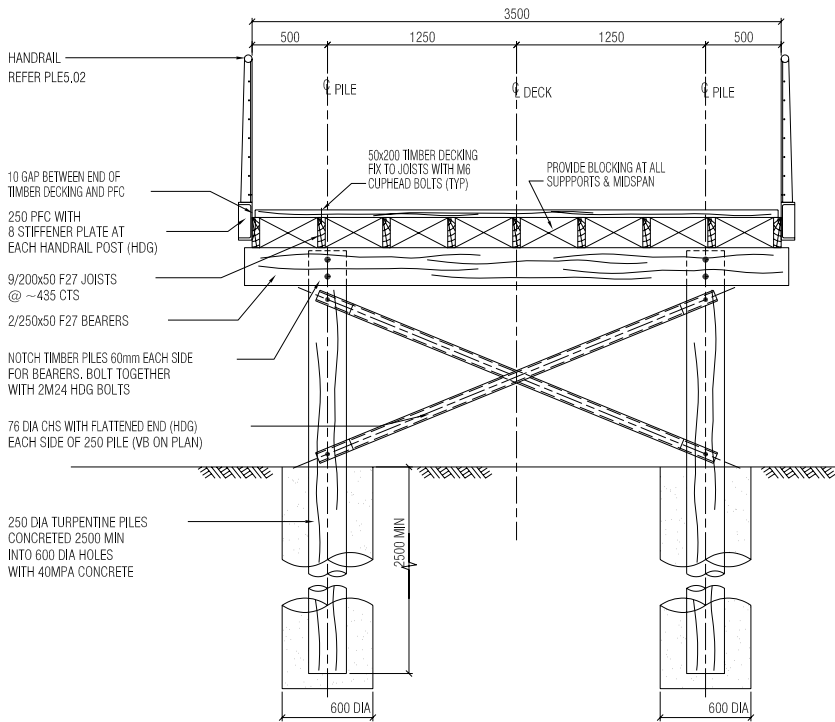
**DESIGN INTENT ONLY**

**PLE4.05**

# Design Guidelines

## Pedestrian Footbridge

Footbridges can be introduced at sections along paths where a balustrade is required; i.e. where the terrain becomes too rough or steep, or where a water course cuts across the path.

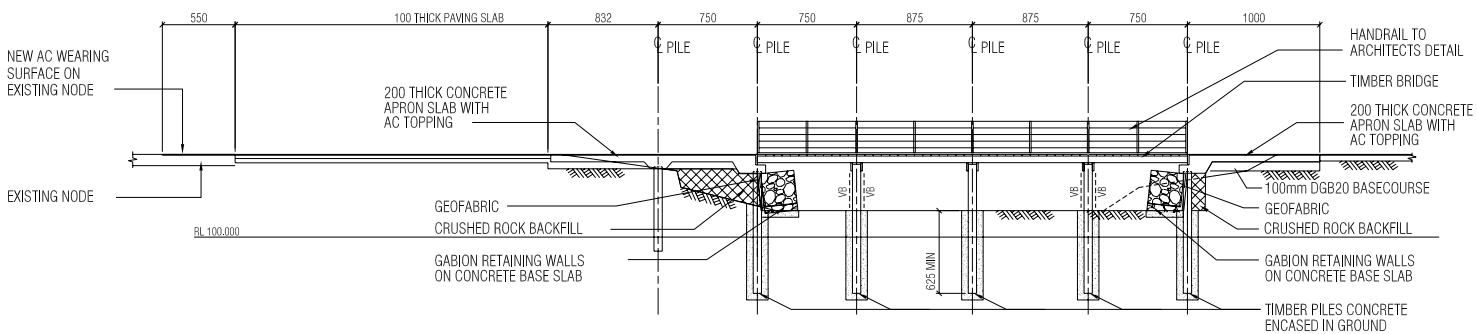


### MATERIALS/ FINISHES:

Class 1, F17 sawn finish recycled hardwood decking and support structure.  
 Timber decking natural oil finish.  
 Galvanised mild steel structural steel elements.  
 Galvanised steel balustrading  
 Stainless Steel wires with turnbuckles.

### NOTES:

Refer PLE 5.02 for Balustrade details



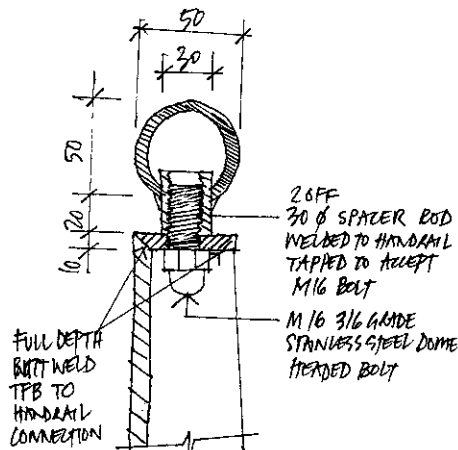
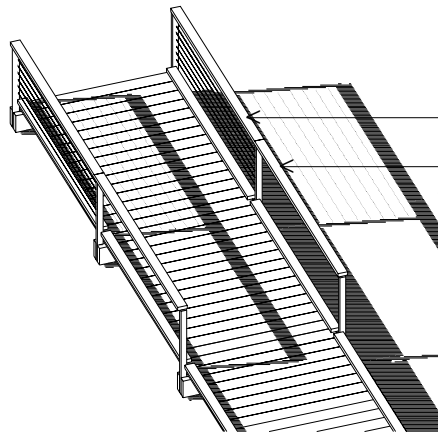
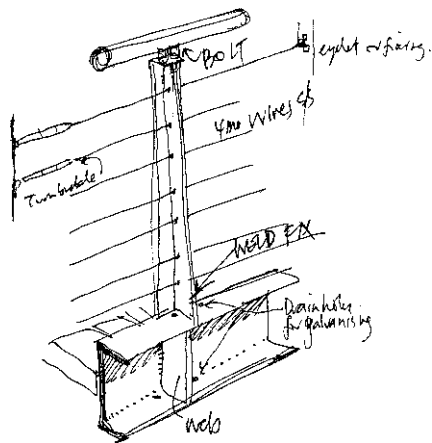
Clouston Associates

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

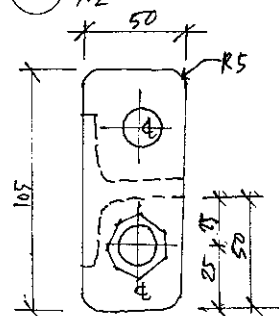
DESIGN INTENT ONLY

PLE5.01

# Design Guidelines



**A HANDRAIL CONNECTION**  
1:2



**HANDRAIL CONNECTION**  
1:10

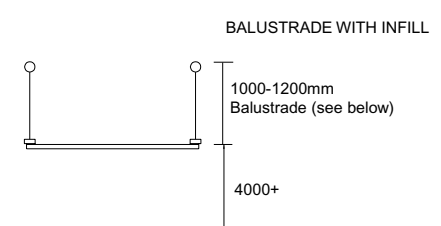
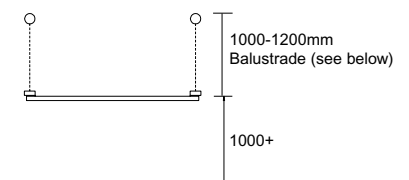
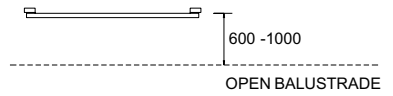
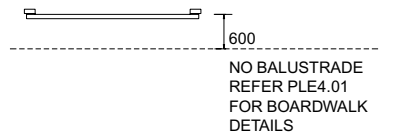
## TYPICAL PLAN & SECTION 1:20

Clouston Associates

## Pedestrian Footbridge Balustrade Details

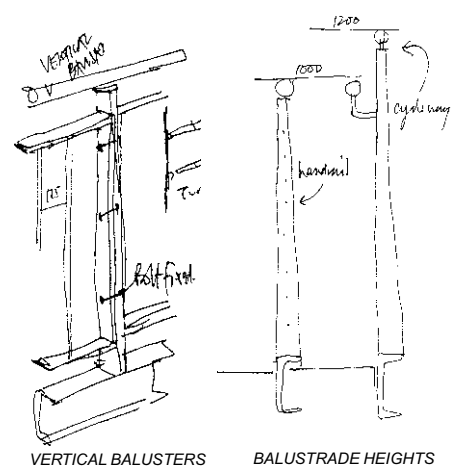
Balustrade with infill

Open balustrade



BALUSTRADE WITH VERTICAL BALUSTERS

## BALUSTRADE CONDITIONS



VERTICAL BALUSTERS BALUSTRADE HEIGHTS

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**  
**PLE5.02**

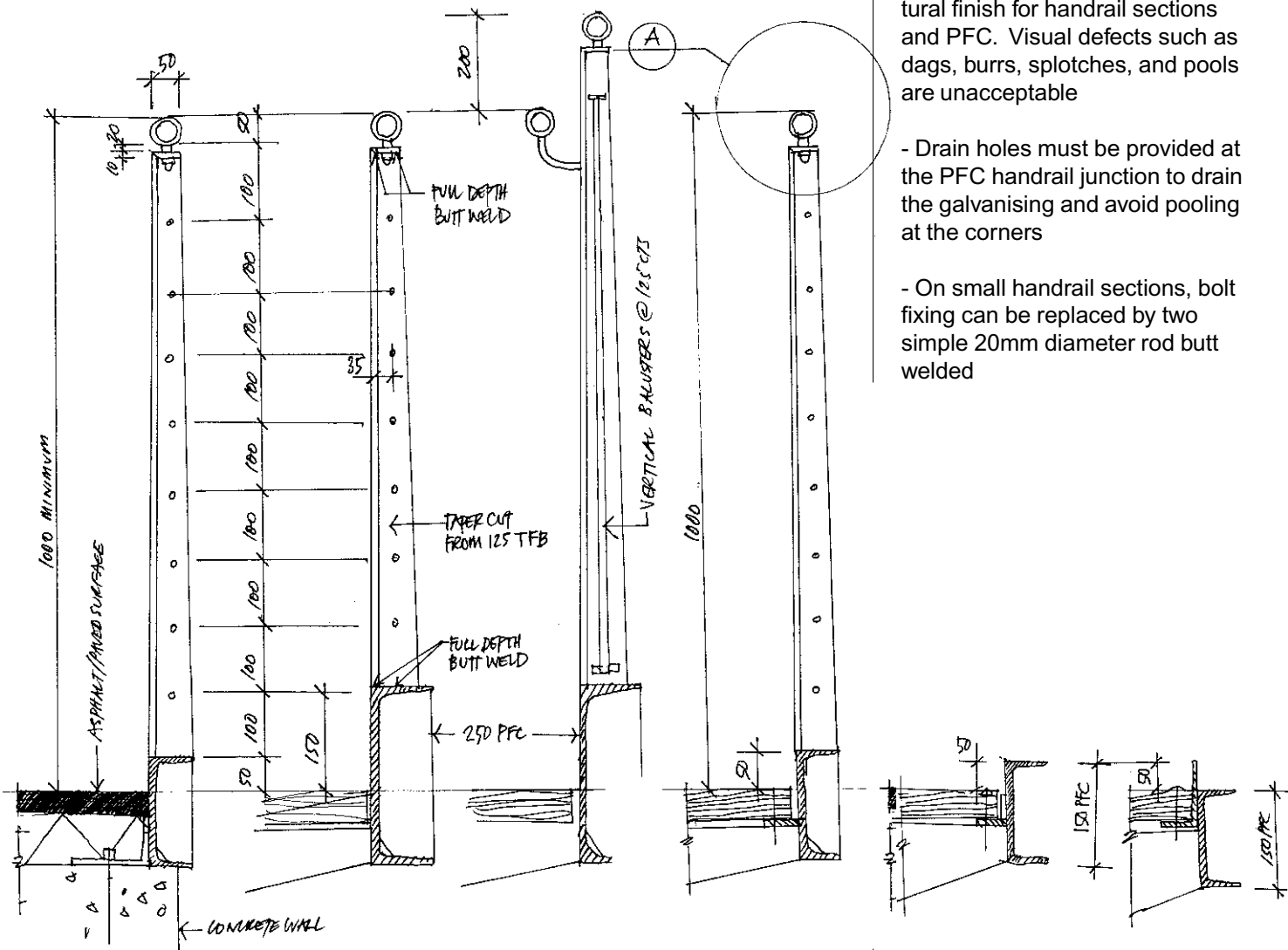
# Design Guidelines

## Pedestrian Footbridge Balustrade Details

Minor variations to balustrade details suit different applications and construction situations.

### MATERIALS/ FINISHES:

- The taper cut TFB should be full depth butt weld to the PFC. The inside / visible face should be ground smooth
- Bolt fixings are M16
- Galvanising to be an Architectural finish for handrail sections and PFC. Visual defects such as dags, burrs, splashes, and pools are unacceptable
- Drain holes must be provided at the PFC handrail junction to drain the galvanising and avoid pooling at the corners
- On small handrail sections, bolt fixing can be replaced by two simple 20mm diameter rod butt welded



### TYPICAL SECTIONS 1:20

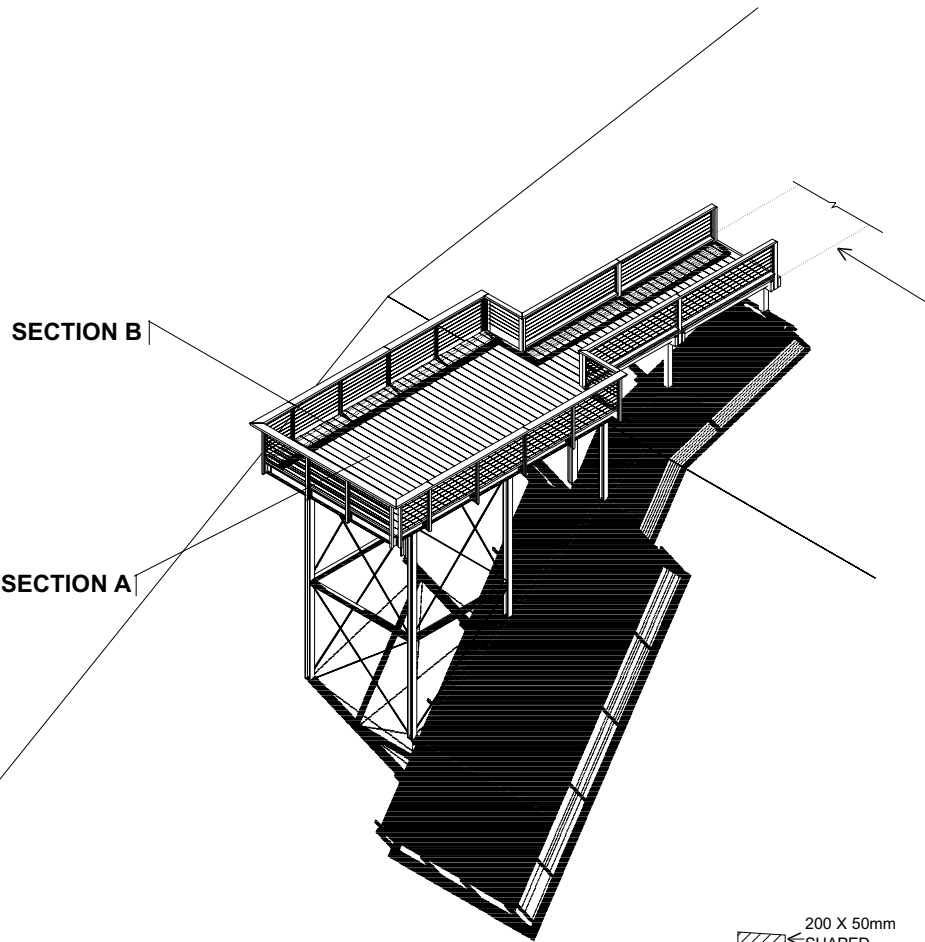
Clouston Associates

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE5.03

# Design Guidelines



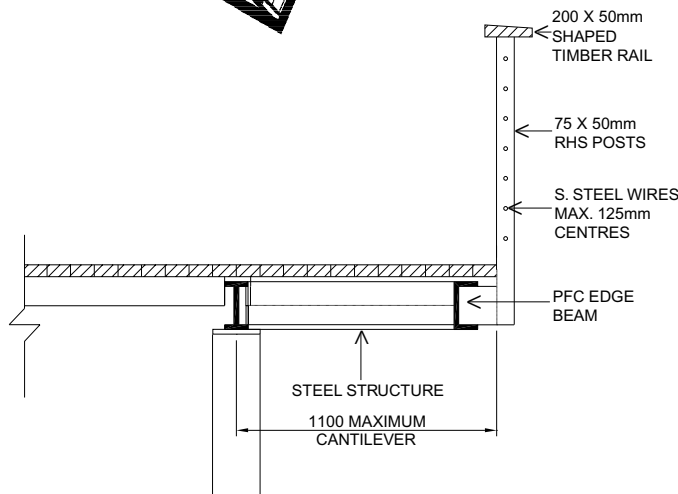
SECTION B

SECTION A

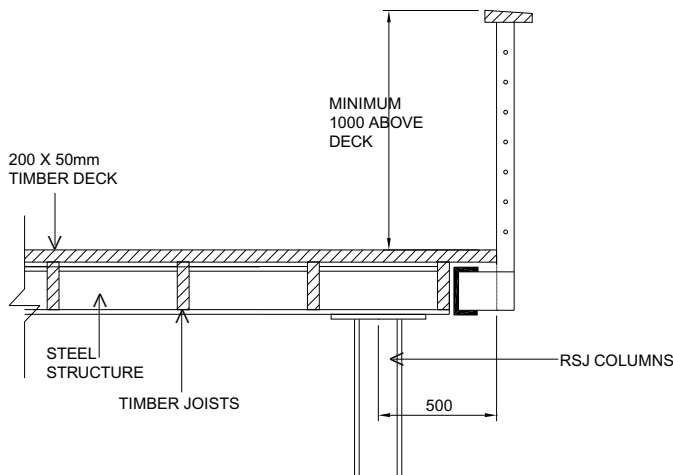
## Brickpit Viewing Platforms

*Plan form of platform may vary to suit the situation. Seating may be provided as required.*

Approach bridge extended as required.



SECTION A



SECTION B

### MATERIALS/ FINISHES:

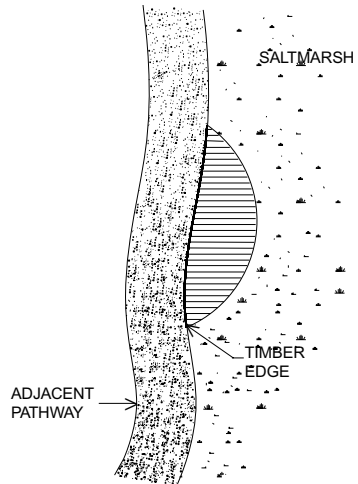
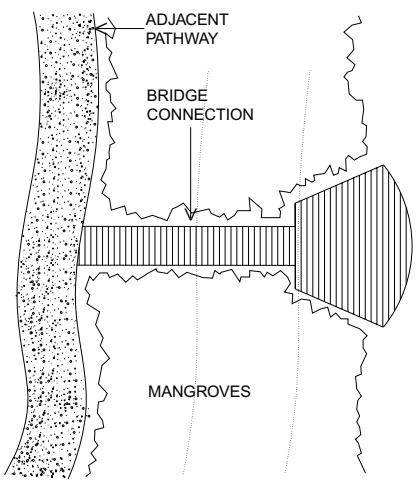
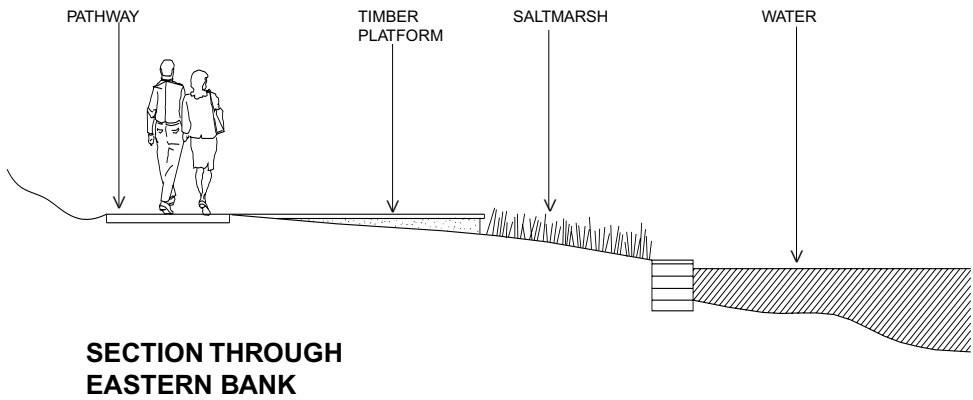
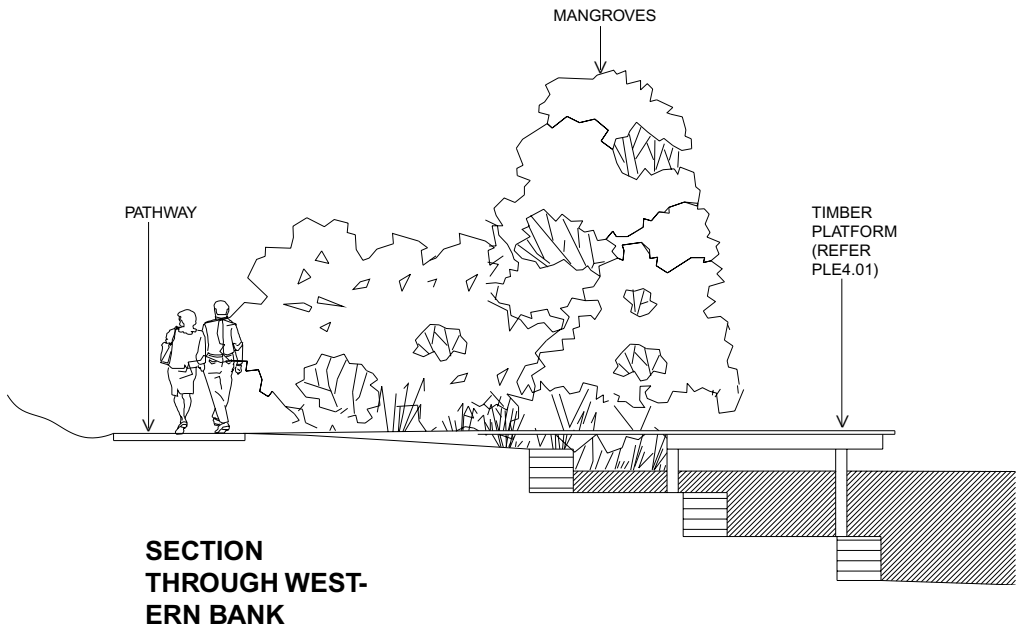
Class 1, F17 sawn finish recycled hardwood decking and support structure.  
 All timber left unfinished.  
 Galvanised mild steel structural steel elements.  
 Stainless steel balustrading wires with turnbuckles.

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE6.01

# Design Guidelines



## Platforms Haslams Creek

Lookout platforms associated with pathways along Haslams Creek can take two different forms. Those constructed along the western edge of the creek are built over the gabion wall system and can extend further into the mangrove and will take the form of a bridge and deck. Those constructed along the eastern side will tend to be closer to the shore and can take a more organic free form.

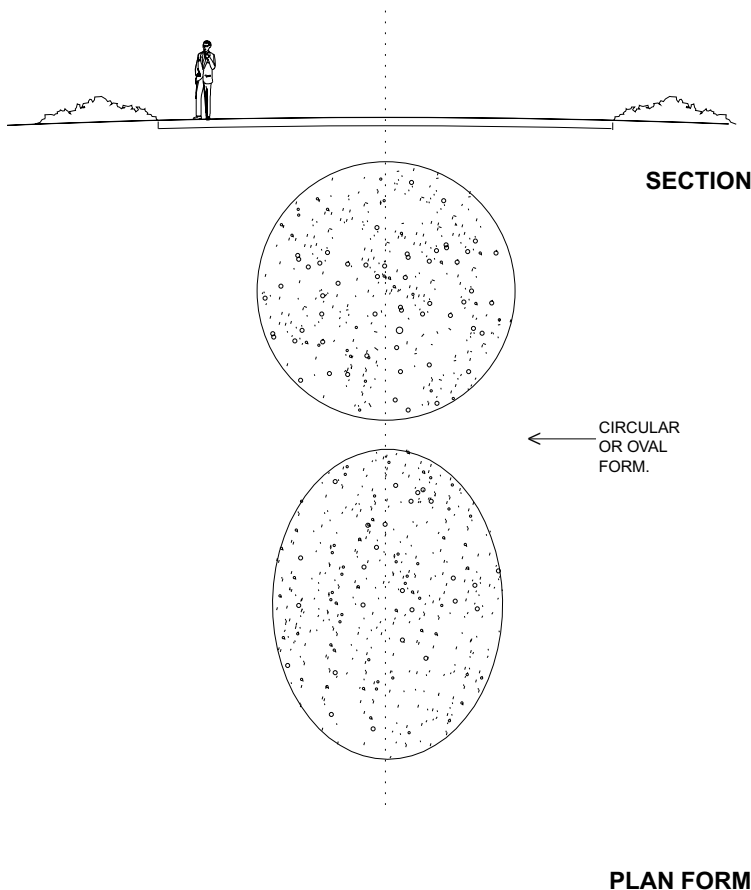
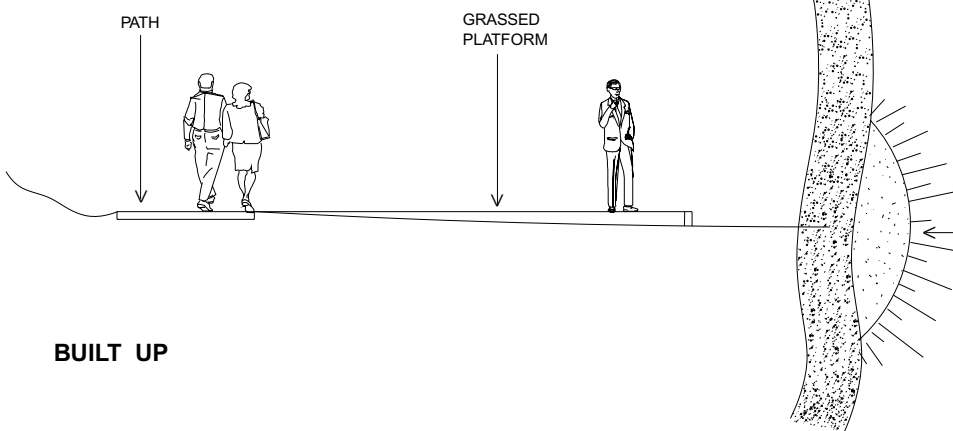
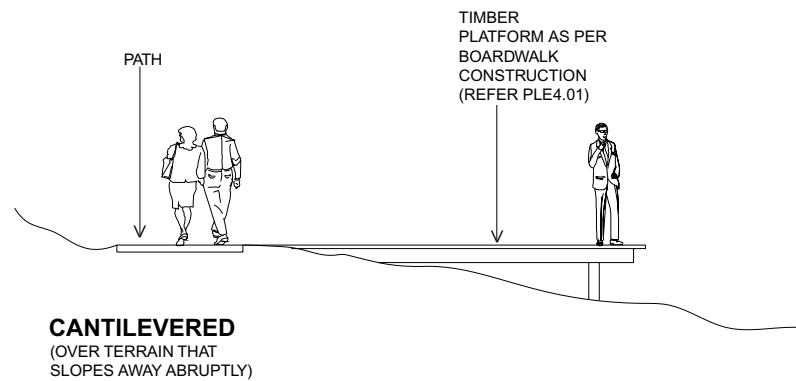
ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

**PLE6.02**



# Design Guidelines



## Platforms/ Lookouts

### Informal Lookouts

Lookout platforms can be situated along pathways to capitalise on vantage points. Where the terrain is steeply sloping the platform can be constructed of timber. Design detailing similar to that used for boardwalk construction can be used.

Where the terrain is gently sloping the platform can take the form of a grassed clearing defined by a timber edge strip. Both types of lookout should be free form in plan shape.

TIMBER OR GRASS PLATFORM SHOULD BE FREE FORM IN PLAN SHAPE

### PLAN FORM

### Hill top Lookouts

Lookouts on the tops of the remediated landforms and markers should be roughly oval in shape and should be treated as follows:

Markers: grass

Mounds: insitu concrete with dowelled joints - refer PP13a for washed concrete pavement detail.

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE6.03

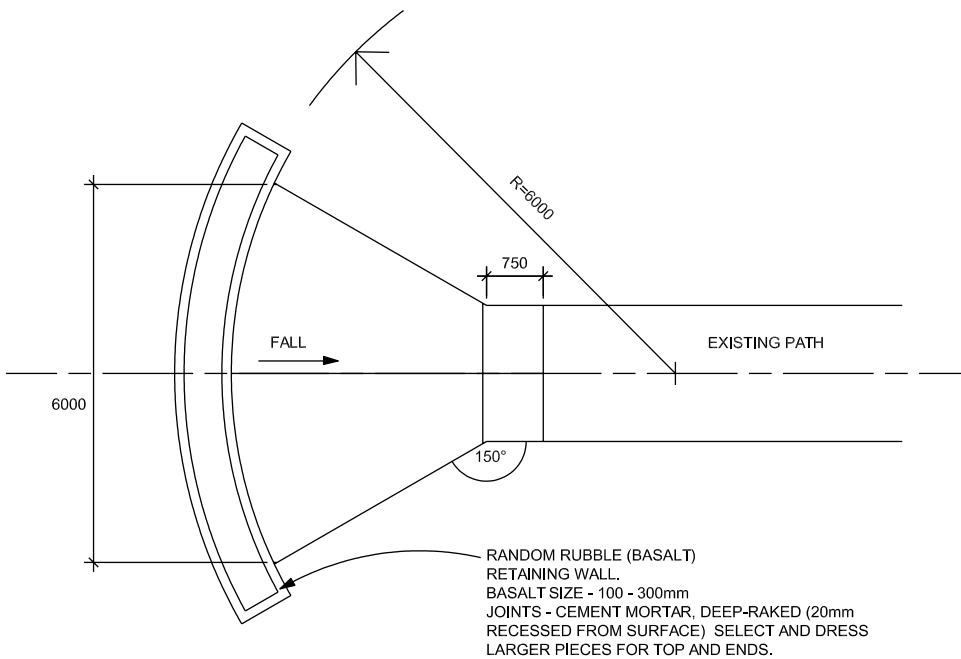
# Design Guidelines



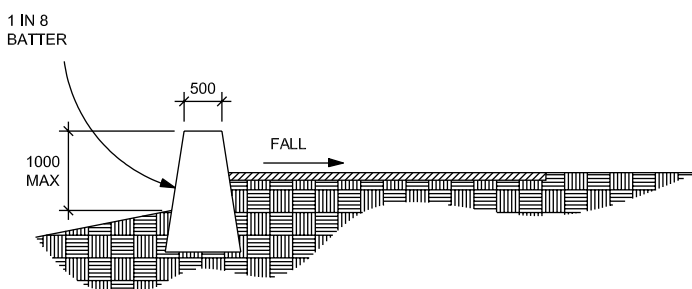
## Formal Lookouts - concrete / stone wall

**MATERIAL/FINISH:**  
Random rubble (basalt) retaining wall. Exposed aggregate concrete paving.

**COMMENTS:**  
Refer PP13a for washed concrete pavement detail.



PLAN



SECTION

Knox & Partners

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

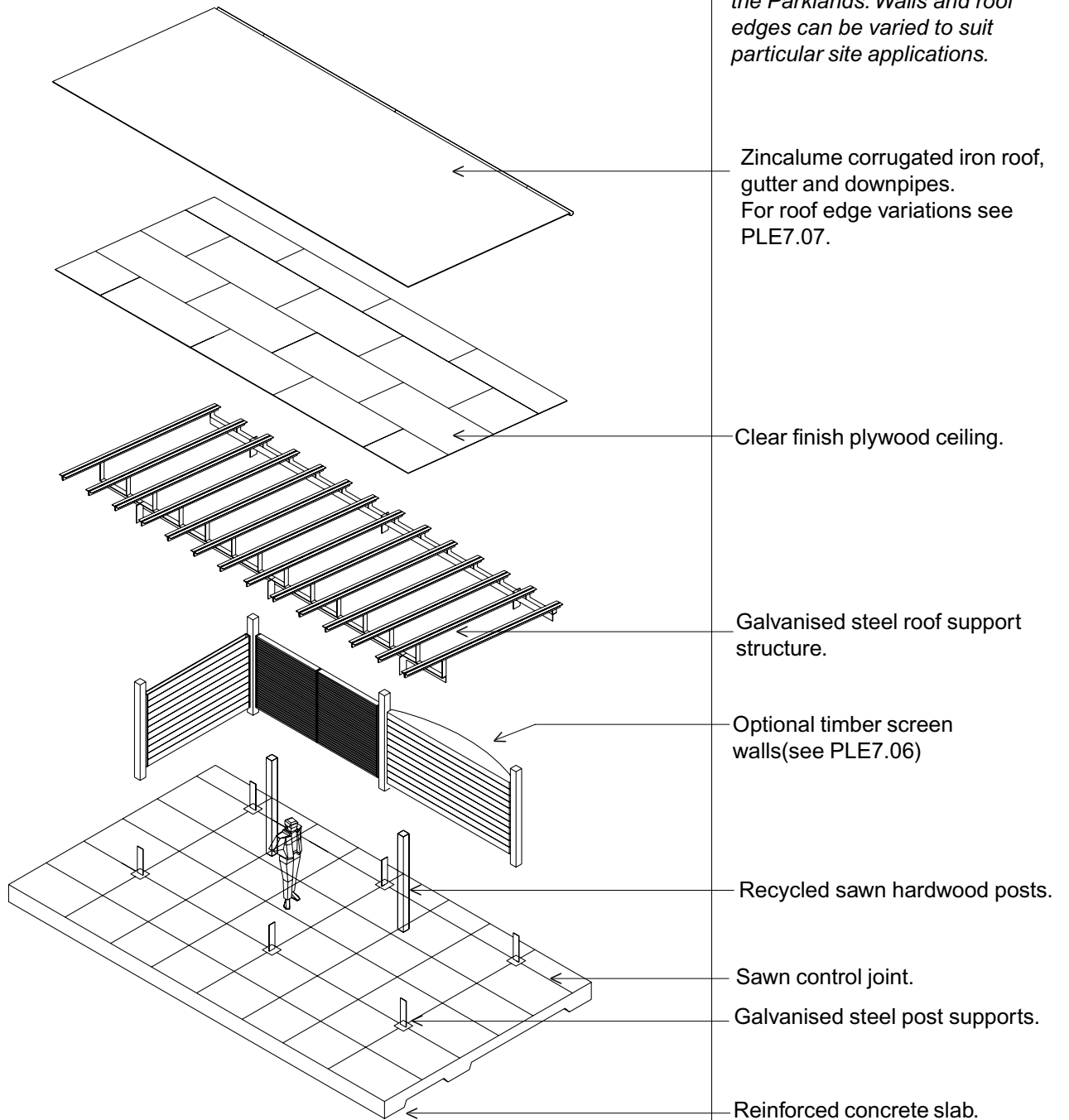
DESIGN INTENT ONLY

PLE6.04

# Design Guidelines

## Picnic Shelter

*Picnic shelters may be provided at various locations throughout the Parklands. Walls and roof edges can be varied to suit particular site applications.*



ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

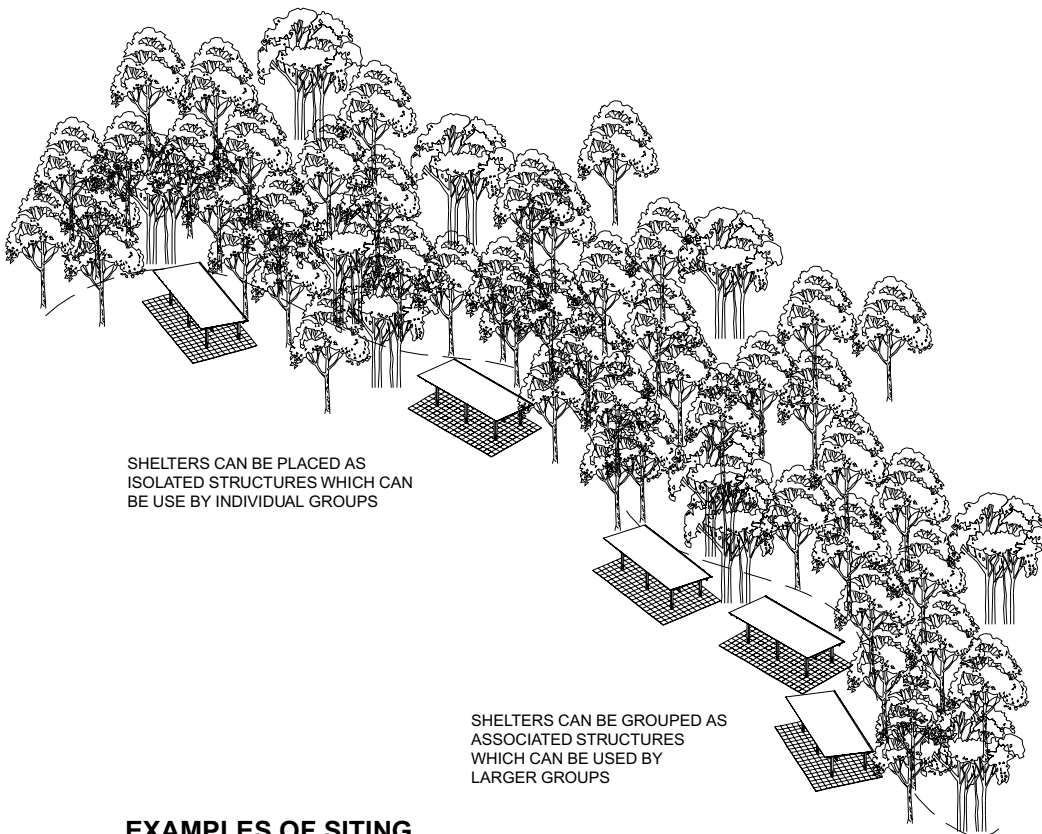
**DESIGN INTENT ONLY**

**PLE7.01**

# Design Guidelines



**SHELTER AT EDGE OF CLEARING**



SHELTERS CAN BE PLACED AS ISOLATED STRUCTURES WHICH CAN BE USE BY INDIVIDUAL GROUPS

SHELTERS CAN BE GROUPED AS ASSOCIATED STRUCTURES WHICH CAN BE USED BY LARGER GROUPS

**EXAMPLES OF SITING**

## **Picnic Shelter Siting**

*Shelters should be sited along the edges of clearings designated as picnic zones. Shelters should be facing generally to the north where possible.*

*Shelters can be placed as isolated structure which can be used for individual groups or as associated structures which can be used for larger user groups.*

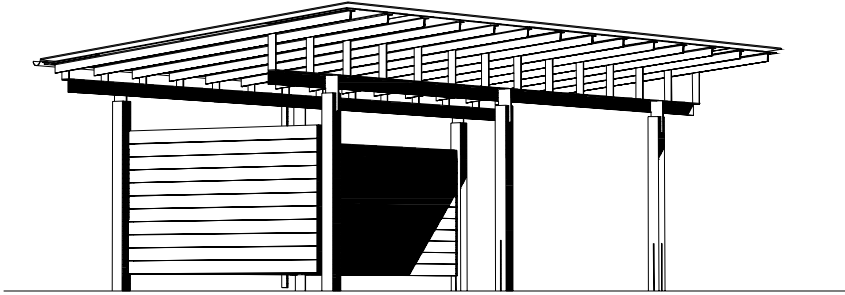
**ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER**

**DESIGN INTENT ONLY**

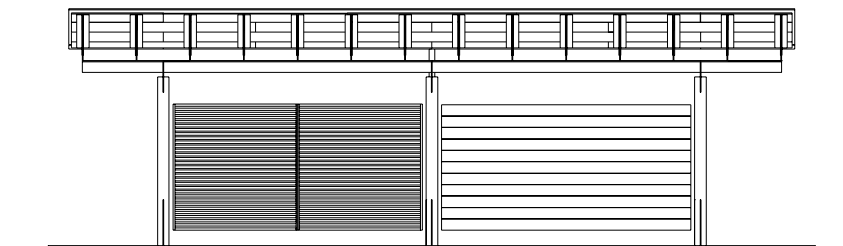
**PLE7.02**

# Design Guidelines

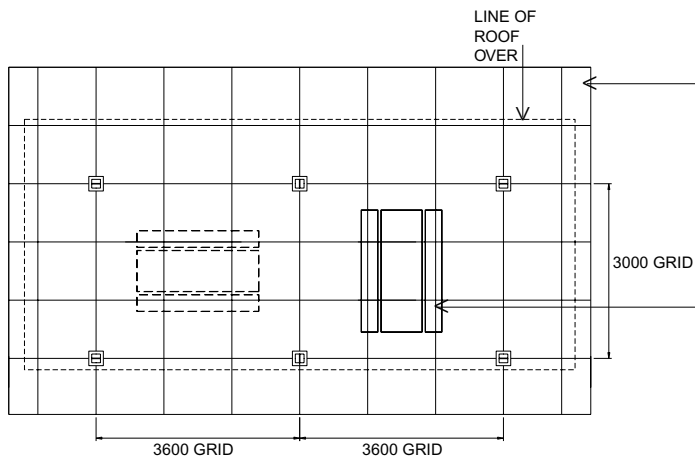
## Picnic Shelter Elevations/ Plan



**3D ELEVATION**

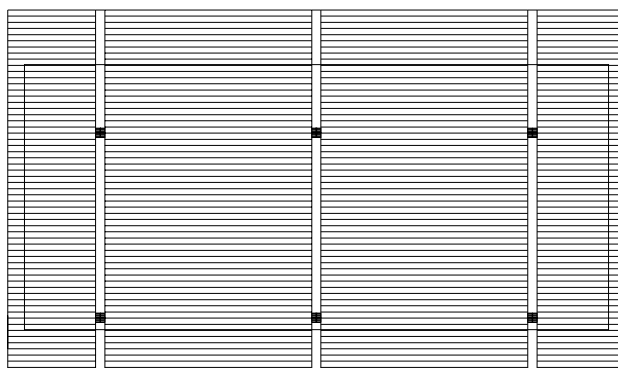


**ELEVATION**



**PLAN/TYPICAL PAVED PLATFORM**

THIS PLAN SHOWS A TYPICAL 2 BAY UNIT. THE PLAN FORM MAY BE EXTENDED TO 3 BAYS MAXIMUM



**PLAN/TIMBER ALTERNATIVE**



INSITU CONCRETE WITH SAW CUTS  
 - SMOOTH STEEL TROWELED FINISH  
 - NATURAL COLOUR  
 - COLOUR TO COLUMN BASES: BLACK OXIDE TO ACHIEVE GREY COLOUR

PICNIC SHELTERS MAY CONTAIN PERMANENT OR REMOVABLE SEATS AND TABLES DEPENDING ON THEIR LOCATION AND PROGRAMMED USE. REFER TO PSF08 FOR DETAIL.

THE TIMBER FLOOR ALTERNATIVE IS FOR EXCEPTIONAL APPLICATIONS ONLY. IT MAY BE USED WHERE THE SLOPE OF THE LAND REQUIRES A RAISED PLATFORM OR WHERE A SPECIAL FLOOR FINISH IS REQUIRED.

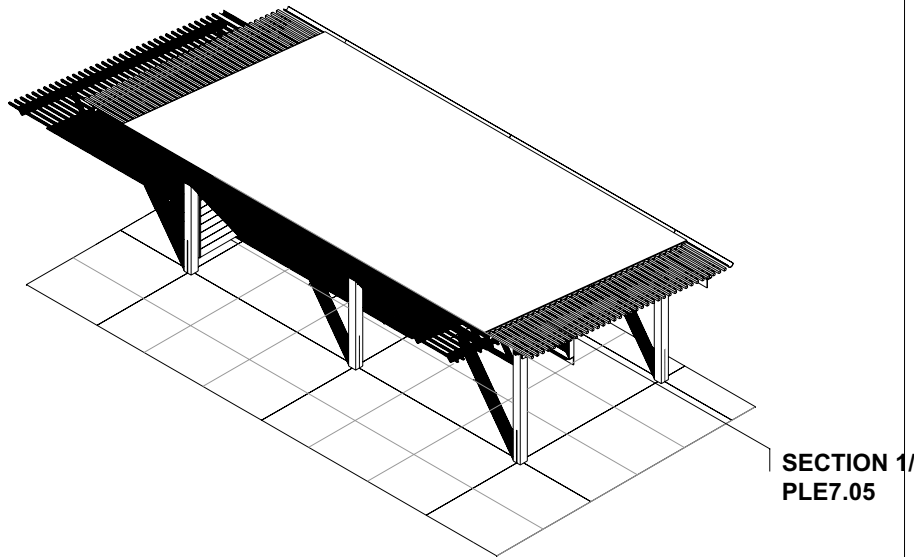
**ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER**

**DESIGN INTENT ONLY**

**PLE7.03**

# Design Guidelines

## Picnic Shelter

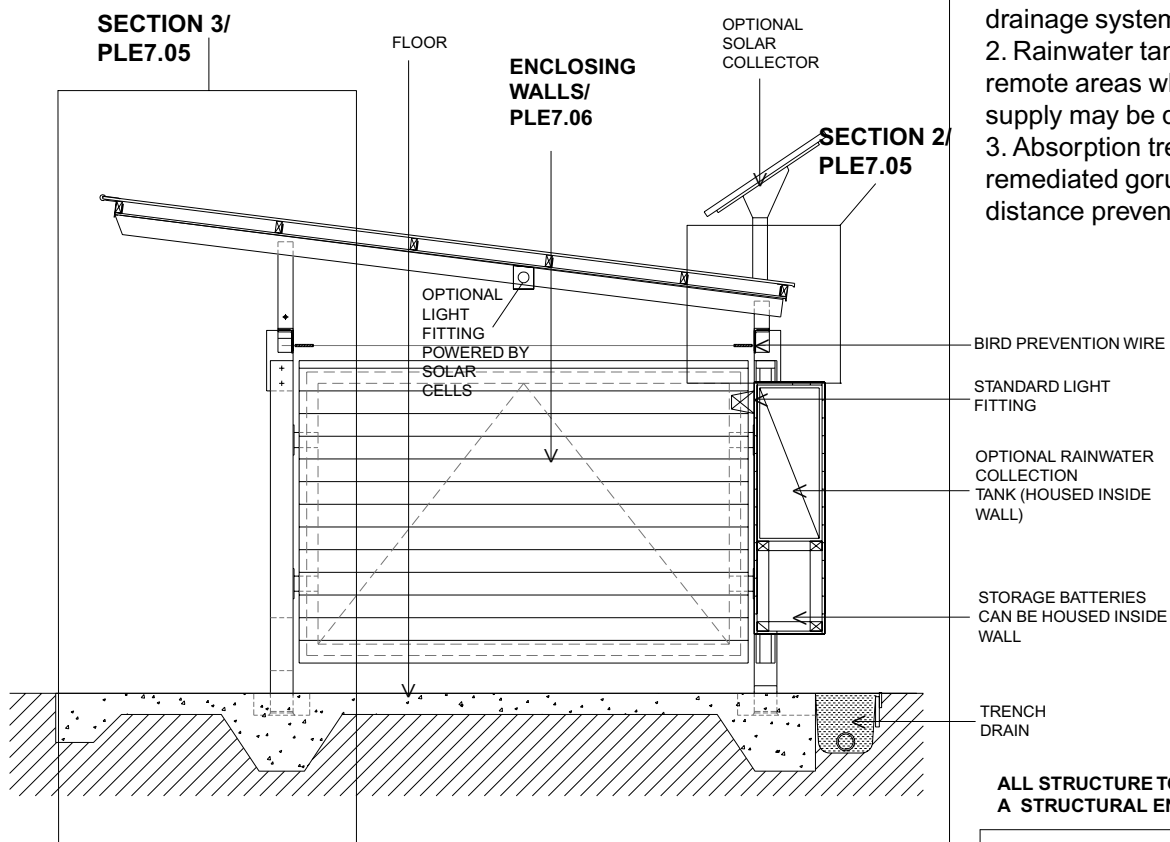


### MATERIALS:

Class 1, F17 sawn hardwood recycled timber posts.  
 Timber posts and wall cladding natural oil finish.  
 Zincalume corrugated iron roof, stainless steel gutter and downpipes.  
 Plywood ceiling.  
 Galvanised steel roof structure.  
 Sawn weatherboard timber stud framed walls.  
 Insitu concrete slab - smooth steel trowel finish, natural colour. Colour to column bases: black oxide additive to grout to achieve grey colour.

### DRAINAGE OPTIONS:

1. Pipe to nearest creek/ water-course or storm water drainage system.
2. Rainwater tank to be used in remote areas where water supply may be difficult.
3. Absorption trench in non-remediated ground and where distance prevents piping as in 1.



**TYPICAL STANDARD SECTION DEVELOPED TO SHOW WALL AND OTHER ELEMENTS**

**ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER**

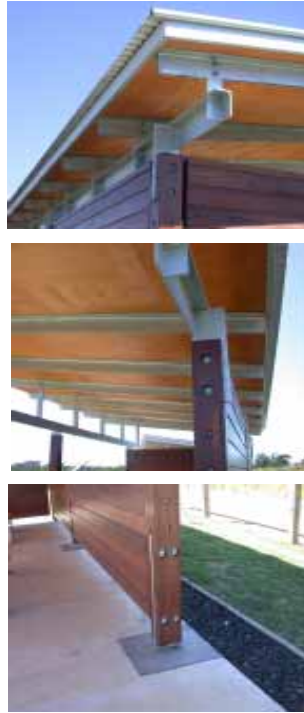
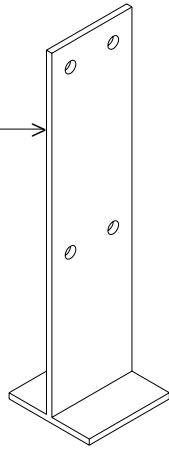
**DESIGN INTENT ONLY**

**PLE7.04**

# Design Guidelines

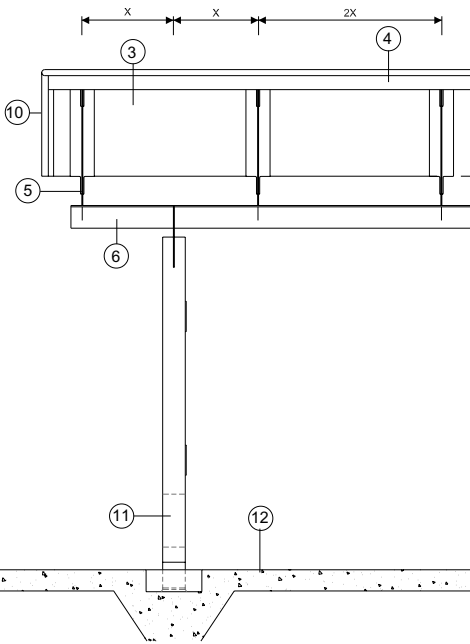
GALVANISED MS BLADE  
FOOTING SHOE FIXED WITH  
M20 BOLTS  
(AS PER 11)

**DETAIL**

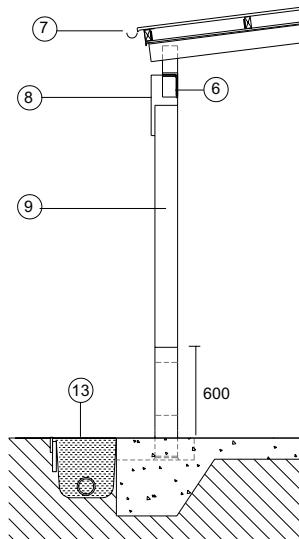


## Picnic Shelter

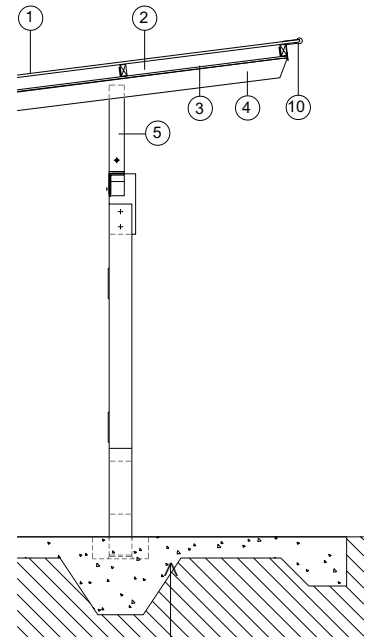
- 1 Zincalume corrugated iron
- 2 75 x 38mm battens (shade shelter)
- 3 12mm plywood ceiling
- 4 125 x 75 x 6mm UA in pairs
- 5 12 plate 2M16 bolts
- 6 150 x 100 x 10mm UA
- 7 Halfround gutter 75 diam (optional)
- 8 6 plate MS flat
- 9 150 x 150mm timber post
- 10 Barge roll
- 11 Galvanised MS blade footing shoe fixed with M20 bolts (refer to detail).
- 12 Insitu concrete - natural colour.
- 13 Optional trench drain.



**SECTION 1**



**SECTION 2**



**SECTION 3**

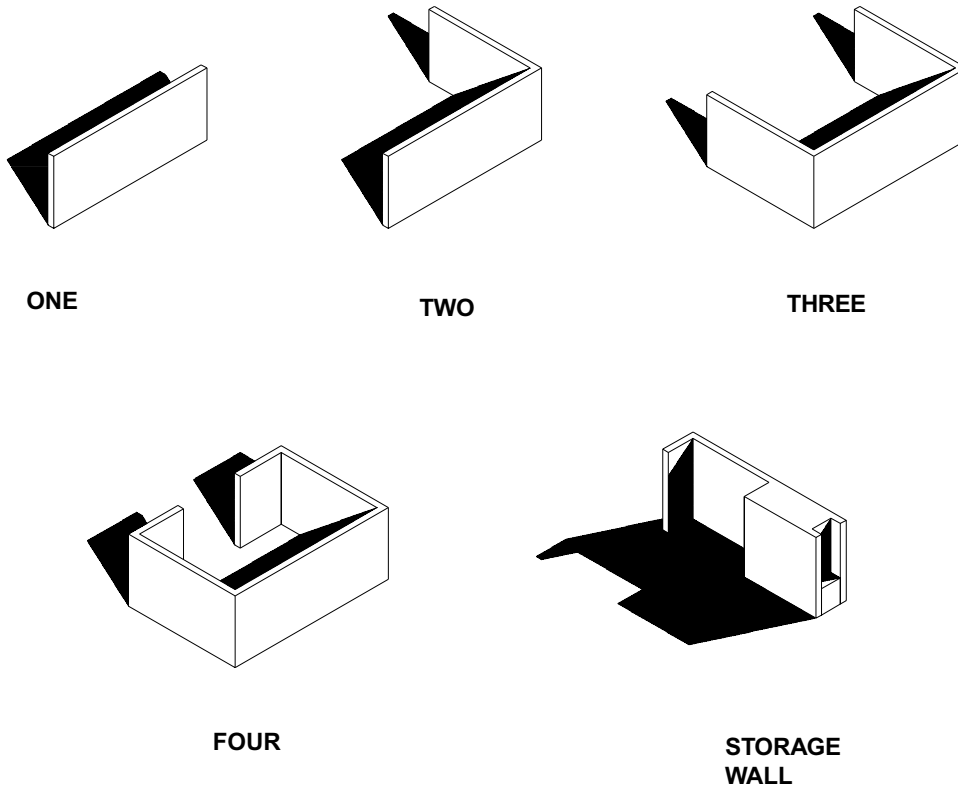
EXAMPLE OF SHALLOW  
FOOTING FOR USE IN  
REMIEDIATED CONDITIONS.

**ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER**

**DESIGN INTENT ONLY**

**PLE7.05**

# Design Guidelines

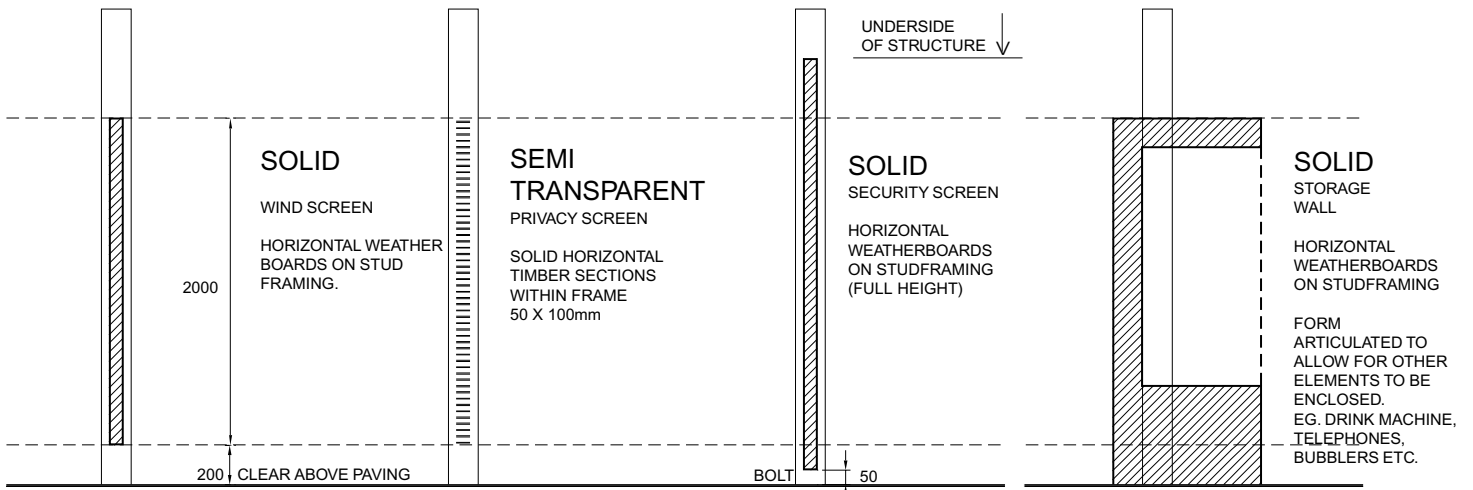


## Picnic Shelter Enclosing Walls

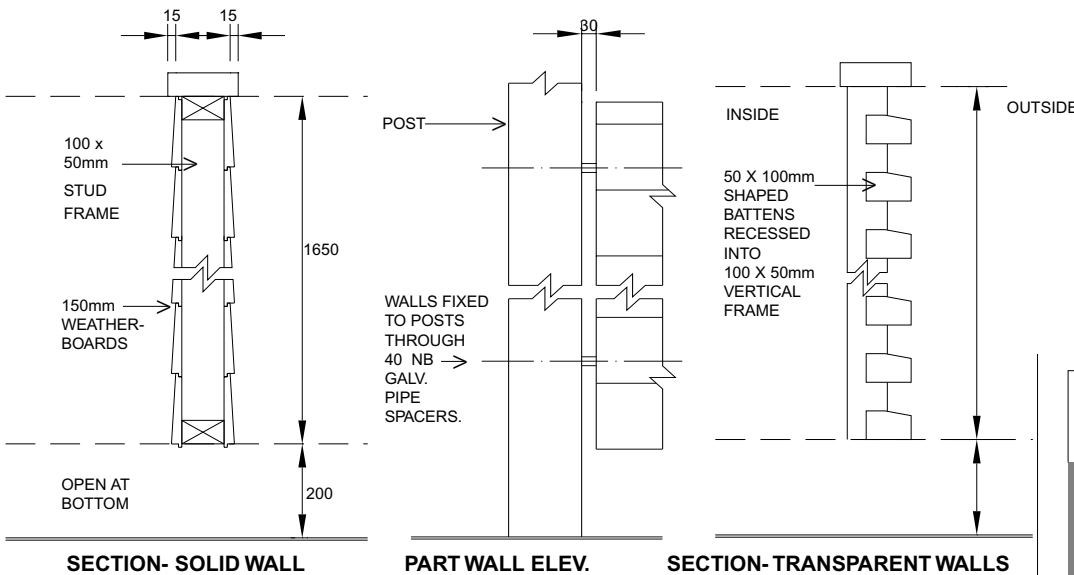
Enclosing walls may be introduced to provide shelter from wind or rain or privacy between shelters. Walls may also provide support and/ or enclosure for elements such as telephones, notice boards, hot water units, rainwater tanks, drink dispenser units etc.



POSSIBLE FORMS OF ENCLOSING WALLS



POSSIBLE TYPES OF ENCLOSING WALLS



ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

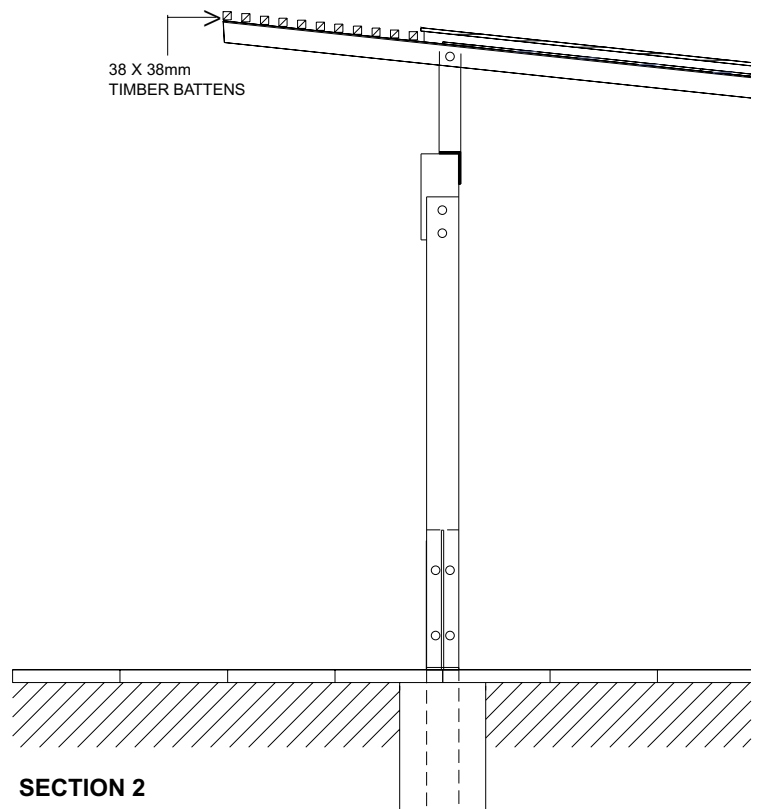
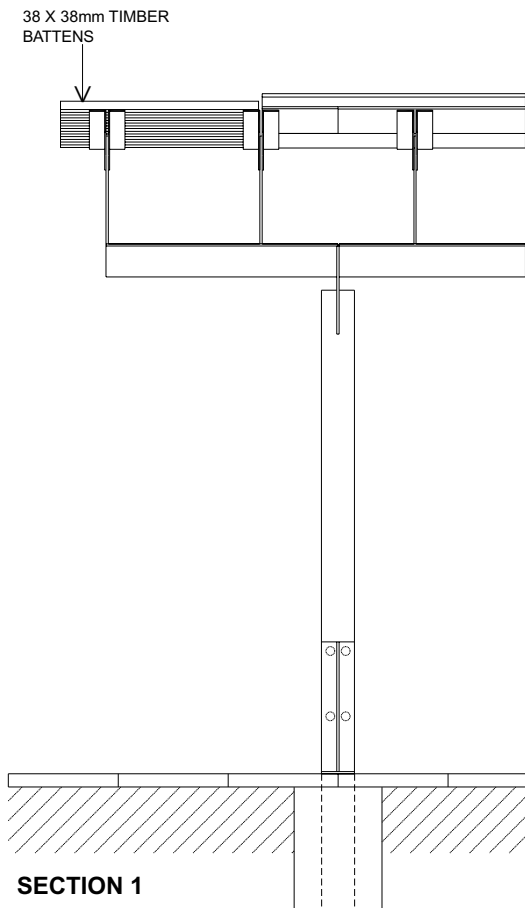
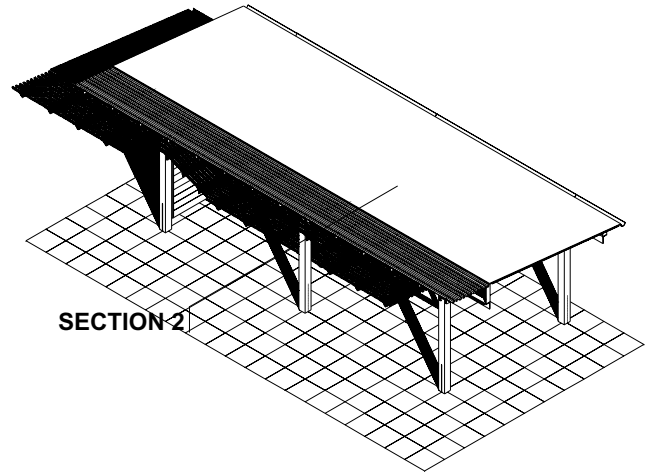
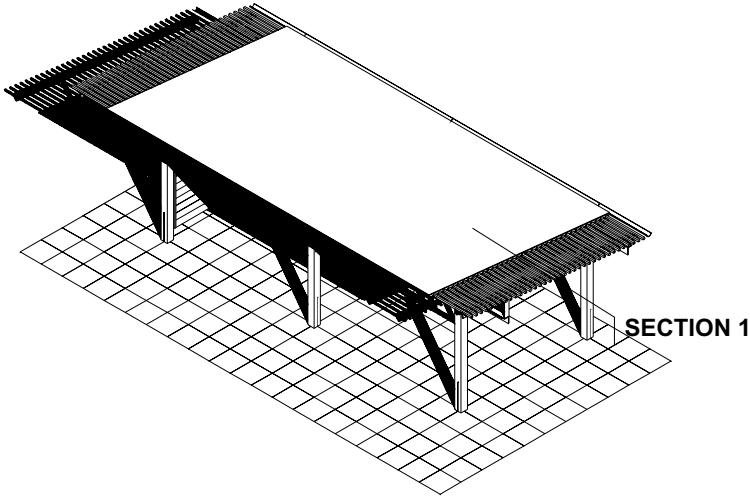
**DESIGN INTENT ONLY**  
**PLE7.06**



# Design Guidelines

## Picnic Shelters Roof Edges

*Roof edges can be modified to introduce filtered light around the edge of the shelter where this is appropriate.*



ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE7.07

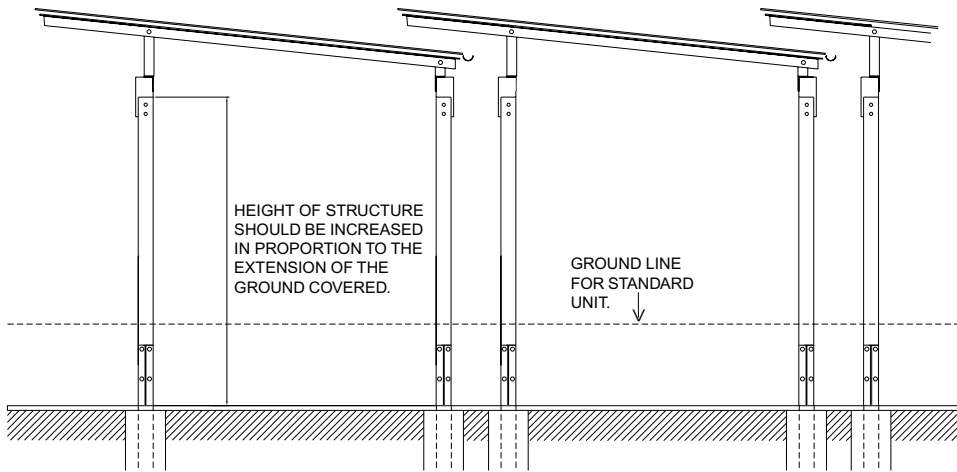
# Design Guidelines

## Picnic Shelters Large formats

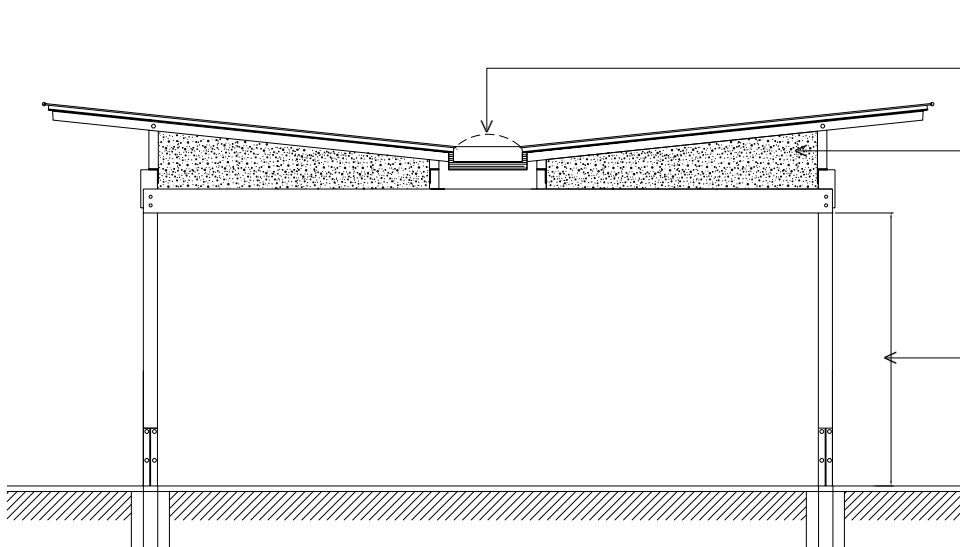
Standard form can be extended and adapted to provide a larger format to cater for large groups of people.

These units need to be designed as individual solutions to suit particular requirements.

Choice of materials and design of connections should be consistent with the standard design (see PLE7.01).



### NESTING



### LARGE PURPOSE DESIGNED STRUCTURE

Single length stainless steel box gutter enclosed with leaf guard.

Plywood infill can transform framing into a truss system.

Height should be increased relative to span.

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

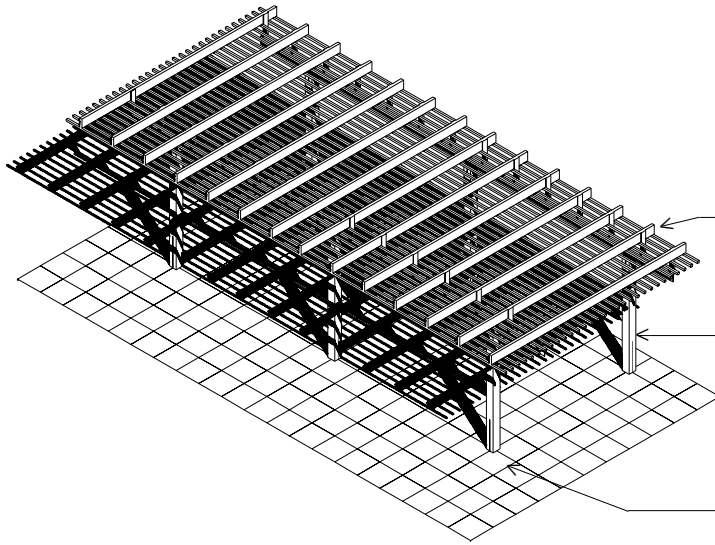
**DESIGN INTENT ONLY**

**PLE7.08**

# Design Guidelines

## Parklands Shade Structure

*These structures may be used in association with car park areas and other activity zones where permanent shade is required. These structures may be used in conjunction with bench seats.*



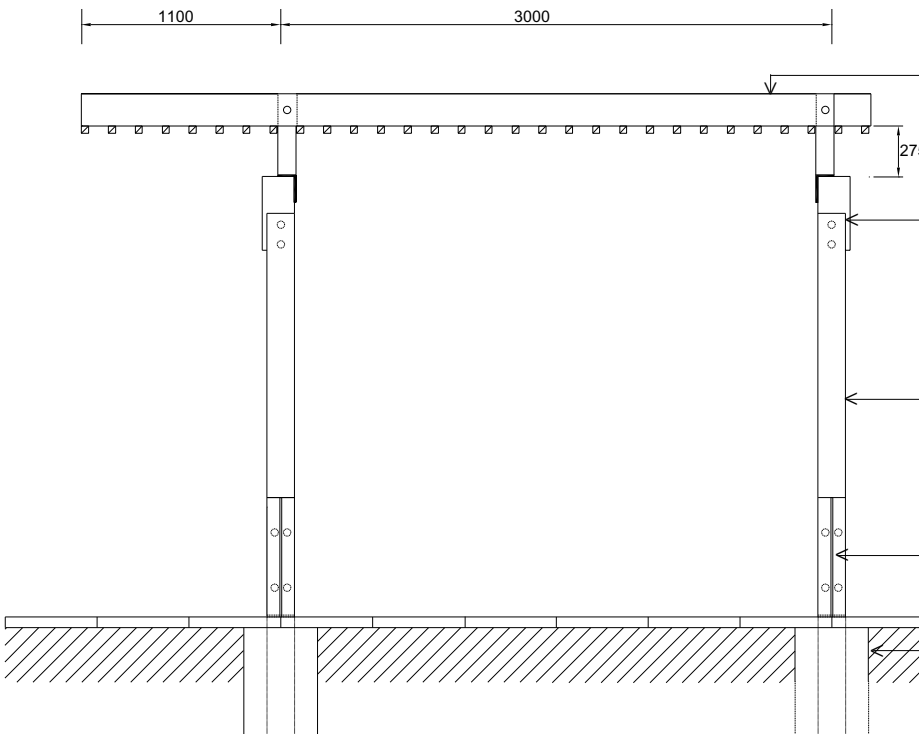
Timber battens below principal structure.

Support structure as for picnic shelter.

Paving as for picnic shelter.

### MATERIALS:

Class 1, F17 sawn finish recycled hardwood structural timbers. All timber left unfinished.  
Galvanised mild steel structural steel elements.



175 x 50mm timber purlins with 38 x 38mm timber cross battens on underside. Nominal centres to be as indicated on the section.

Use similar steel support system as picnic shelter (PLE 7.05)

Use same timber post system as picnic shelter. Posts at 3.5m centres.

Galvanised steel plate connector (PLE7.05)

Reinforced concrete footings (PLE7.05)

**ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER**

**DESIGN INTENT ONLY**

**PLE8**

# Design Guidelines



## Barbecue

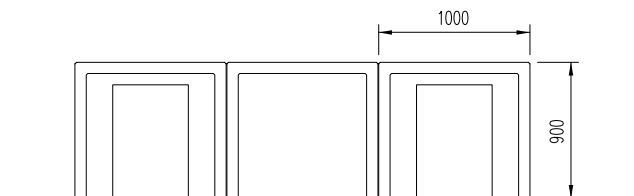
**PRODUCT:**  
Moodie Carina BBQ enclosure:  
"AUSCAST" durable cast concrete

**MATERIAL/FINISH:**  
- Precast concrete BBQ enclosure 1000 x 1000 x 900H  
- Doors to be painted black

**MANUFACTURERS DETAILS:**  
Moodie Marketing Australia  
Unit 9, 33-37 College Street  
Gladesville NSW 2111

Ph: (02) 9816 1133  
Fax: (02) 9816 3417

**COMMENTS:**  
Barbeque installation is usually located adjacent to picnic shelters. Two types - operable and non operable.



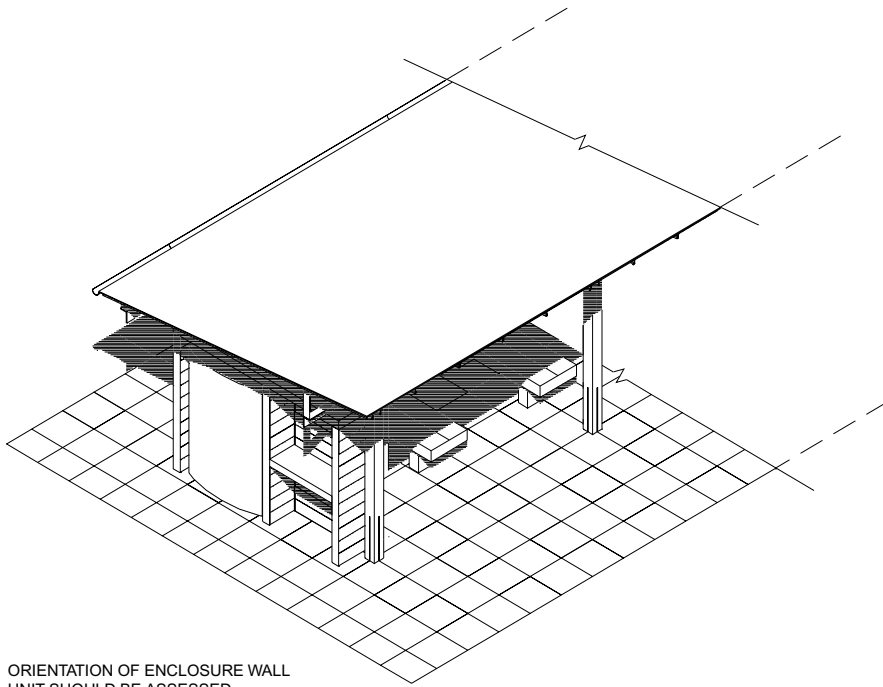
**ELEVATION 1:50**

**ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER**

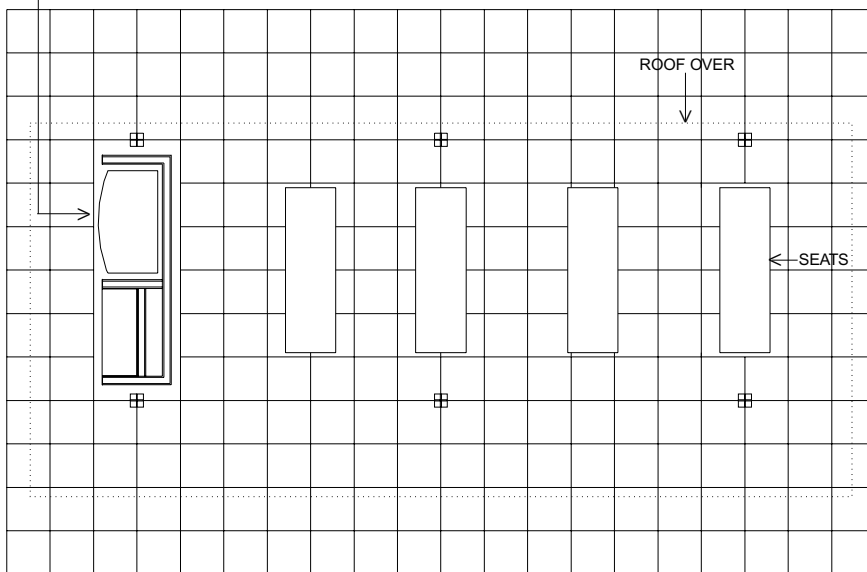
**DESIGN INTENT ONLY**

**PLE9**

# Design Guidelines



ORIENTATION OF ENCLOSURE WALL UNIT SHOULD BE ASSESSED SUBJECT TO EACH INDIVIDUAL APPLICATION.



**PLAN** EXAMPLE OF SHELTER WITH DRINK MACHINE AND SEATS. CAN BE USED AS A WAITING SHELTER ADJACENT TO CAR PARKS.

## Enclosure Wall Unit/ Drinkstation

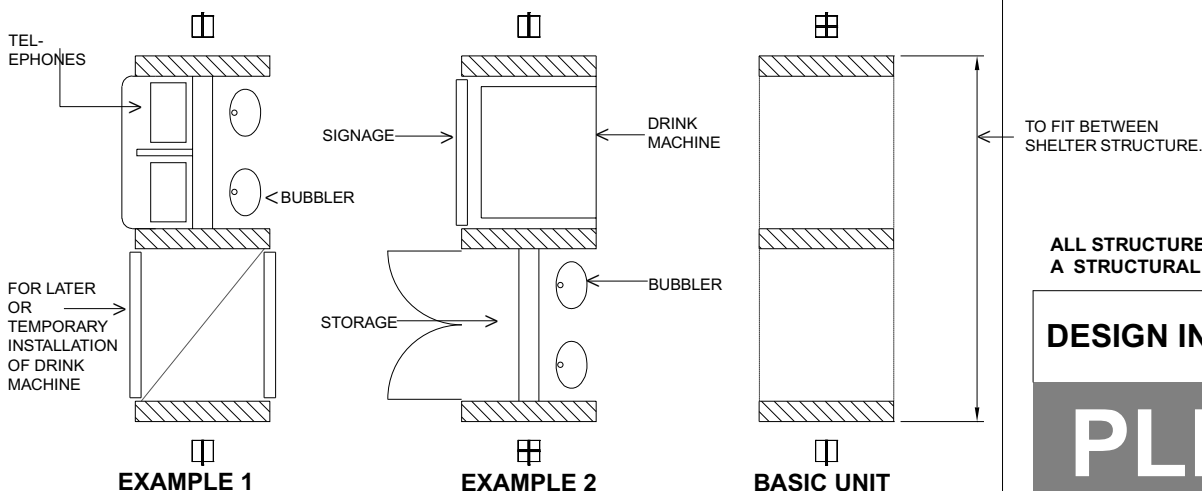
Enclosure wall units may be used to provide further functional extensions to a shelter which is associated with an area such as a car park, an activity node or in exposed or remote parts of the Parklands. It can be developed to provide for an extensive range of amenities.

Possible uses:

- Drink dispenser
- hot water unit
- telephones
- minor storage
- electrical switchboards
- signage (interpretive)
- signage (advertising)
- bubbler

Wall unit can form part of picnic shelter enclosing wall system (PLE7.06)

Wall unit constructed from timber stud framing clad with weather boards.



ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PLE10**

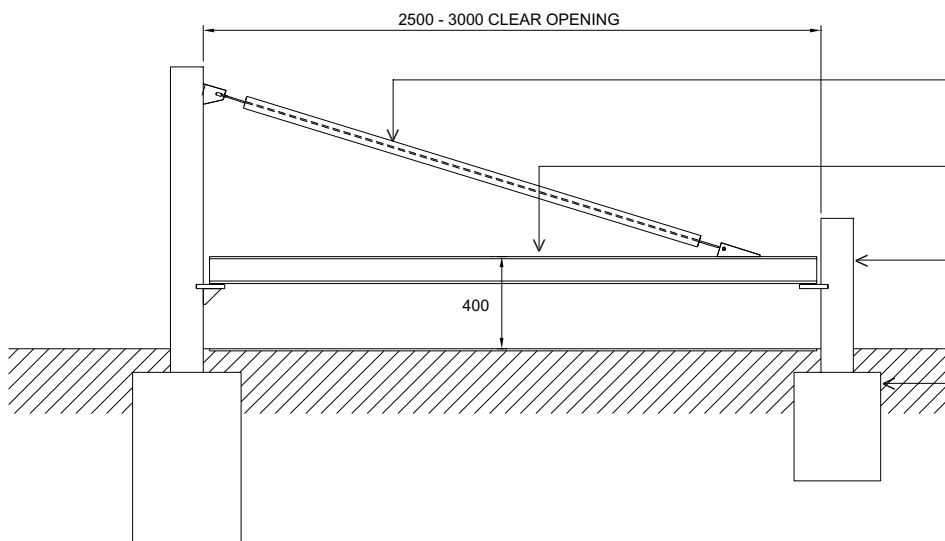
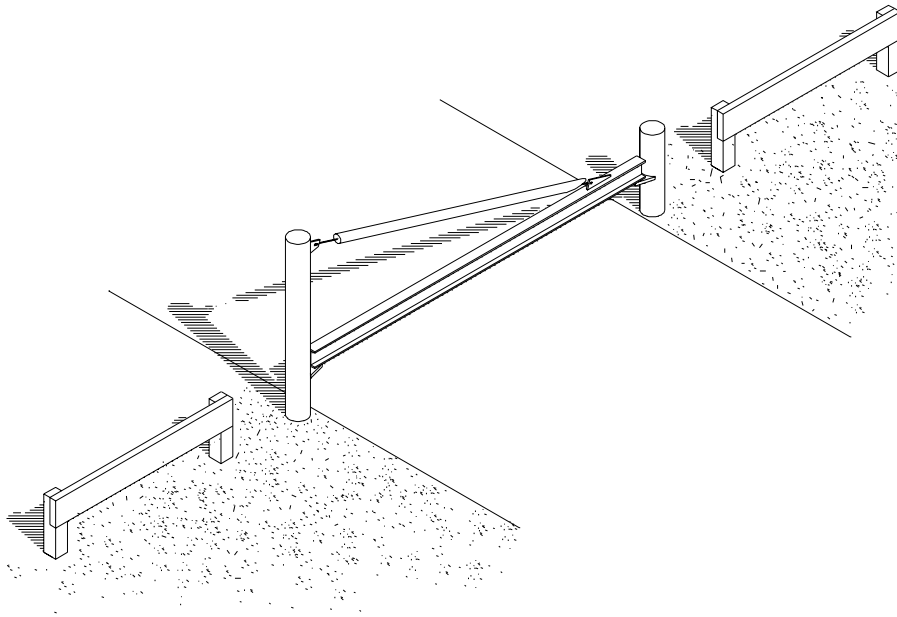
# Design Guidelines

## Vehicle Gate

Vehicle gates are used where it is necessary to block access to vehicles only but not to foot traffic. This element may be used in conjunction with secondary elements such as PLE12- VEHICLE BARRIER.

### MATERIALS/ FINISHES:

Galvanised ms structural steel.  
Stainless steel wire and turnbuckle.  
Mass concrete footing.



Stainless steel wire brace and pipe.

RSJ beam

150 diam. steel posts

Mass concrete footing

**ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER**

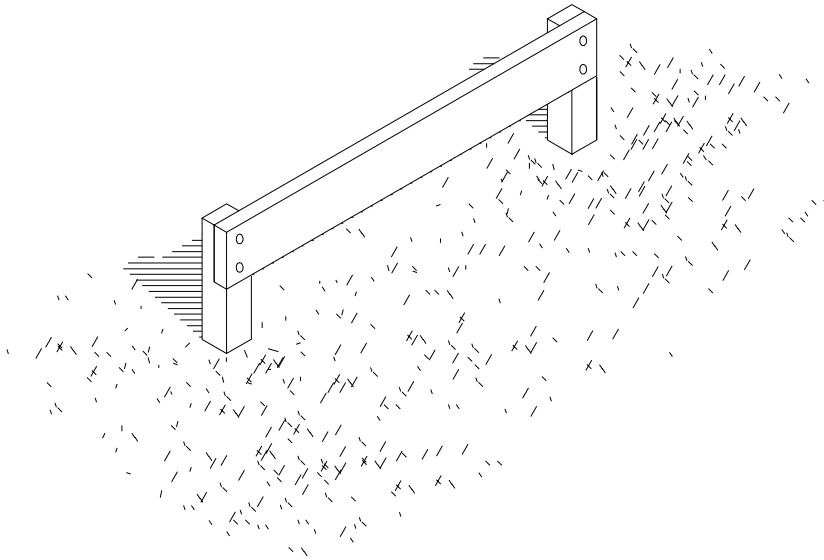
**DESIGN INTENT ONLY**

**PLE11**

# Design Guidelines

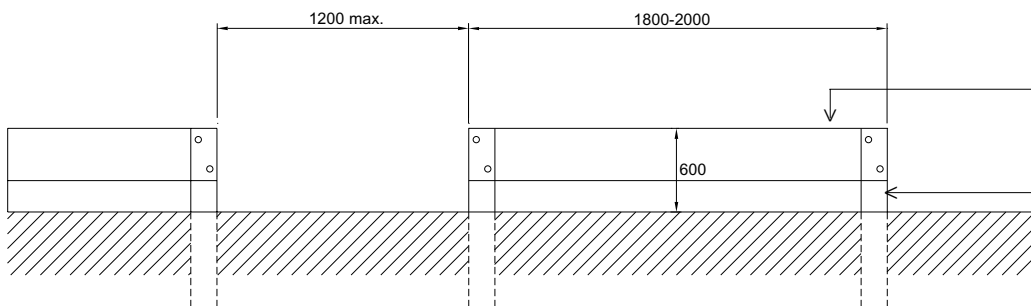
## Vehicle Barrier

Vehicle barriers are used where it is necessary to control vehicular parking and access adjacent to venues, facilities, planted areas and pathways throughout the Parklands.



### MATERIALS/ FINISHES:

Class 1, F17 sawn finish recycled hardwood structural timbers (preferred). Alternative is treated timber with Copper Azol. All timber left unfinished.



200 X 75mm timber beam

125 x 125mm post

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE12

## Bird Hide

PLE13

TO BE CONFIRMED

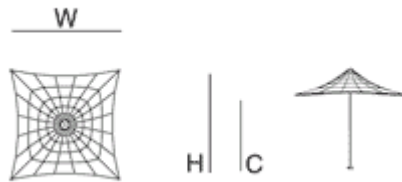
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PLE13

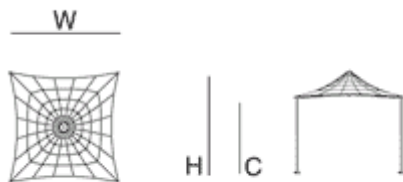


# Design Guidelines



	Area	Diag	W	H	C
C36	13m <sup>2</sup>	5374	3800	3200	2150
C30	9m <sup>2</sup>	4526	3200	3200	2200

## Collapsible Square



	Area	Diag	W	H	C
	20m <sup>2</sup>	6400	4000/4500	3300	2100

## Permanent Square & Rectangular

### Shade Structures

**PRODUCT:**  
Free standing tension membrane shade structure.

**CATALOGUE No:** Casablanca

**MATERIAL/FINISH:**  
Coen weave architectural mesh. Support structure - m/steel hot dip galvanised

**COMMENTS:**  
- Wind rated collapsible, conical tension membrane structure.  
- Supports: inground or above ground to be detailed by structural engineer.

**MANUFACTURER:**  
Shade Structures Birdair Pty Ltd  
7/198 Young Street  
Waterloo, NSW 2017

Ph: (02) 9699 8933  
Fax: (02) 9419 8251

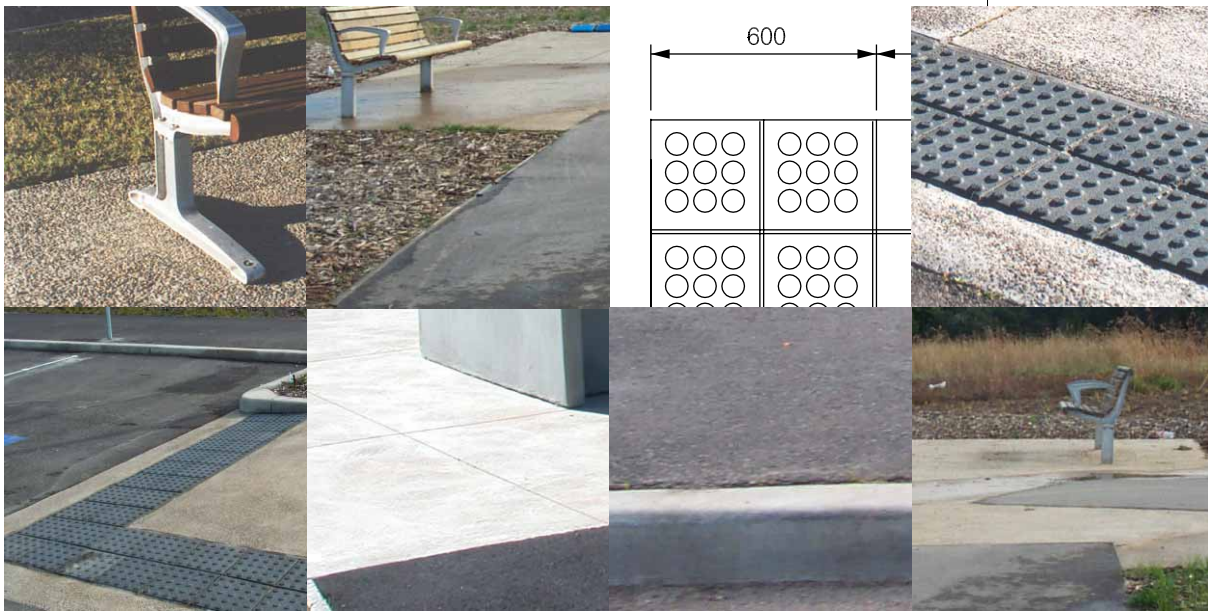
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PLE14**

# Design Guidelines

## Paving

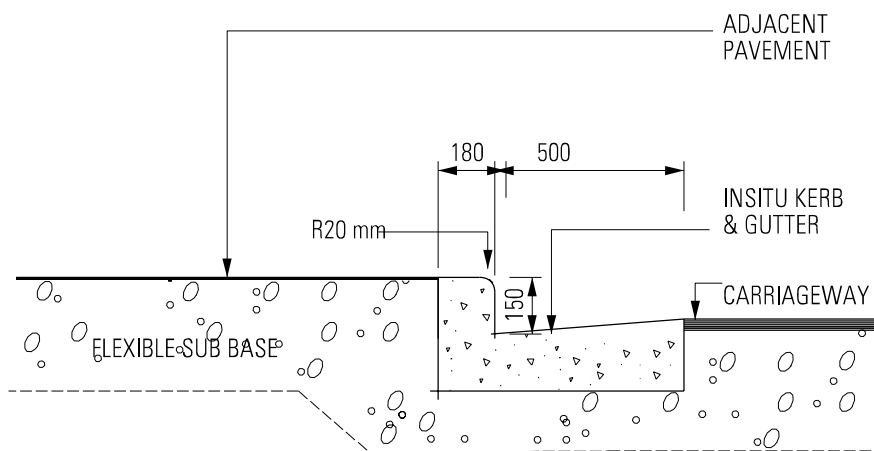


Ref	Description	Principle	Document	Revision	PAVING
<b>PAVING</b>					
P3	Typical Insitu Kerb	Typical detail for access roads or car park areas	UEDM	Oct. 2001	
P5	Typical Insitu Swale	Reduced dimensions to suit scale.	UEDM	Oct. 2001	
PP6	Typical Insitu Flush Kerb	UEDM adapted-500 width. Reduced dimensions to suit park scale.	PEDM	July 2002	
PP8a+b	Typical Planted Swales	Turf or native options	PEDM	July 2002	
P11	Typical Decomposed Granite	Permeable pavement for special use areas ie, RANAD precinct.	UEDM	Oct. 2001	
P12	Typical Asphaltic Concrete - Standard	Primary pathways, shared-ways & accessible routes	UEDM	Oct. 2001	
PP13a	Washed Concrete Pavement	Pathway junctions and nodes	PEDM	July 2002	
PP13b	Washed Concrete Pavement – Joint Details	Pathway junctions and nodes	PEDM	July 2002	
P15	Typical Kerb Ramp	To signal hazard	UEDM	Oct. 2001	
P16	Typical Vehicle Crossover - Asphalt	To signal vehicle crossovers at the kerb	UEDM	Oct. 2001	
PP17	Typical Hazard Tactiles	To be used only when there is a potential conflict between pedestrians and vehicles	PEDM	July 2002	
P22	Typical AC Edge	Minimal finishing edge to AC pavement	UEDM	Oct. 2001	
PP23	Typical Timber Edge	Flush edge to grass or planting	PEDM	July 2002	
P25	Typical Sump Grate	Flush detail for sump grate in various paving types	UEDM	Oct. 2001	
P26	Typical Service Cover - General	Minimise impact of service covers & ensure integration with surrounding pavements. Details for <600mm	UEDM	Oct. 2001	
PP36	Leaf Litter Pavement	Tertiary paths, for low use trails, ie Newington Woodlands	PEDM	July 2002	

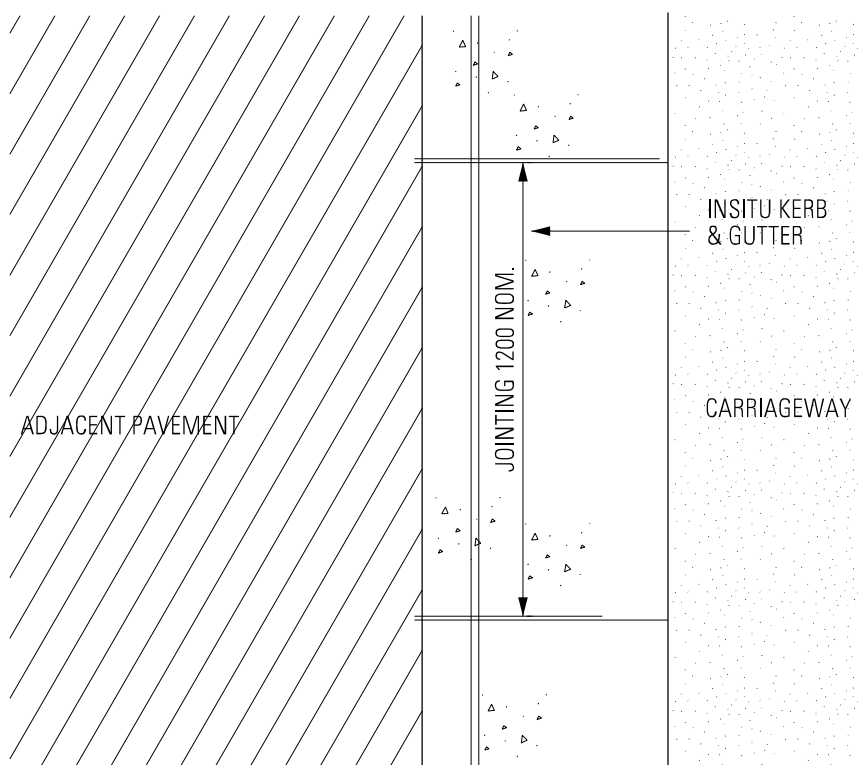
### Approach to Paving

- UEDM paving elements available if required.
- Hierarchy of paving materials to respond to site wide definition of degrees of accessibility & profile
- Emphasis on environmental sustainability
- Maximise permeability
- Minimise run-off
- Simple unobtrusive approach

# Design Guidelines



**TYPICAL SECTION 1:20**



**TYPICAL PLAN 1:20**

## Typical Insitu Kerb and Gutter-Preferred Size

### Material:

- insitu concrete kerb and gutter, jointing 1200mm nominal (to match RTA SA kerb type)

### Composition:

- strength - 40MPa
- standard concrete mix to match approved sample

### Finish:

- standard concrete finish

### Construction:

- to engineers final specification

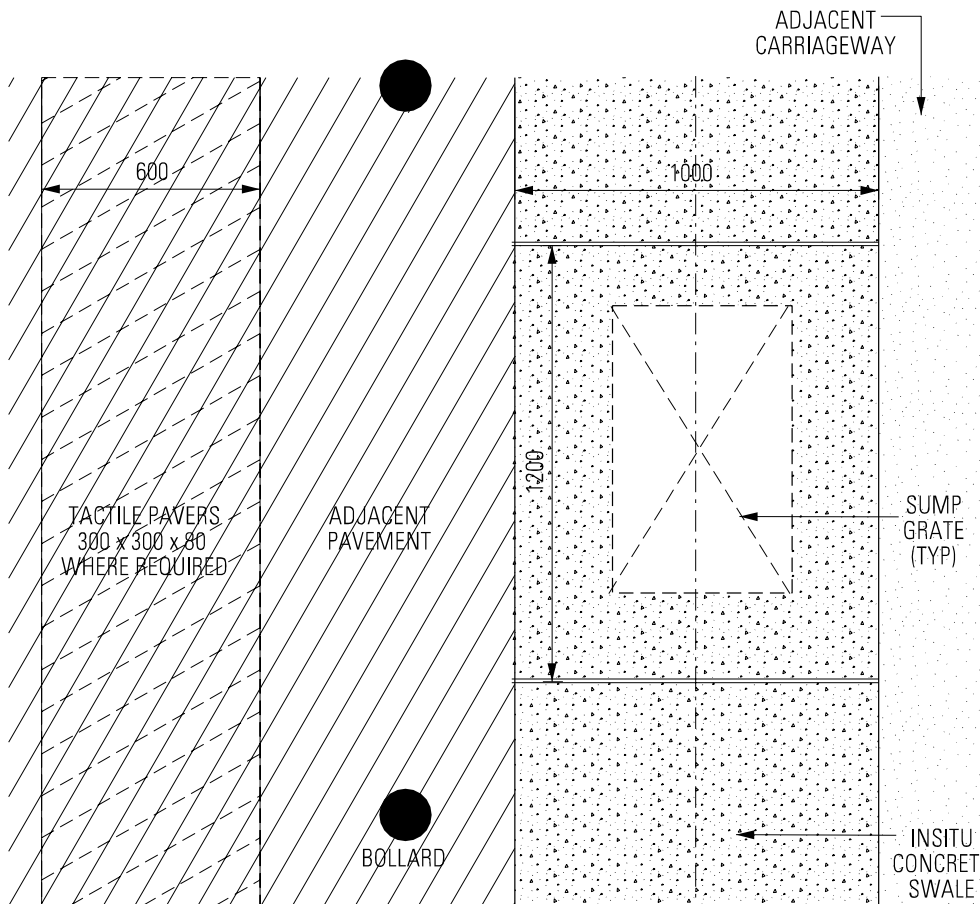
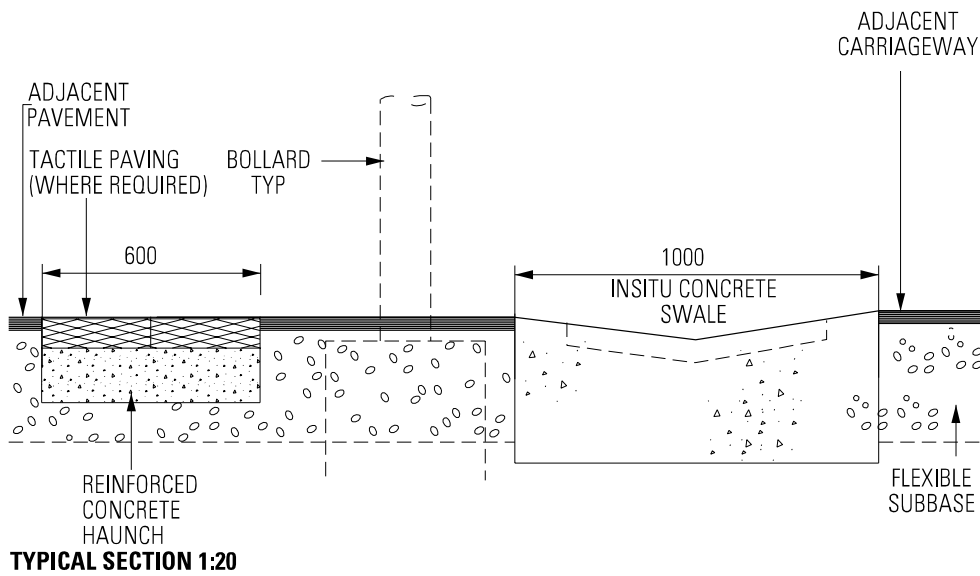
Note: Provide 30% luminance contrast between pavers and kerb zone.

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**P3**

# Design Guidelines



**TYPICAL PLAN 1:20**

NOTE: IF BOLLARDS ARE NOT REQUIRED, THE TACTILE PAVER STRIP CAN BE REDUCED TO 600MM IN ACCORDANCE WITH THE SOPA ACCESS GUIDELINES.

## Typical Insitu Swale

**Material:**

- insitu concrete swale equal to RTA SB type

**Composition:**

- strength - 40MPa
- standard concrete mix

**Finish:**

- standard concrete finish

**Construction:**

- to engineers final specification

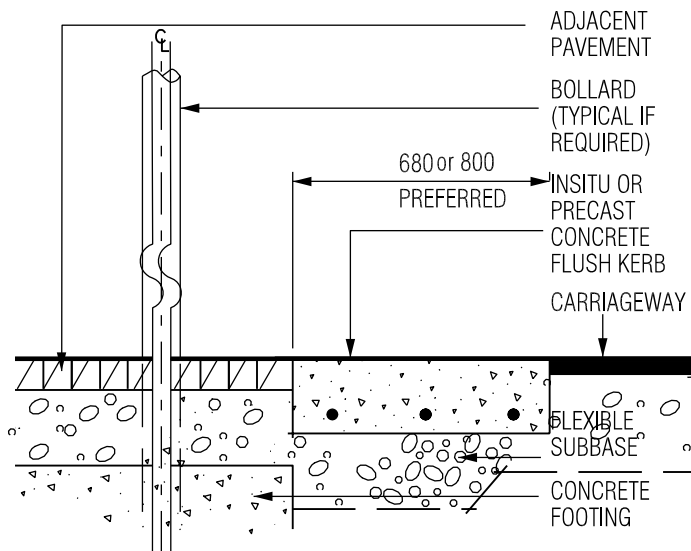
Note: Provide 30% luminance contrast between pavements and swale.

**DESIGN INTENT ONLY**

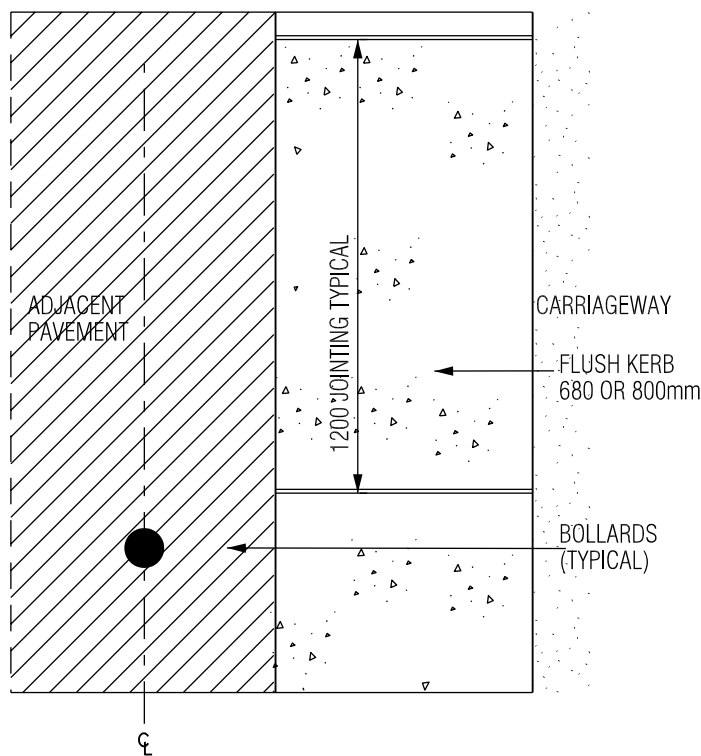
(UEDM DETAIL)

**P5**

# Design Guidelines



TYPICAL SECTION 1:20



TYPICAL PLAN 1:20

## Typical Insitu Flush Kerb

### MATERIAL:

- insitu concrete 500mm width flush kerb, joining 1200mm nominal

### COMPOSITION:

- strenght: 40MPa
- standard concrete mix

### FINISH:

- standard concrete finish

### CONSTRUCTION:

- to engineers final specification

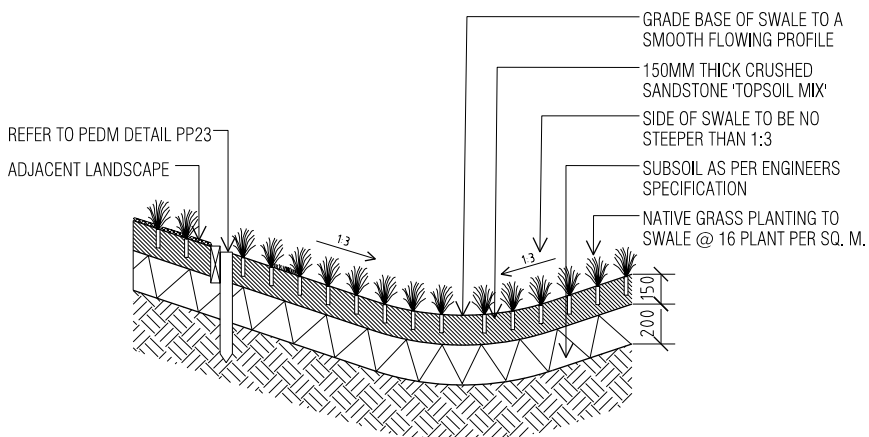
### NOTE:

- Provide 30% luminance contrast between pavements and flush kerbs

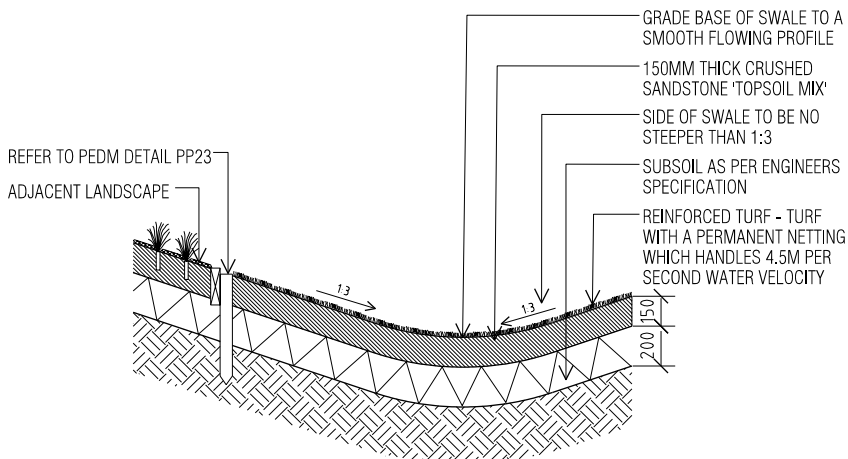
**DESIGN INTENT ONLY**

**PP6**

# Design Guidelines



**NATIVE GRASS SWALE**



**REINFORCED TURF SWALE**

## Typical Planted Swales

- PP8a - NATIVE GRASS SWALE**
- Sides of swale to be no steeper than 1:3
  - Native grass to be planted at 16 plants per square metre

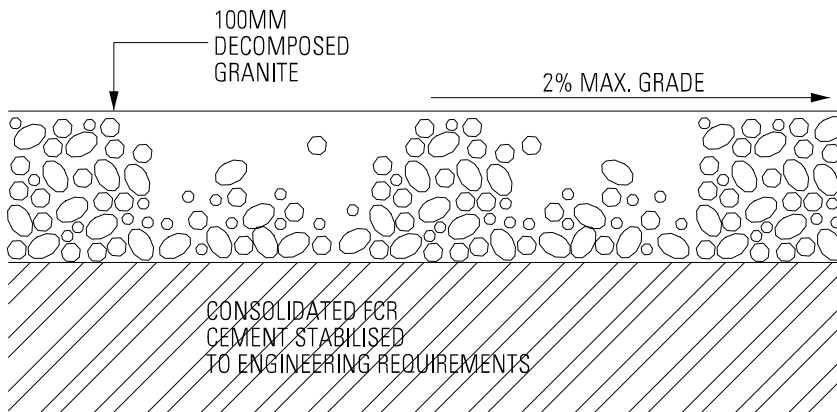
- PP8b - REINFORCED TURF SWALE:**
- sides of swale to be no steeper than 1:3
  - reinforced turf to be "Cling" turf or equivalent
  - Turf grown into a strong permanent UV stabilised mesh, that hold the turf together and helps it cling to the ground
  - Can handle a water velocity of 4.5m per second

**NOTE:**  
PP8a = Native Grasses  
PP8b = Reinforced Turf

**DESIGN INTENT ONLY**

**PP8a+b**

# Design Guidelines



**TYPICAL SECTION 1:5**

## Typical Decomposed Granite

### Material:

- pink decomposed granite on cement stabilised consolidated FCR

### Composition:

- to engineers final specification

Note: Should not be used as a paving material within the continuous accessible paths of travel.

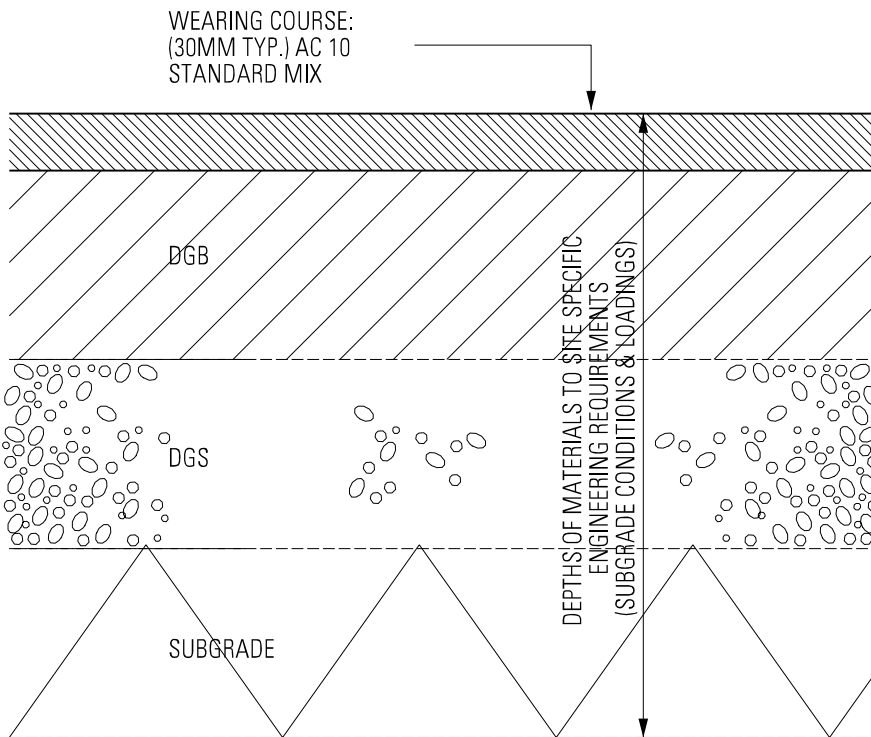
**DESIGN INTENT ONLY**

(UEDM DETAIL)

**P11**



# Design Guidelines



**TYPICAL SECTION N.T.S.**

## Typical Asphaltic Concrete - Standard



### Material:

- 30mm depth AC 10 wearing course

### Composition:

- standard mix with standard gravel (blue metal) to engineers final detail

### Construction:

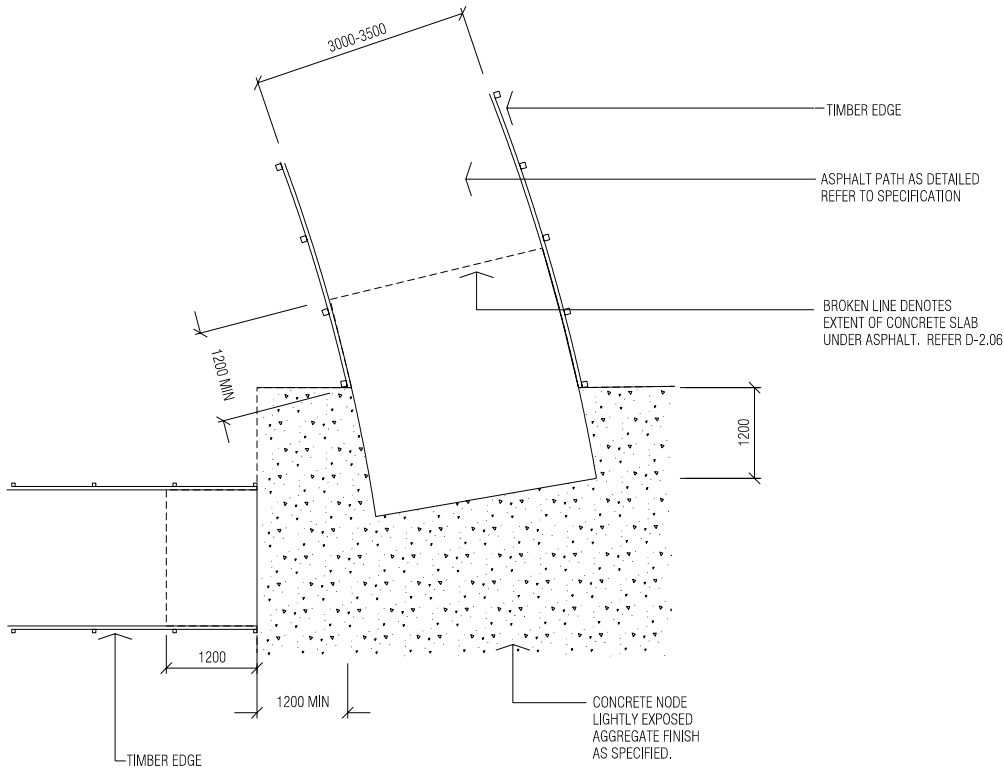
- to engineers final specification

**DESIGN INTENT ONLY**

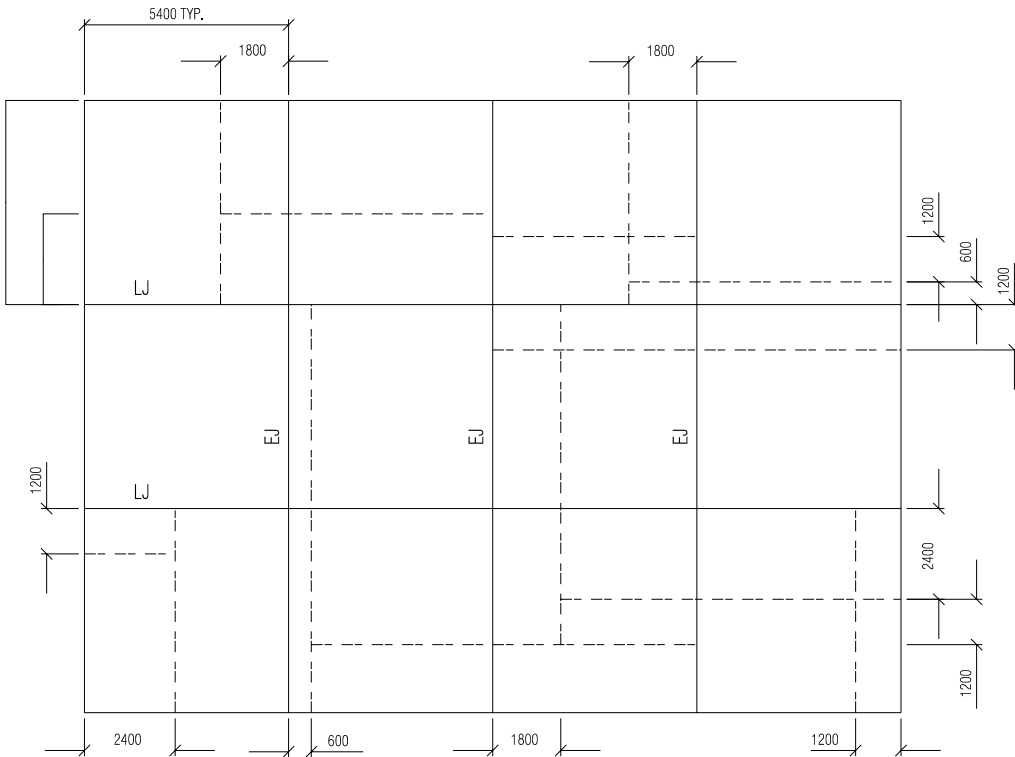
(UEDM DETAIL)

**P12**

# Design Guidelines



**TYPICAL PLAN - PATH / NODE JUNCTION**



**TYPICAL JOINT SETOUT**

Clouston Associates

LEGEND

— EJ —	EXPANSION JOINTS REFER DETAIL
— LJ —	LONGITUDINAL JOINTS REFER DETAIL
- - -	DECORATIVE SAWN JOINT REFER DETAIL

## Washed Concrete Pavement



**MATERIAL:**  
Insitu concrete pavement

**COMPOSITION:**

- To comply with AS1379
- strength: 20Mpa at 28 days (unless otherwise shown)
- Minimum effective cement content: 280kg/m<sup>3</sup>
- Minimum air content: 4.5%
- Maximum slump: 80mm
- aggregate: 100% Nepean gravel, 20mm

**FINISH:**  
- surface finish: light washed exposed aggregate

**CONSTRUCTION**  
- to engineers final specification

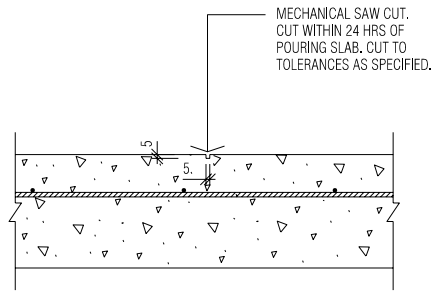
**NOTE:**  
concrete paving to be used for all nodes and junctions in parklands

**DESIGN INTENT ONLY**

**PP13a**

# Design Guidelines

## Washed Concrete Pavement - Joint Details

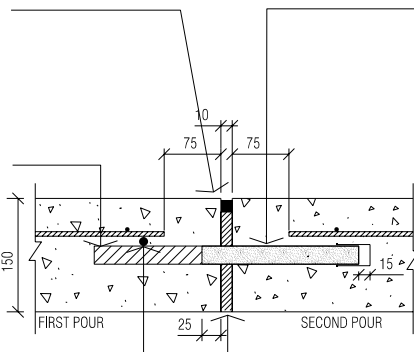


DECORATIVE SAWN JOINT

10 WIDE X 15 DEEP EXPANDITE "THIOFLEX 600" JOINT SEALANT RECESSED 3MM WITH POLYETHYLENE TAPE BOND BREAKER OR APPROVED EQUIVALENT PLACE TAPE AFTER SIDES OF RECESS HAVE BEEN PRIMED FOR SEALANT.

ROUND GALVANISED M24 DOWEL BAR 350 LONG @ 500 CTRS. PLACES CENTRALLY. TOLERANCES LOCATION : + - HALF THE DIAMETER OF DOWEL. ALIGNMENT: 2MM IN 300MM. ALL DOWELS TO BE HOT DIPPED GALVANISED TO A.S. 1650.

Y12 TIE BARS TO MAINTAIN PROPER DOWEL BAR ALIGNMENT

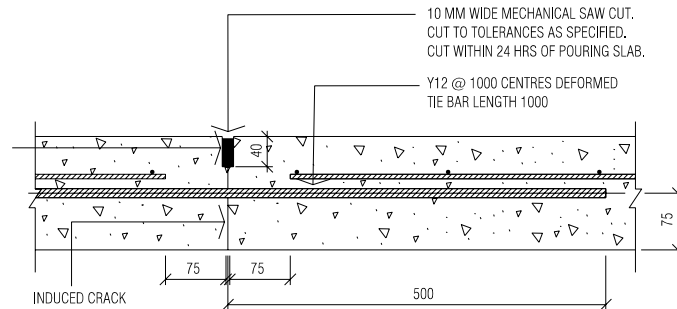


EXPANSION JOINT

PROVIDE DOWEL IN ONE PIECE STRIAIGHT, WITH SQUARE CUT ENDS FREE FROM BURRS. COAT ONE HALF +25MM OF DOWEL WITH EXPANDITE "MULSEAL" DEBONDING AGENT OR APPROVED EQUIVALENT & PLACE END IN 15MM THICK POLYSTYRENE DOWEL CAP OR APPROVED PLASTIC DOWEL SLEEVE WITH 15MM POLYSTYRENE INSERT.

10 MM THICK EXPANDITE "FLEXCELL" COMPRESSIBLE FILLER BOARD, OR APPROVED EQUIVALENT.

10 WIDE X 15 DEEP EXPANDITE "THIOFLEX 600" JOINT SEALANT RECESSED 3MM WITH POLYETHYLENE TAPE BOND BREAKER OR APPROVED EQUIVALENT PLACE TAPE AFTER SIDES OF RECESS HAVE BEEN PRIMED FOR SEALANT.



LONGITUDINAL JOINT

10 MM WIDE MECHANICAL SAW CUT. CUT TO TOLERANCES AS SPECIFIED. CUT WITHIN 24 HRS OF POURING SLAB.

Y12 @ 1000 CENTRES DEFORMED TIE BAR LENGTH 1000

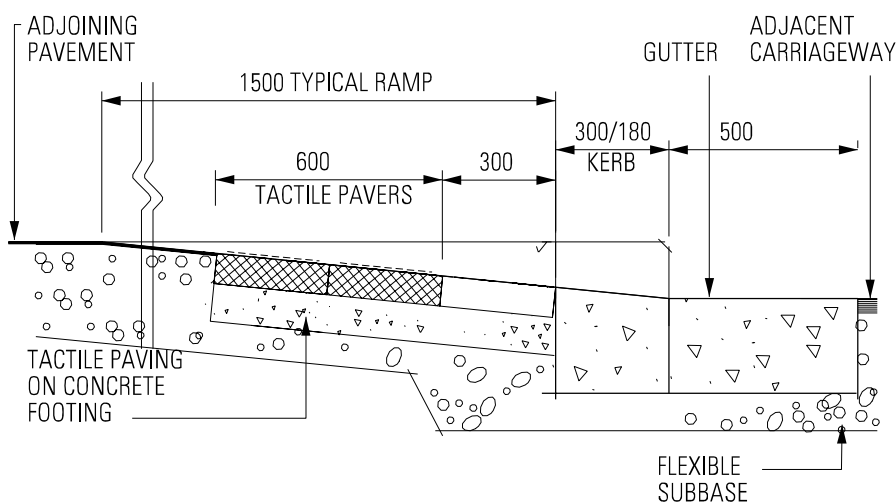
### TYPICAL JOINT DETAILS

Clouston Associates

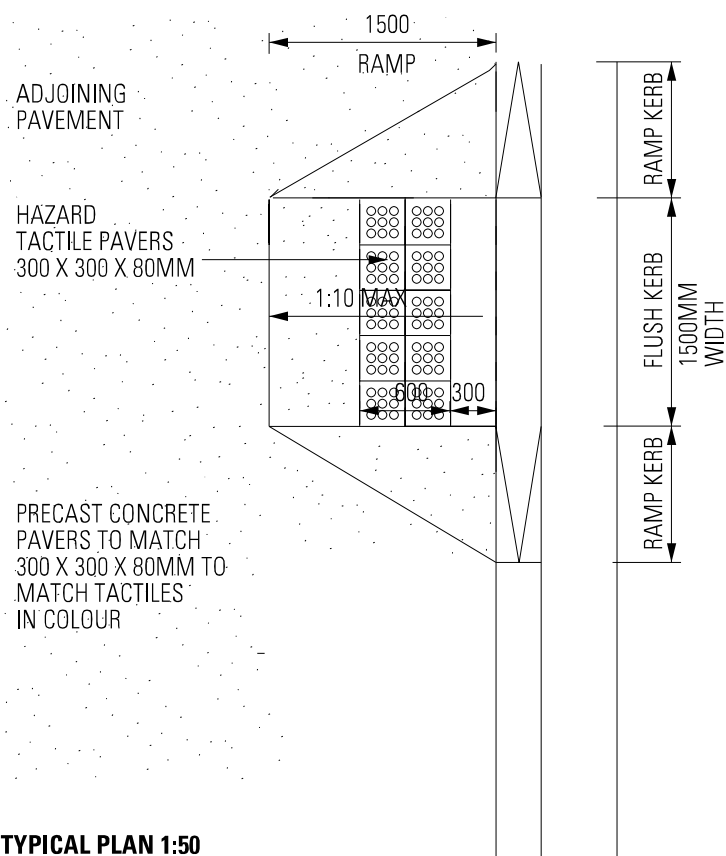
DESIGN INTENT ONLY

PP13b

# Design Guidelines



**TYPICAL SECTION 1:20**



**TYPICAL PLAN 1:50**

NOTE: REFER ACCESS STRATEGY FOR 1:20 RAMP WALKWAY CROSSINGS FOR 7m VERGE WIDTHS.

## Typical Kerb Ramp

### Tactile Pavers:

Location:

- 300x300x80mm depth hazard tactile pavers in a 600mm strip in all kerb crossings

Material:

- precast concrete unit pavers 300x300x80mm depth, 30% luminance contrast to surrounding pavements

Composition:

- to match approved sample

Finish:

- standard concrete broom finish in charcoal colour in hazard pattern to meet AS 1428.4-1992: Type B indicators

Construction:

- to engineers final specification

Note: Refer to SOPA's Access Strategies for tactile paving requirements. Refer to PP17 for manufacturers details for tactile pavers.

**DESIGN INTENT ONLY**

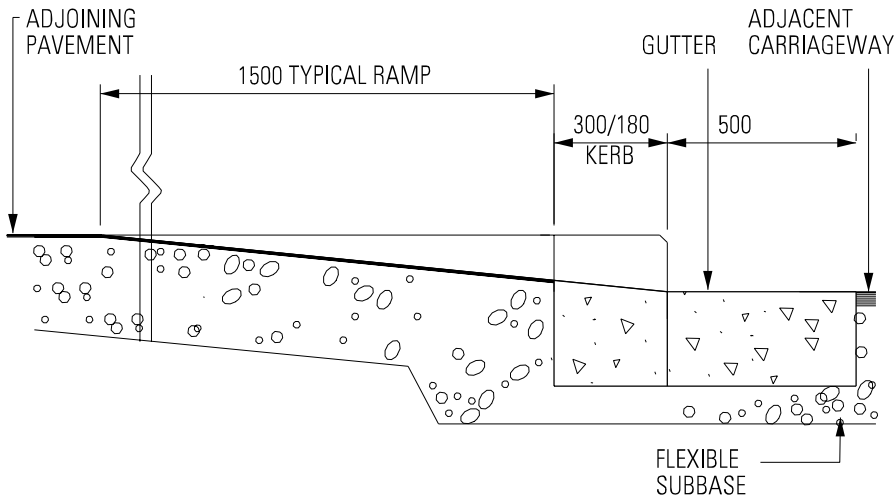
(UEDM DETAIL)

**P15**

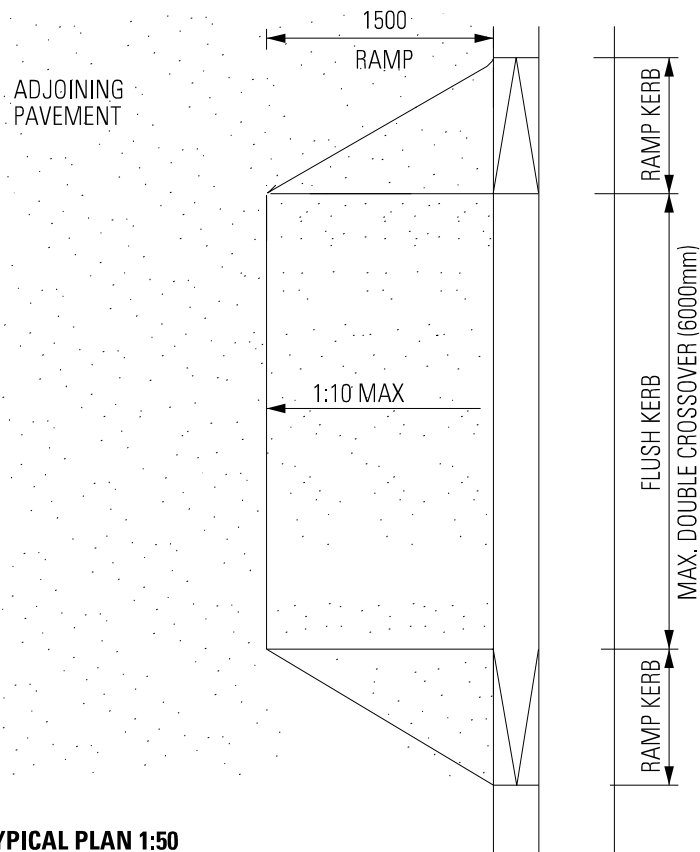


# Design Guidelines

## Typical Vehicle Crossover



**TYPICAL SECTION 1:20**



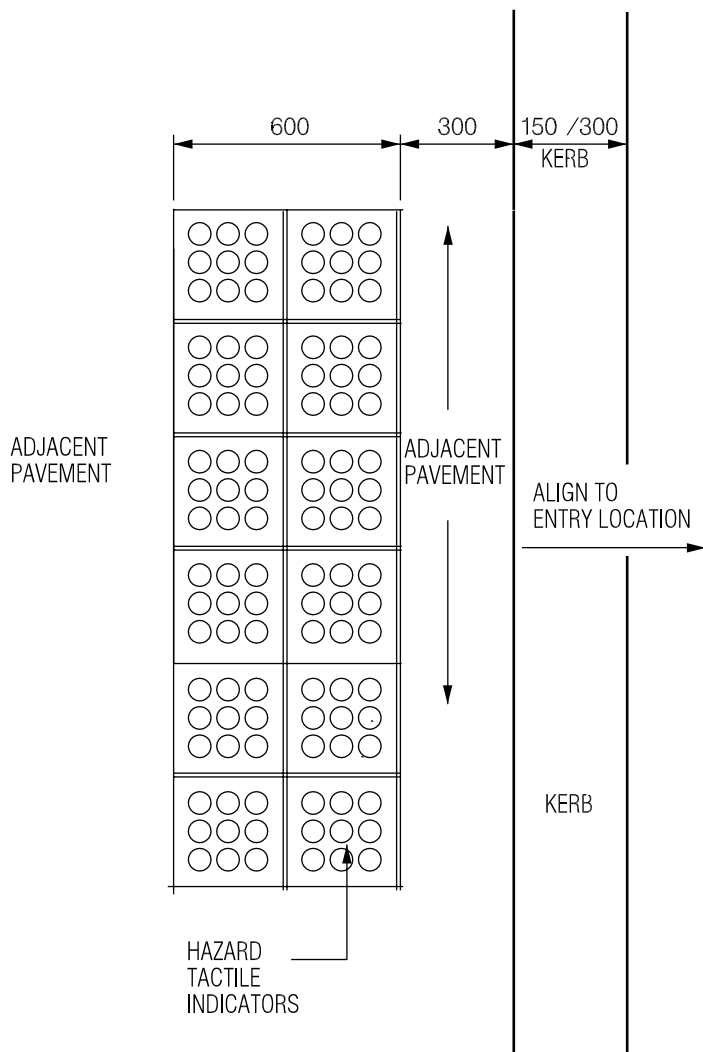
**TYPICAL PLAN 1:50**

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**P16**

# Design Guidelines



## Typical Hazard Tactiles

### Tactile Pavers:

#### Location:

- 1800mmx600mm strip of hazard tactile pavers

#### Material:

- precast concrete pavers 300x300x80mm depth, 30% luminance contrast to surrounding pavements

#### Composition:

- to match approved sample

#### Finish:

- standard concrete finish in charcoal colour in hazard tactile pattern to meet AS 1428.4-1992: Type B Indicators

#### Construction:

- to engineers final specification

### MANUFACTURER'S DETAILS:

Boral Masonry  
Clunies Ross Street  
Prospect NSW 2148

Ph: (02) 9840 2333

Fax: (02) 9840 2344

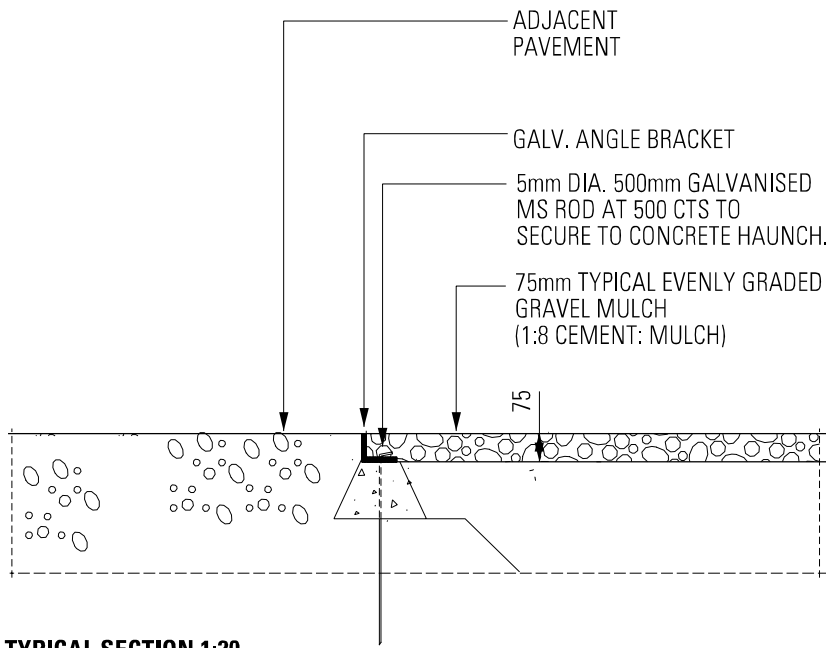
#### Note:

1. Refer to SOPA's Access Strategies for tactile paver requirements
2. Hazard Tactile pavers to be used only where there is a potential conflict between pedestrians and vehicles, ie. bus stops, car parks and access roads.

**DESIGN INTENT ONLY**

**PP17**

# Design Guidelines



## Typical Tree Surround - Square Steel Edge

### Material:

- mild steel angle bracket

### Finish:

- galvanised

### Construction:

- secure to concrete haunch using 5mm diameter 500mm length galvanised mild steel rod at 500 centres

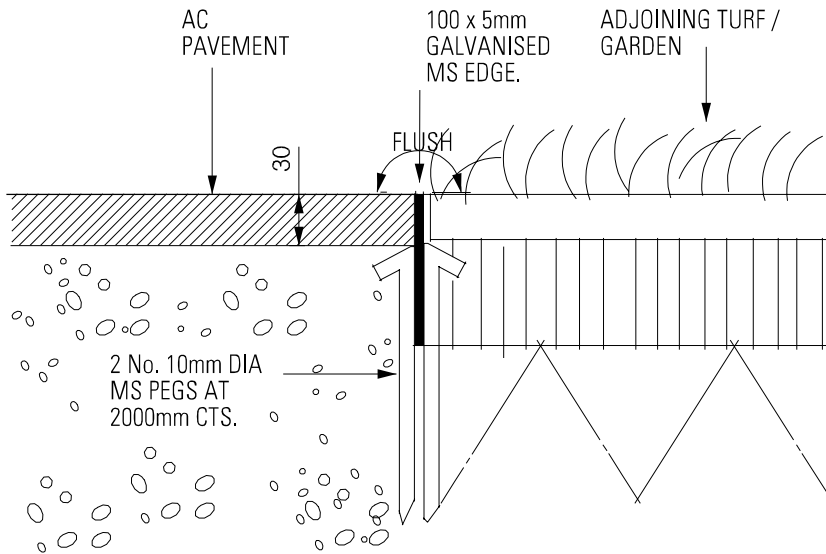
Note: Gravel mulch should not be used within the continuous accessible path of travel

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**P21**

# Design Guidelines



**TYPICAL SECTION 1:5**

## Typical AC Edge

**Material:**

- 100x5mm mild steel edge

**Finish:**

- galvanised

**Construction:**

- lap join edge strips 150mm
- peg every 2000 mm centres both sides using 10mm diameter, 200mm nominal length galvanised mild steel pegs

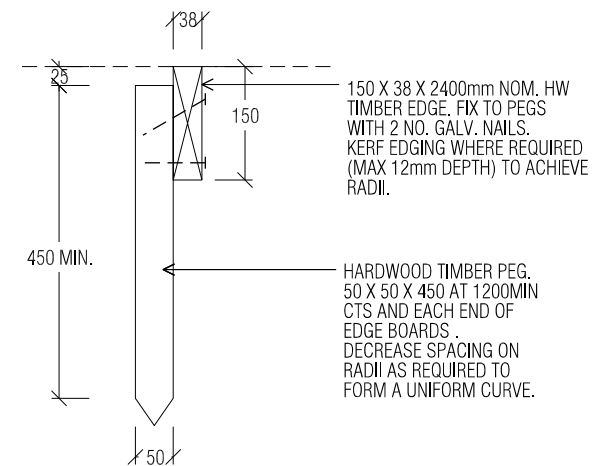
Access Note: Grass should not be used within the continuous accessible path of travel

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**P22**

# Design Guidelines



**TYPICAL SECTION 1:10**

## Typical Timber Edge



### PRODUCT:

- Hardware timber edge

### MATERIAL/FINISH:

- Sawn, sustainably managed regrowth, durability Class 1, seasoned hardwood to Table F2, AS1604.

### COMMENTS:

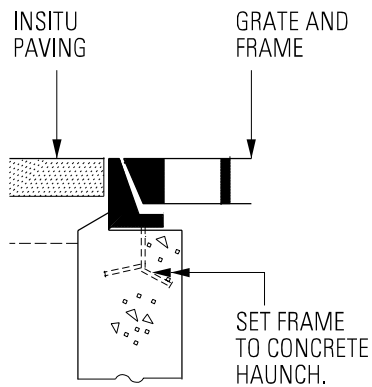
- 2400 x 150 x 38 nominal edgings, 50mm square pegs, 450mm long
- edgings flush with adjoining surfaces
- fix to pegs using two galvanised per fixing at 1200mm centres on planting side of edging
- where timber is to be curved, space the pegs to hold it to a uniform curve.

**DESIGN INTENT ONLY**

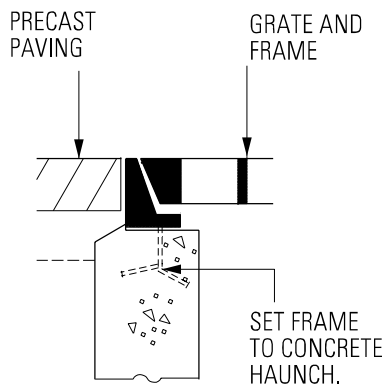
**PP23**



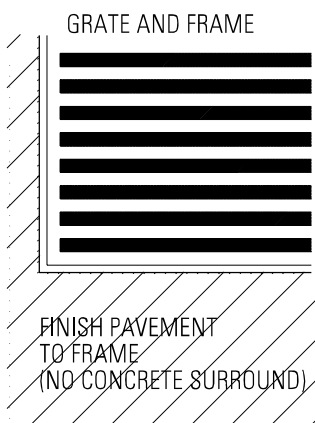
# Design Guidelines



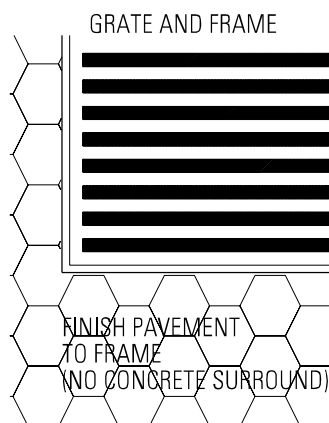
**TYPICAL INSITU SECTION NTS**



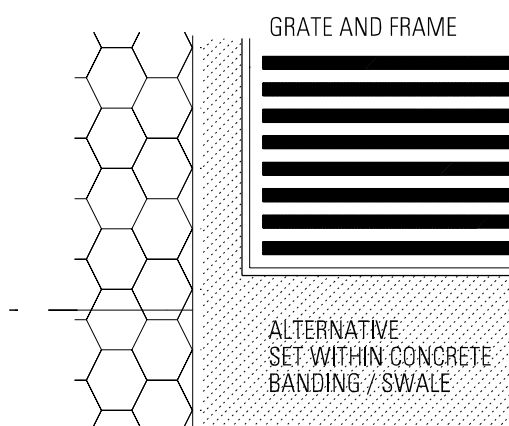
**TYPICAL PRECAST SECTION NTS**



**TYPICAL INSITU PLAN NTS**



**TYPICAL PRECAST PAVING PLAN NTS**



**TYPICAL PRECAST PAVING PLAN NTS**

## Typical Sump Grate

### Material:

- 600mm maximum cast iron sump grate and frame with perforations maximum 13mm width and 150mm length to meet AS 1428.4

### Finish:

- finish grate and frame flush with adjacent pavement
- do not expose concrete surround

### Construction:

- to landscape architects final detail

**DESIGN INTENT ONLY**

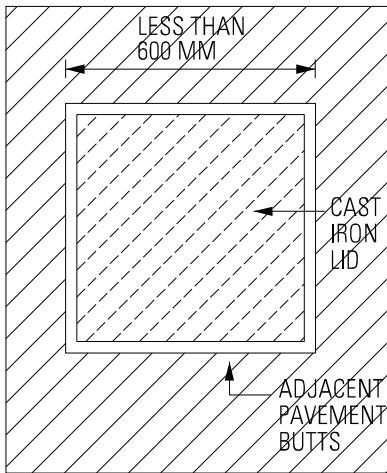
(UEDM DETAIL)

**P25**

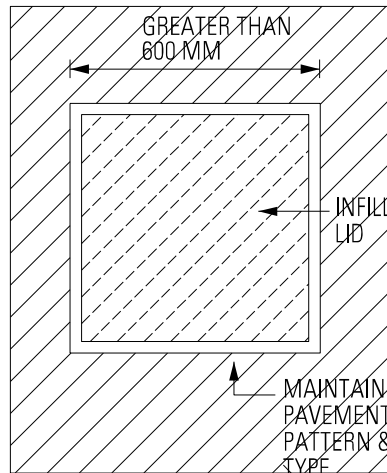
# Design Guidelines

## Typical Service Cover - General

- Service covers less than 600mm shape to be cast iron
- Service covers greater than 600mm to be infilled with material to match the surrounding pavement

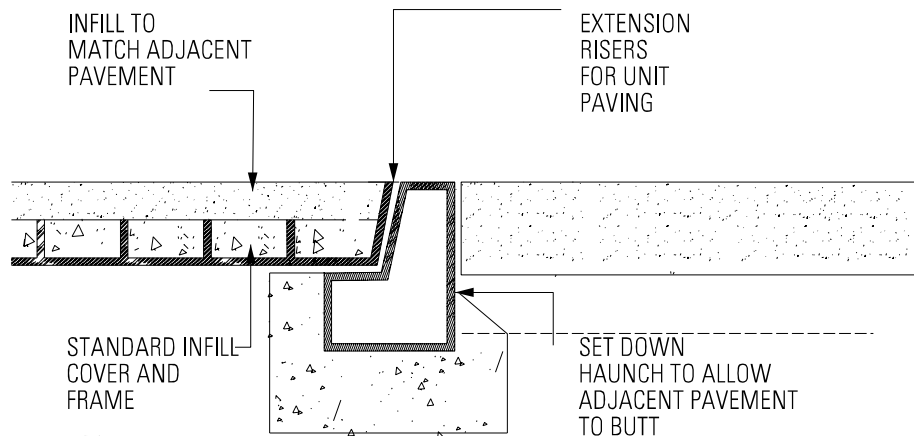


**CAST IRON**  
(LESS THAN 600MM)

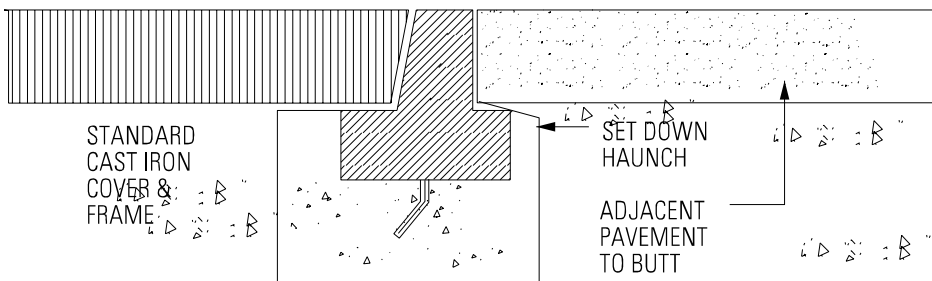


**INFILLED**  
(GREATER THAN 600MM)

### TYPICAL PLAN NTS



**INFILL COVER**



**CAST IRON COVER**

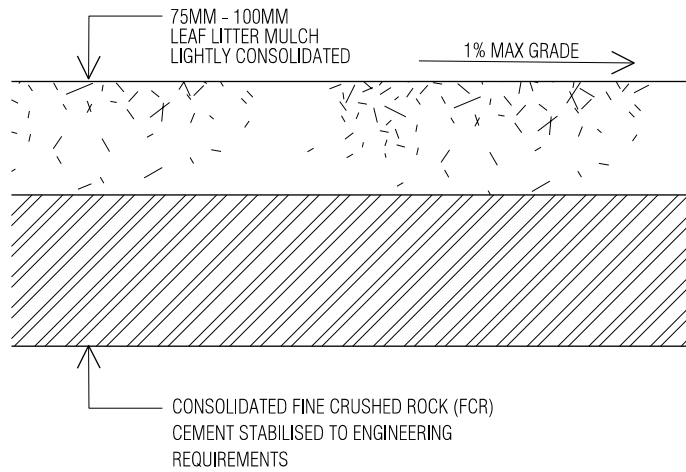
### TYPICAL SECTIONS NTS

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**P26**

# Design Guidelines



**TYPICAL SECTION 1:10**

## Leaf Litter Pavement

### MATERIAL:

- to consist of predominantly native species
- to contain no viable weed seed
- to contain no noxious plants which have the potential to re-grow, ie. bamboo, camphor laurel, etc

### COMPOSITION:

- to engineers final specification

### NOTE:

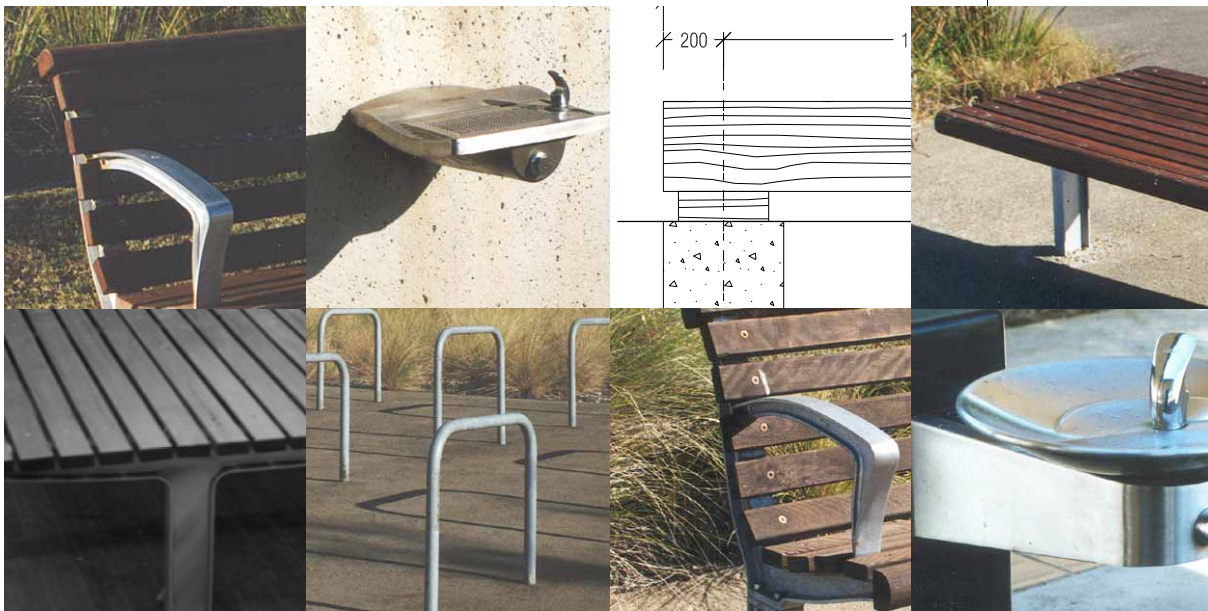
- should not be used as a paving material within the continuous accessible apths of travel
- to be used for low use trails ie. Newington Woodlands.

**DESIGN INTENT ONLY**

**PP36**

# Design Guidelines

## Park Furniture



Ref	Description	Principle	Document	Revision	<b>PARK FURNITURE</b>
<b>PARKLANDS FURNITURE</b>					
PSF02a+b	Parklands Seat	UEDM SF02a+b adapted	PEDM	July 2002	
PSF05	Parklands Table Seats (1800)	UEDM SF05 adapted	PEDM	July 2002	
PSF05a	Parklands Bench	UEDM SF05a - Table Seat 900mm adapted	PEDM	July 2002	
PSF06	Waterfront Bench	Recycled timber baulk, for use in foreshore areas	PEDM	July 2002	
PSF08	Picnic Set	For use in & around picnic shelters, wall mounted or freestanding	PEDM	July 2002	
SF10	Bubbler – Building Mounted	Mounted on building wall / Wheelchair accessible	UEDM	Oct. 2001	
PSF11	Bubbler – Freestanding	Where Required	PEDM	July 2002	
PSF15	Park Bollard - Removable & Fixed	Where required	PEDM	July 2002	
SF21	Bin Mount - Perpendicular	For use around catering sites/car parks. Contingent on operational requirements	UEDM	Oct. 2001	
SF22	Bin Mount - Parallel	For use around catering sites/car parks. Contingent on operational requirements	UEDM	Oct. 2001	
SF24a	Bin Station - Temporary	Using 240L bins, custom designed pictograms, visible recycling station to facilitate waste management. Contingent on operational requirements	UEDM	Oct. 2001	
SF25	Bike Rack - Free Standing	Simple, robust rack for short term, secure storage; in car parks, & selected locations	UEDM	Oct. 2001	
SF28	Phone - Wall Mounted	Standard Telstra telephone – Majestic booth for single or multiple installation	UEDM	Oct. 2001	
SF35	Standpipe & Housing	Protection for standpipe	UEDM	Oct. 2001	
PSF38a	Permanent Frog Fence	Refer to SOPA Frog Management Plan for location principles	PEDM	July 2002	
PSF38b	Permanent Frog Fence		PEDM	July 2002	
PSF38c	Permanent Frog Fence		PEDM	July 2002	

Ref	Description	Principle	Document	Revision
PSF39	Chainmesh Fence	Standard galv. Chainmesh fence Non PVC for low profile areas	PEDM	July 2002
PSF41	Flagpole	As installed at Homebush Bay Ferry Terminal	PEDM	July 2002
SF42a	Typical Fencing - Palisade	UEDM fence provides design intent. Detail design for specific applications in high profile landscapes only	UEDM	Oct. 2001
SF42b	Typical Fencing - Palisade	Photographic illustrations	PEDM	July 2002
SF43	Typical Gate - Palisade		PEDM	July 2002
SF44	Replica Heritage Fence	To be confirmed	PEDM	July 2002
SF45	Café Chairs		UEDM	June 2002
SF46	Café Tables		UEDM	June 2002
SF47	Café/Market Umbrellas		UEDM	June 2002

### Approach to Parklands Furniture

- Selected range of seating
- Selected fences to respond to profile & purpose. Palisade fence to be used in high profile landscape areas only. The chainmesh fence is an alternative for use on boundaries of low exposure areas where a low cost solution is required.
- Minimise scattered furniture in the Parklands, groupings are preferred
- Maximise potential of design to fulfil requirements
- Unobtrusive, simple, functional designs
- Bubblers, telephones, & flagpoles only associated with buildings
- Minimise amount of fencing through educative approaches to control of access, principle of planted boundaries rather than fences wherever possible
- Access restriction associated with buildings to be designed as a component of architecture, in lieu of extra security fencing
- Trade names to be discretely placed and approved on Parklands Furniture Elements



# Design Guidelines



## Parklands Seat

**PRODUCT:**  
Free-standing Seat with Armrests

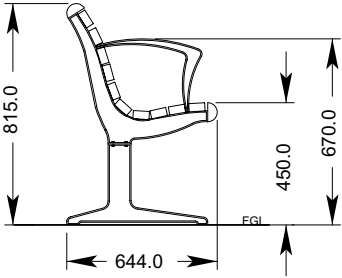
**MATERIAL/FINISH:**

- cast aluminium frame and armrests; cast surface with minimum wire brush
- timber planking: recycled hardwood timber
- timber finish: clear oil finish
- fixings: stainless steel tamper proof

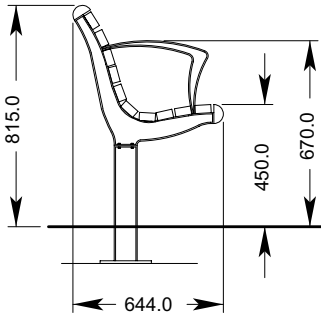
**COMMENTS:**  
PSF02a - surface mount  
PSF02b - inground mount

**MANUFACTURER'S DETAILS:**  
Street & Garden Furniture Co  
27 Rogers Street  
West End  
QLD 4101

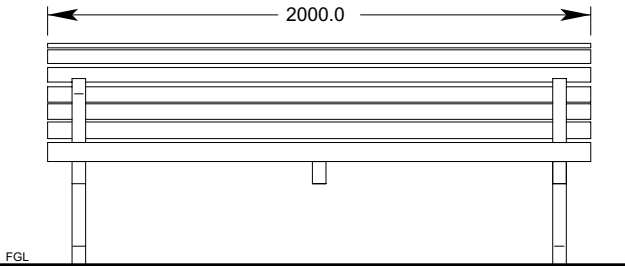
**Contact:**  
Ph: (07) 3844 1951  
Fax: (07) 3844 9337



END ELEVATION  
SF02a SURFACE MOUNT



END ELEVATION  
SF 02b INGROUND MOUNT



FRONT ELEVATION

**ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER**

**DESIGN INTENT ONLY**

**PSF02a+b**

# Design Guidelines



## Parklands Table Seat (1800)

PRODUCT:  
Table Seat

MATERIAL/FINISH:

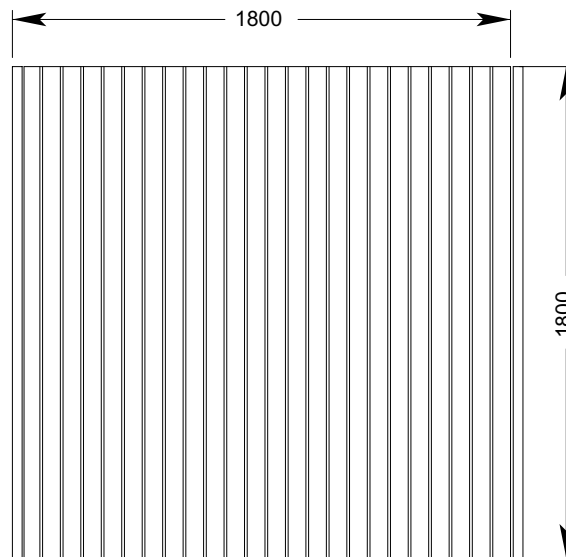
- cast aluminium frame; cast surface with minimum wire brush
- timber planking: recycled hardwood timber
- timber finish: clear oil finish
- fixings: stainless steel tamper proof

COMMENTS:  
surface mount

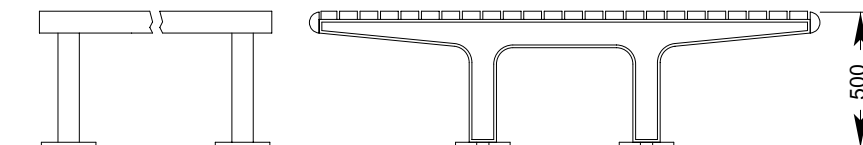
MANUFACTURER'S DETAILS:

Street & Garden Furniture Co  
27 Rogers Street  
West End  
OLD 4101

Contact:  
Ph: (07) 3844 1951  
Fax: (07) 3844 9337



PLAN VIEW



END ELEVATION

SIDE ELEVATION

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PSF05**

# Design Guidelines



## Parklands Bench

**PRODUCT:**  
900mm wide Bench Seat

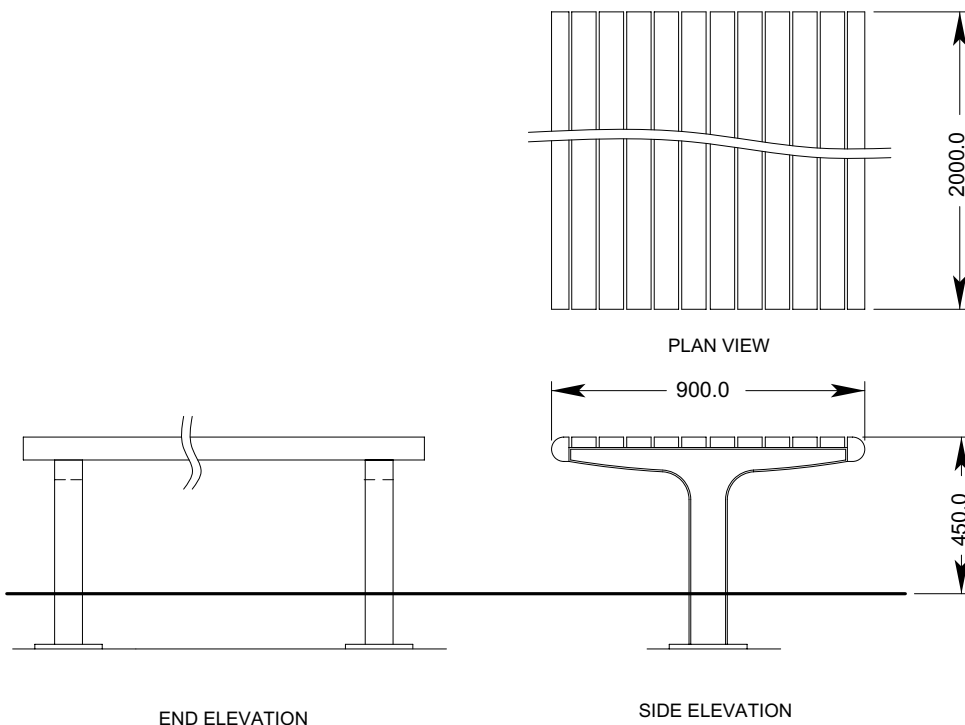
**MATERIAL/FINISH:**

- cast aluminium frame; cast surface with minimum wire brush
- timber planking: recycled hardwood timber
- timber finish: clear oil finish
- fixings: stainless steel tamper proof

**COMMENTS:**  
Inground mount

**MANUFACTURER'S DETAILS:**  
Street & Garden Furniture Co  
27 Rogers Street  
West End  
OLD 4101

**Contact:**  
Ph: (07) 3844 1951  
Fax: (07) 3844 9337



ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PSF05a**

# Design Guidelines

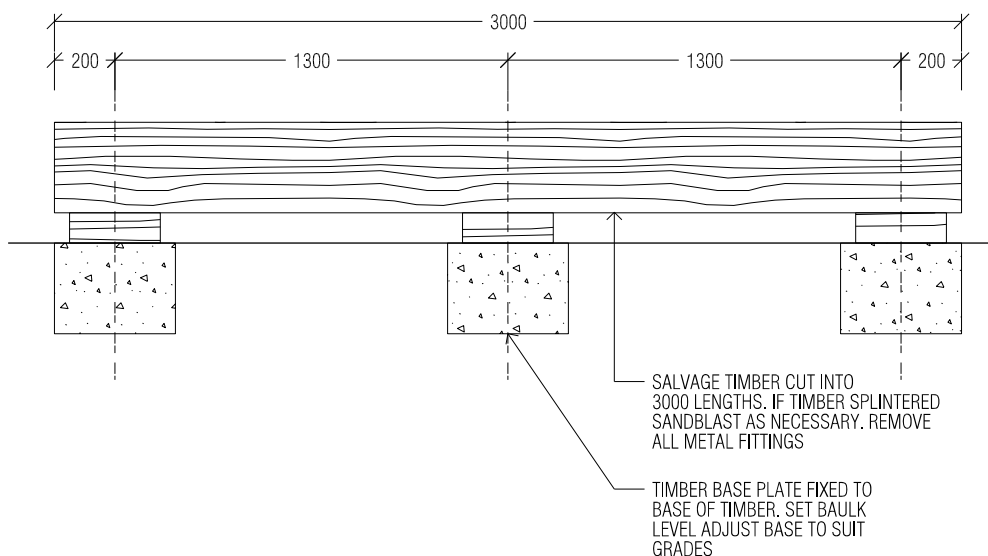


## Waterfront Bench

**PRODUCT:**  
Recycled hardwood timber baulk

**MATERIAL/FINISH:**  
clear oil finish

**COMMENTS:**  
to be used as seating / edge  
along the Foreshore Walk -  
Paramatta River and Homebush  
Bay



ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PSF06

# Design Guidelines

## Picnic Set



### MATERIAL/FINISH:

#### Frame:

- Mild steel frame with minimum wire brush finish

#### Timber:

- Timber planking to be recycled hardwood with clear oil finish

### MANUFACTURER'S DETAILS:

Street & Garden Furniture Co  
27 Rogers Street  
West End  
QLD 4101

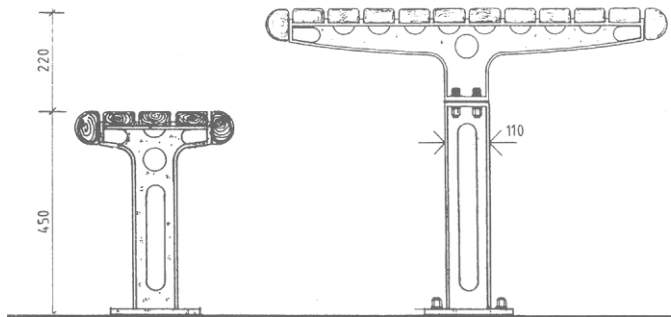
### Contact:

Ph: (07) 3844 1951

Fax: (07) 3844 933

### COMMENTS:

Wheelchair accessible.



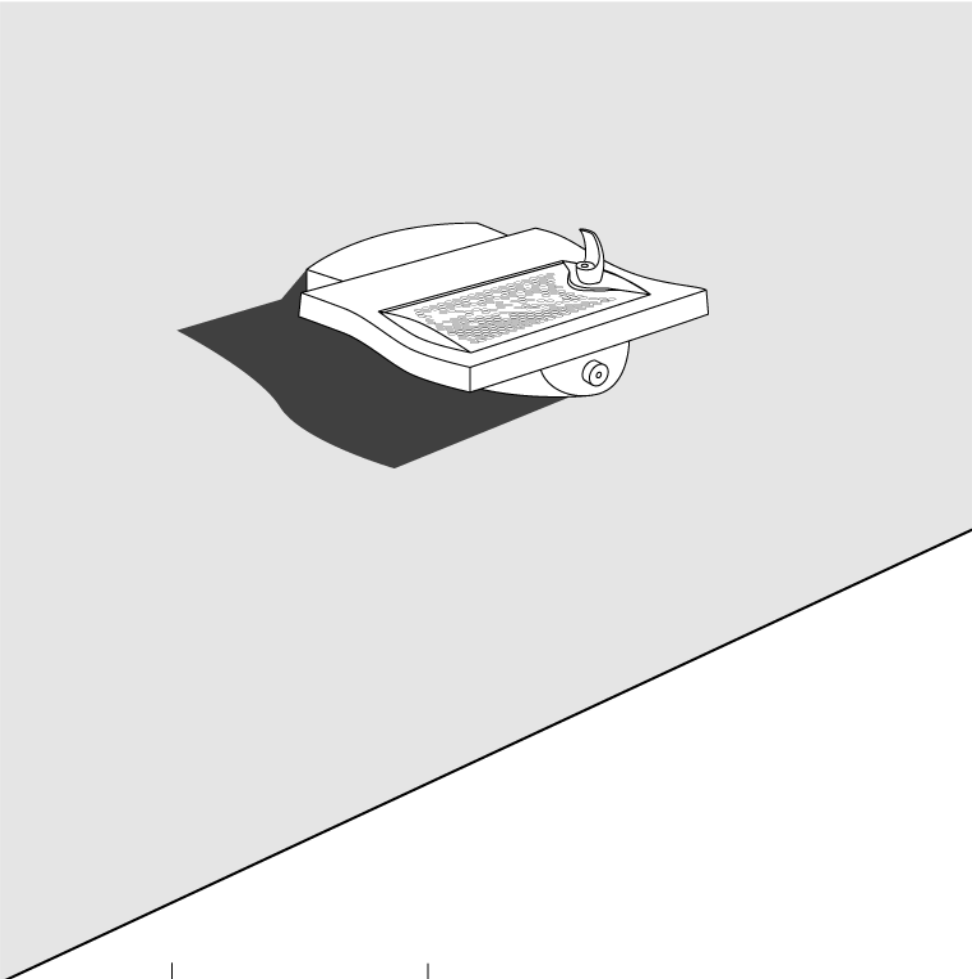
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

**PSF08**



# Design Guidelines



## Bubbler - Wall Mounted

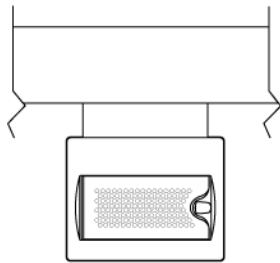
PRODUCT:  
Bubbler - Wall mounted



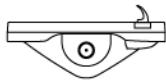
MATERIALS/FINISH:  
Stainless Steel Bubbler.  
Stainless Steel grate.

COMMENTS:  
Mounted on building wall.  
Wheelchair accessible

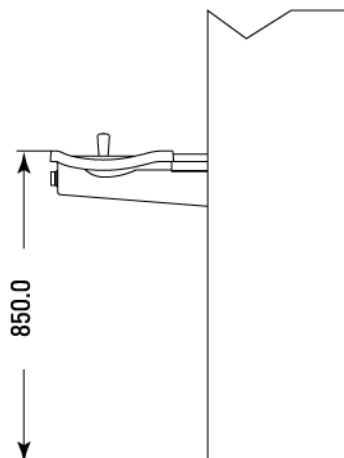
SUPPLIER:  
Supplied by Sydney Water



PLAN



FRONT ELEVATION



SIDE ELEVATION

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF10**



# Design Guidelines



## Bubbler - Freestanding

PRODUCT:  
Bubbler - Freestanding

MATERIAL/FINISH  
S/steel bowl, outlet and mounting arm. Automatic push button valve. Outlet finish - Satin. Powdercoated m/steel tapered pedestal

SUPPLIER: bubbler supplied by Sydney Water

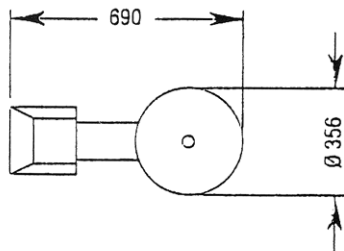
MANUFACTURER'S DETAILS:  
Commercial Systems Australia  
15-17 Molan St  
RINGWOOD VIC 3134

Ph: (03) 9879 4999  
Fax: (03) 9879 4966

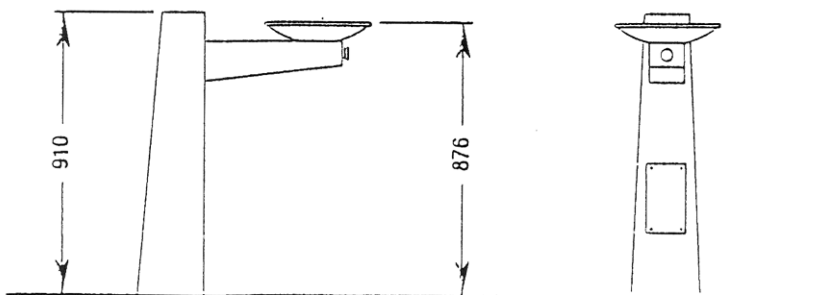
Contact: Gavan Costelloe

COMMENTS:  
Wheelchair accessible. Surface mount at ground level. Re-ordering 3 week without inventory.

Catalogue No: OE 5001



PLAN



SIDE ELEVATION

FRONT ELEVATION

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

PSF11

# Design Guidelines



## Park Bollard

**PRODUCT:**  
Fixed or removable Bollard  
- available in Removable & Locking, Fixed Insitu and Fixed Base-plate.

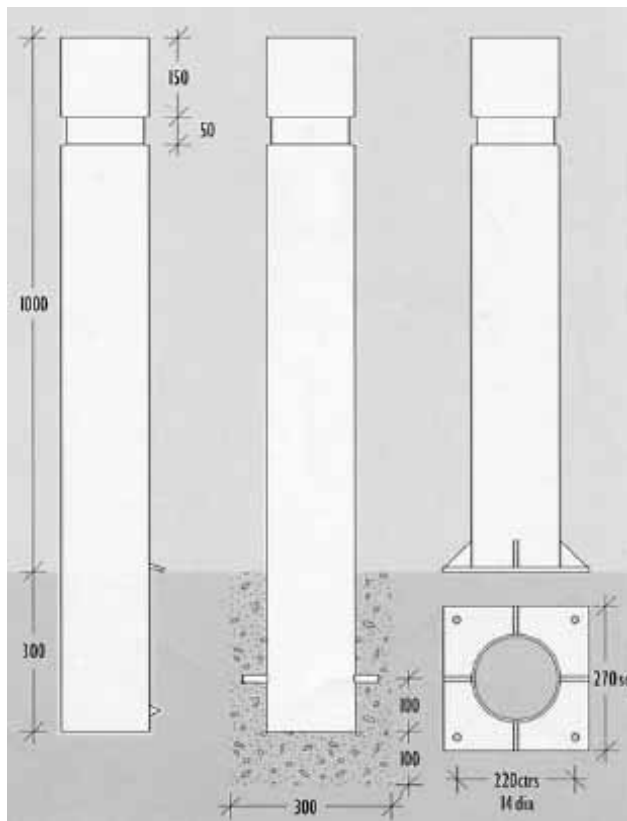
**MATERIALS/FINISH:**  
Polished aluminium bollard  
150NB(165.1) x 5 mm aluminium pipe. Collar: Yellow reflective tape

**MANUFACTURER'S DETAILS:**  
LEDA Security Products Pty Ltd  
3-7 Highgate Street  
Auburn NSW 2144

Ph: (02) 9737 8730  
Fax: (02) 9737 8731

Contact: Joseph Pizzolato

Catalogue No:  
AE151R (removable)  
AE151F (fixed)

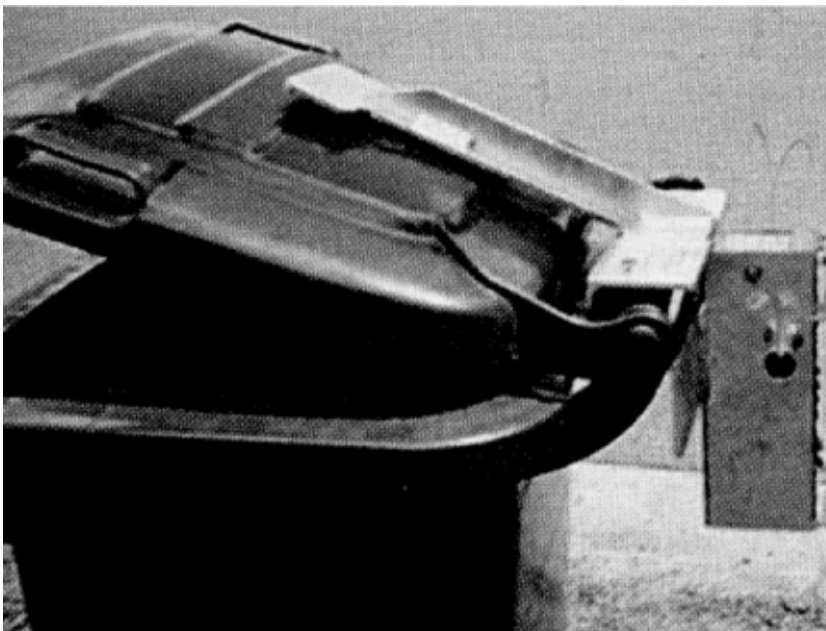


ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PSF15**

## Design Guidelines



### Bin Mount - Perpendicular

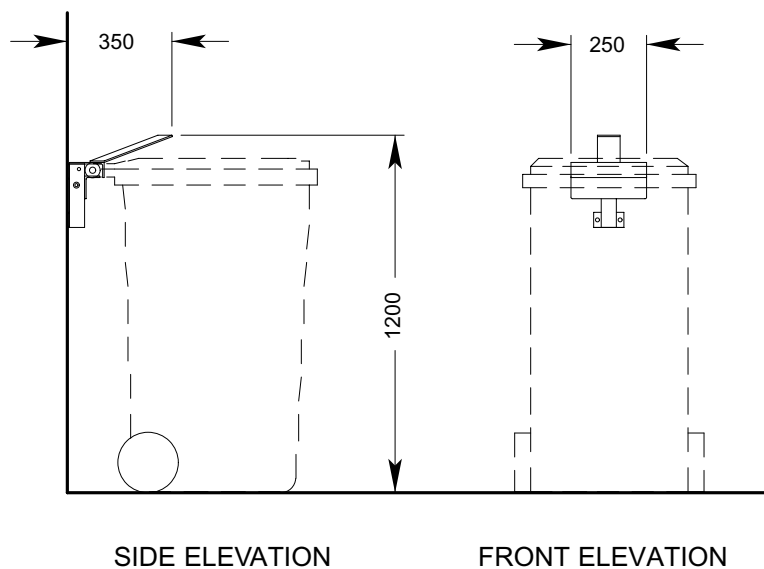
**PRODUCT:**  
240 Litre Bin Wall Mount  
Fixed to existing walls

**MATERIALS/FINISH:**  
Bin security clamp hot-dip galva-  
nised m/steel

**COMMENTS:**  
Suits all size bins.  
Key locked.

**MANUFACTURER'S DETAILS:**  
Street Furniture Australia  
92-94 Buckland Street  
Alexandria NSW 2015

Ph: (02) 9310 1488  
Fax: (02) 9318 1343



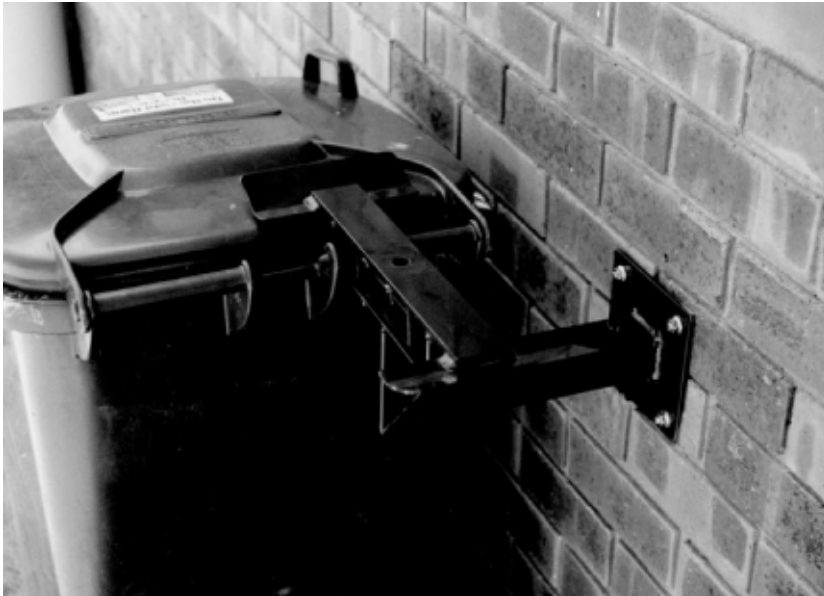
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF21**

# Design Guidelines



## Bin Mount - Parallel

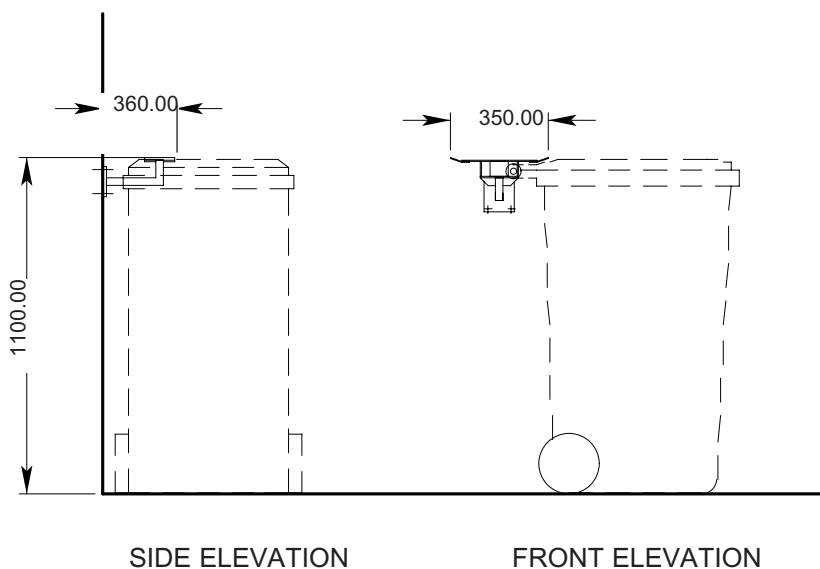
**PRODUCT:**  
Bin Wall Mount Parallel  
Fixed to existing walls.

**MATERIALS/FINISH:**  
Mild Steel hot-dip galvanised.  
Features universal keyed security lock.

**COMMENTS:**  
Suit both 240 & 175 litre.  
Available in double and triple units.

**MANUFACTURER'S DETAILS:**  
Street Furniture Australia  
92-94 Buckland Street  
Alexandria NSW 2015

Ph: (02) 9310 1488  
Fax: (02) 9318 1343



ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF22**

# Design Guidelines



## Bin Mount - Temporary

**PRODUCT:**  
Temporary Bin Station

**MATERIALS/FINISH:**  
Mild Steel hot-dip galvanised.  
Backing Plates - powdercoated in Anzol Charcoal Metallic. Pictogram panels - refer S3

**COMMENTS:**  
Utilises catalogue item 240 litre bins.  
Colour coded dark blue, maroon, grey.  
Provide hold-down bolts to provide structural stability when freestanding

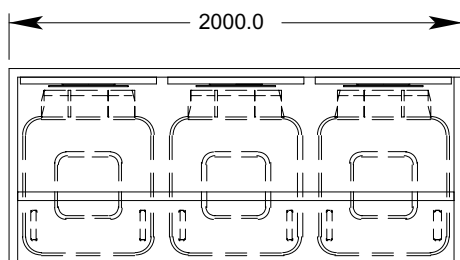
**MANUFACTURER'S DETAILS:**  
Frame & Bin Locking Arm:  
Street Furniture Australia  
92-94 Buckland Street  
Alexandria NSW 2015  
Ph: (02) 9310 1488  
Fax: (02) 9318 1343

**Pictograms:**  
Artcraft  
13 Kumulla Road  
Miranda NSW 2228  
Ph: (02) 9525 7788  
Fax: (02) 9526 2285

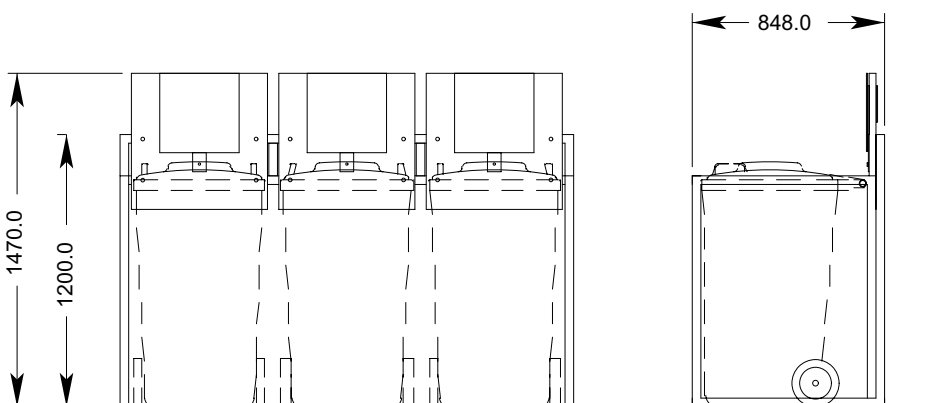
**Bins:**  
Sulo MGB Australia Pty Ltd  
123 Wisemans Ferry Road  
Somersby NSW 2250  
Ph: (02) 4348 8488  
Fax: (02) 4348 8123

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**  
(UEDM DETAIL)  
**SF24a**



PLAN VIEW



FRONT VIEW

SIDE VIEW

# Design Guidelines



## Bike Rack - Freestanding

PRODUCT:  
Freestanding Bike Rack

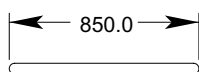
MATERIALS/FINISH:  
Mild Steel hot-dip galvanised.

COMMENTS:  
Layout of bike racks to comply with AS2890 - 1993

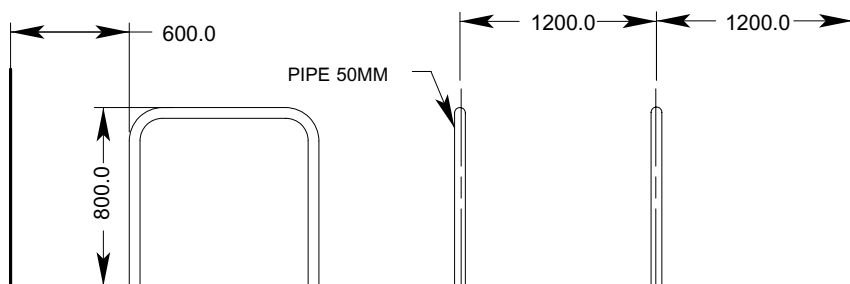
MANUFACTURER'S DETAILS:  
Leda Security Products  
3-7 Highgate Street  
Auburn NSW 2144

Ph: (02) 9737 8730  
Fax: (02) 9737 8731

Contact: Joseph Pizzolato



PLAN VIEW



FRONT VIEW

SIDE VIEW

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF25**



# Design Guidelines

## Phone - Wall Mounted

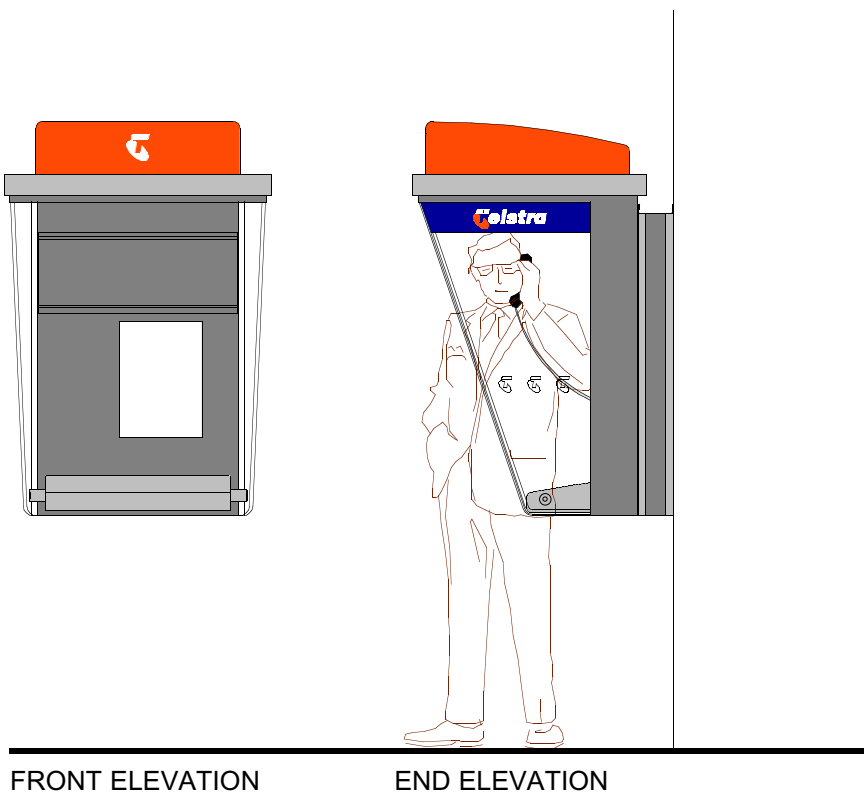
PRODUCT:  
Phone Wall Mounted

MATERIALS/FINISH:  
Telstra majestic booth custom finished.

COMMENTS:  
Wheelchair accessible.  
Telstra install, own and operate this phone system.  
Coin and/or Card option

MANUFACTURER'S DETAILS:  
Telstra  
Level 25, 320 Pitt Street  
Sydney NSW 2000

Ph: (02) 9423 5258  
Fax: (02) 9423 5466



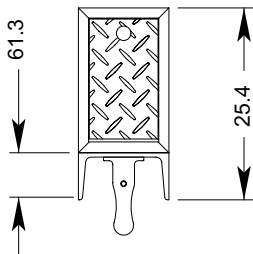
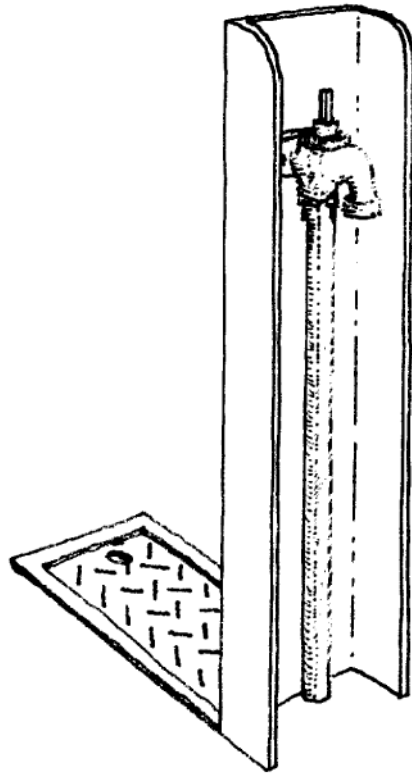
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

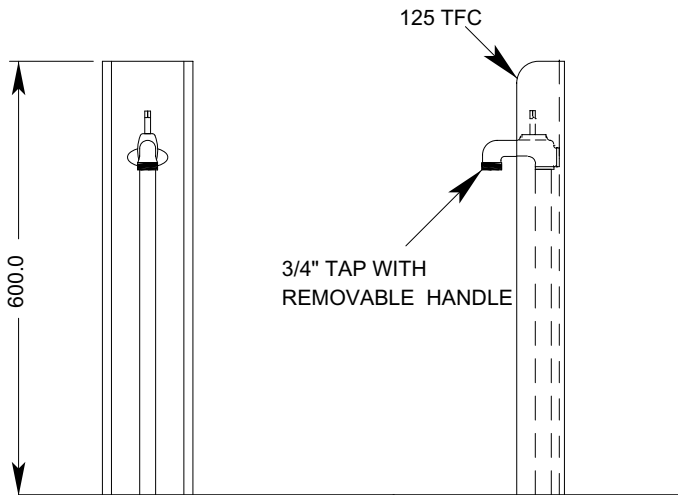
(UEDM DETAIL)

**SF28**

# Design Guidelines



TOP VIEW



FRONT VIEW

SIDE VIEW

## Standpipe and Housing

**PRODUCT:**  
Assembled Standpipe and Housing

**MATERIALS/FINISH:**  
Mild Steel "U" section  
150 x 200mm hot dip galvanised.  
Stainless steel fixings - tamper proof

**COMMENTS:**  
Inground mounted

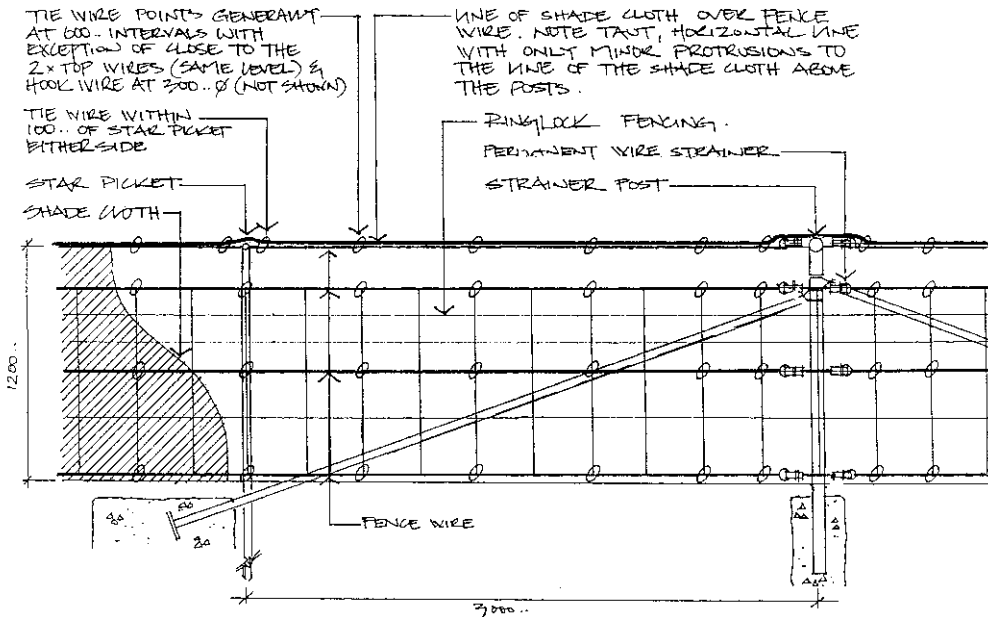
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

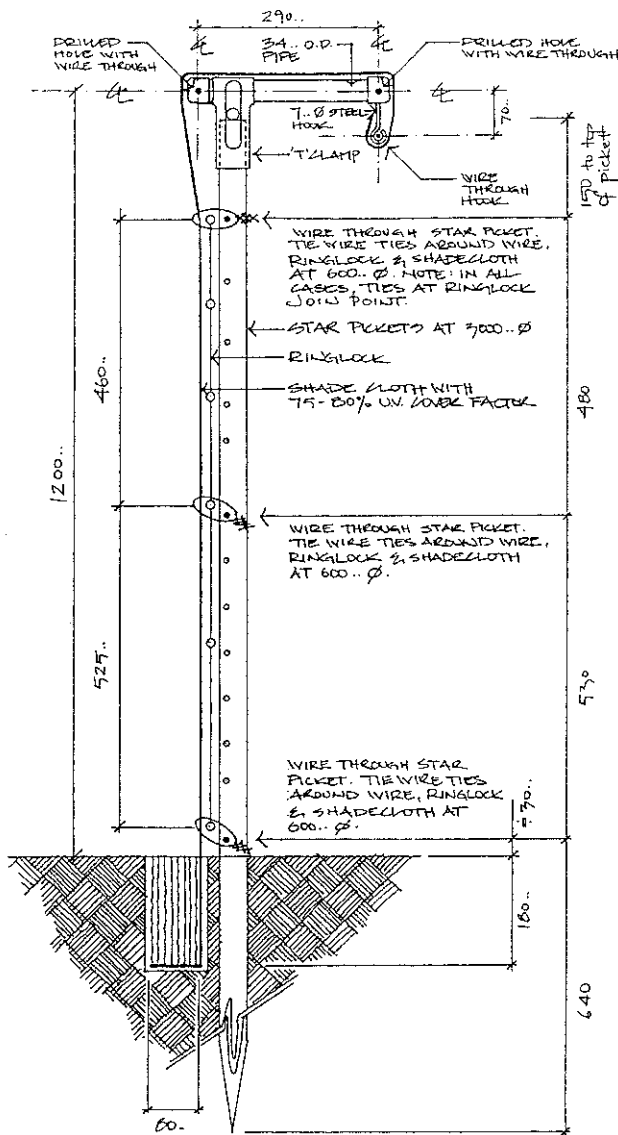
(UEDM DETAIL)

**SF35**

# Design Guidelines



**TYPICAL LONG SECTION**



**TYPICAL SECTION** Pittendrigh Shinkfield & Bruce

## Permanent Frog Fence

**PRODUCT:**  
1200mm high wire ringlock fencing with shade-cloth cover.



**MATERIALS/FINISH:**

Strainer posts: 60mm OD galv pipe set in concrete footing, braced by 42mm OD galv. pipe diagonal stays set into concrete footings. Post to be capped with galv. steel cap fitting.

Strainer post footings: 20MPa concrete, 225mm diameter x min 800mm deep.

Start pickets: 1800mm long black steel star pickets at max. 3000mm centres.

Fencing wire: 2.8mm galv. high tensile fencing wire.

Ringlock fencing: Ringlock steel mesh fencing with 300mm wide openings.

Shade cloth: 75-80% density black shade cloth - equal or similar to Hortshade Heavy Knitted Shade Cloth.

**COMMENTS:**  
Refer Appendix C for Frog Fence specification.

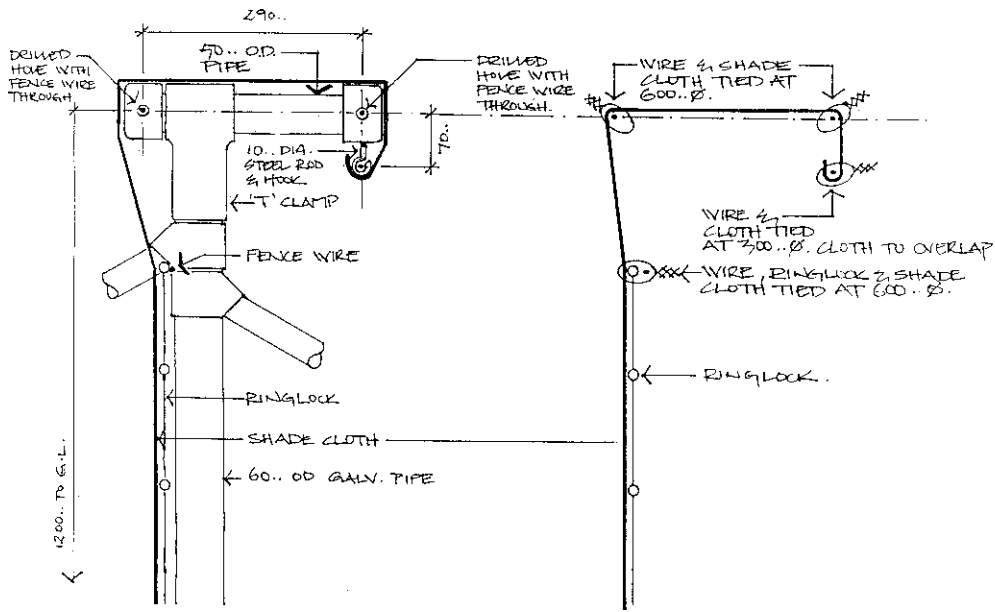
ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

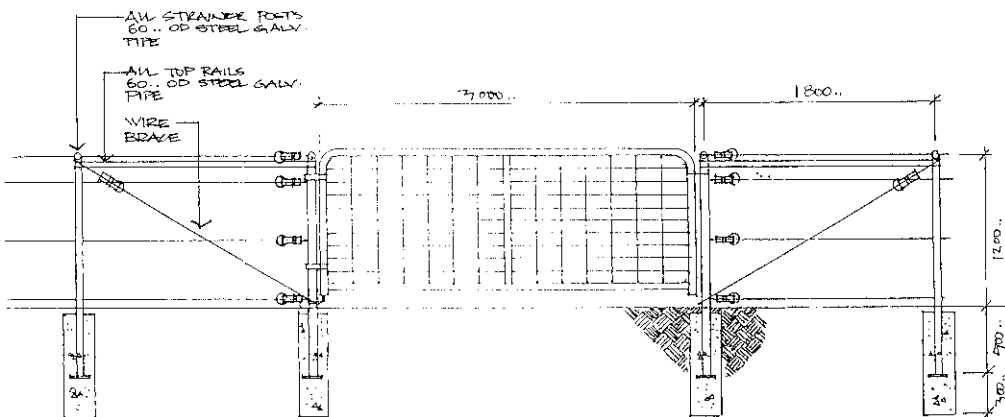
**PSF38a**

# Design Guidelines

## Permanent Frog Fence



**TYPICAL DETAIL OF STRAINER POSTS & BETWEEN POSTS**



**TYPICAL VEHICULAR GATE**

*Pittendrigh Shinkfield & Bruce*

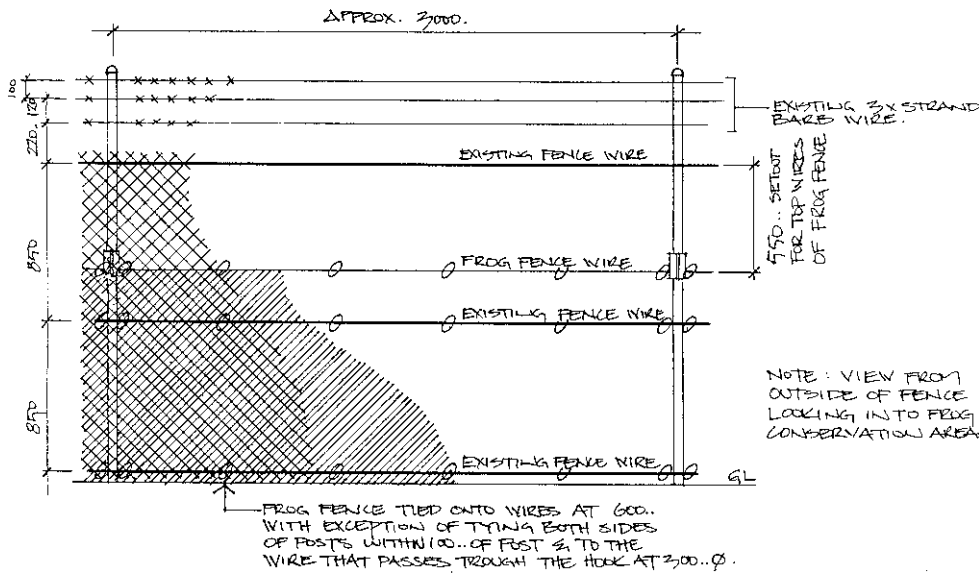
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DESIGN INTENT ONLY

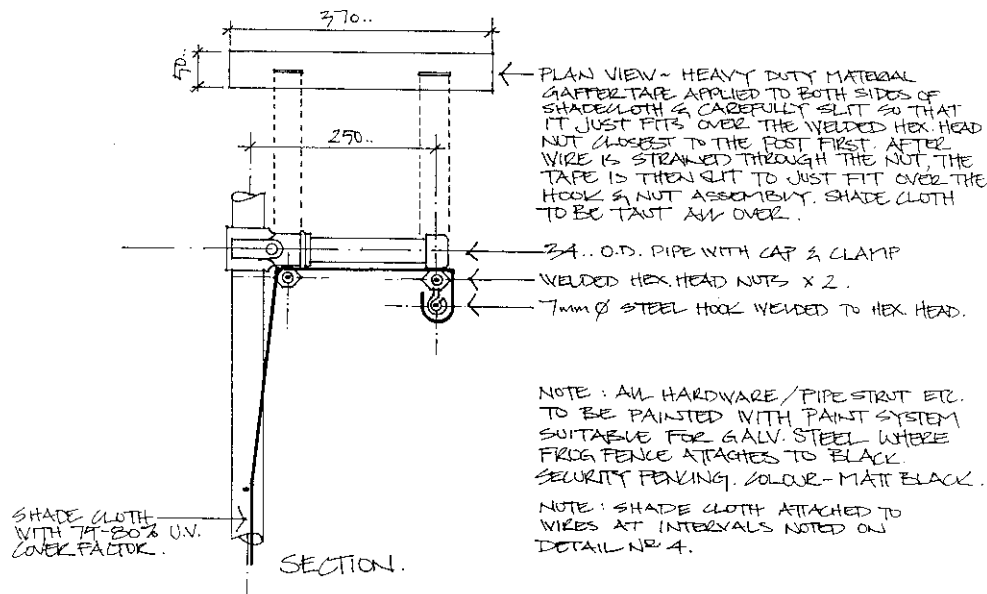
**PSF38b**

# Design Guidelines

## Permanent Frog Fence



**FROG FENCE ATTACHED TO SECURITY FENCE - SECTION & PLAN**



**FROG FENCE ATTACHED TO SECURITY FENCE - ELEVATION**

Pittendrigh Shinkfield & Bruce

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

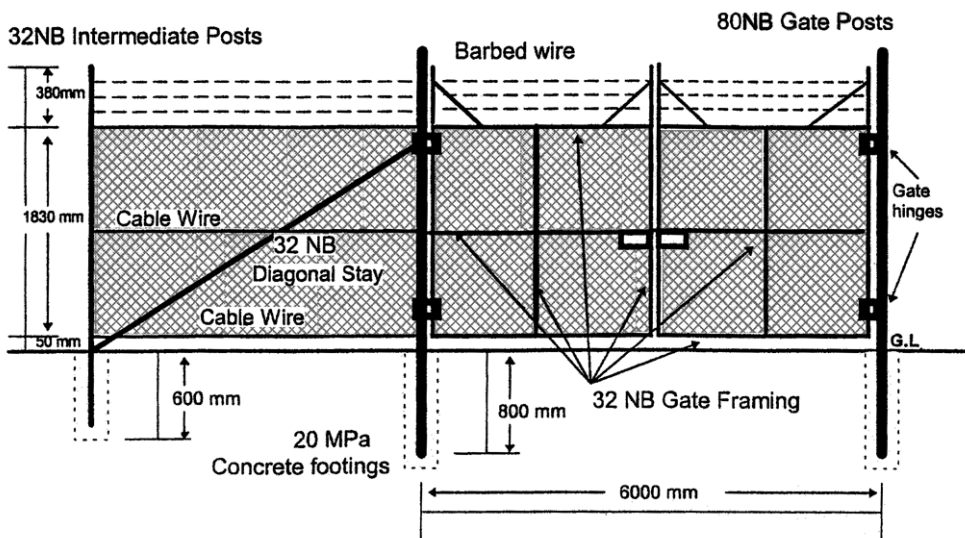
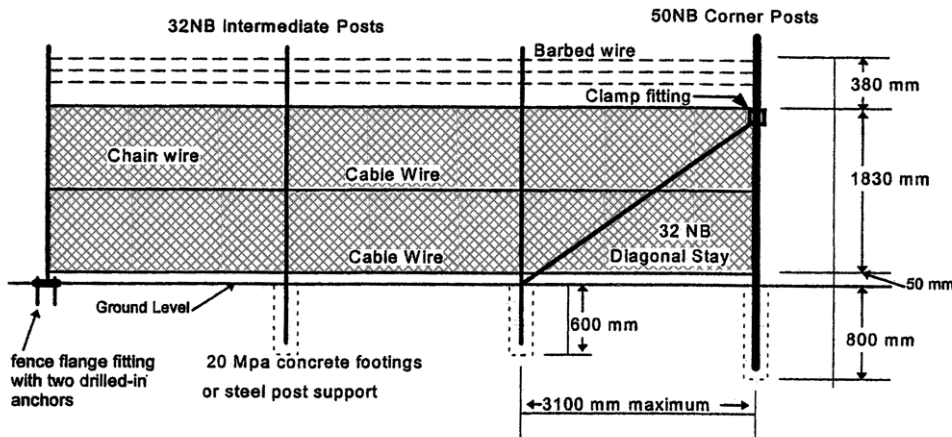
PSF38c

# Design Guidelines

## Chainmesh Fence

**PRODUCT:**  
1800-2100mm high galvanised chain mesh fence

**COMMENTS:**  
- Fence can be used with or without barbed wire, depending on situation.  
- To be used on boundaries of low exposure areas where a low cost solution is needed



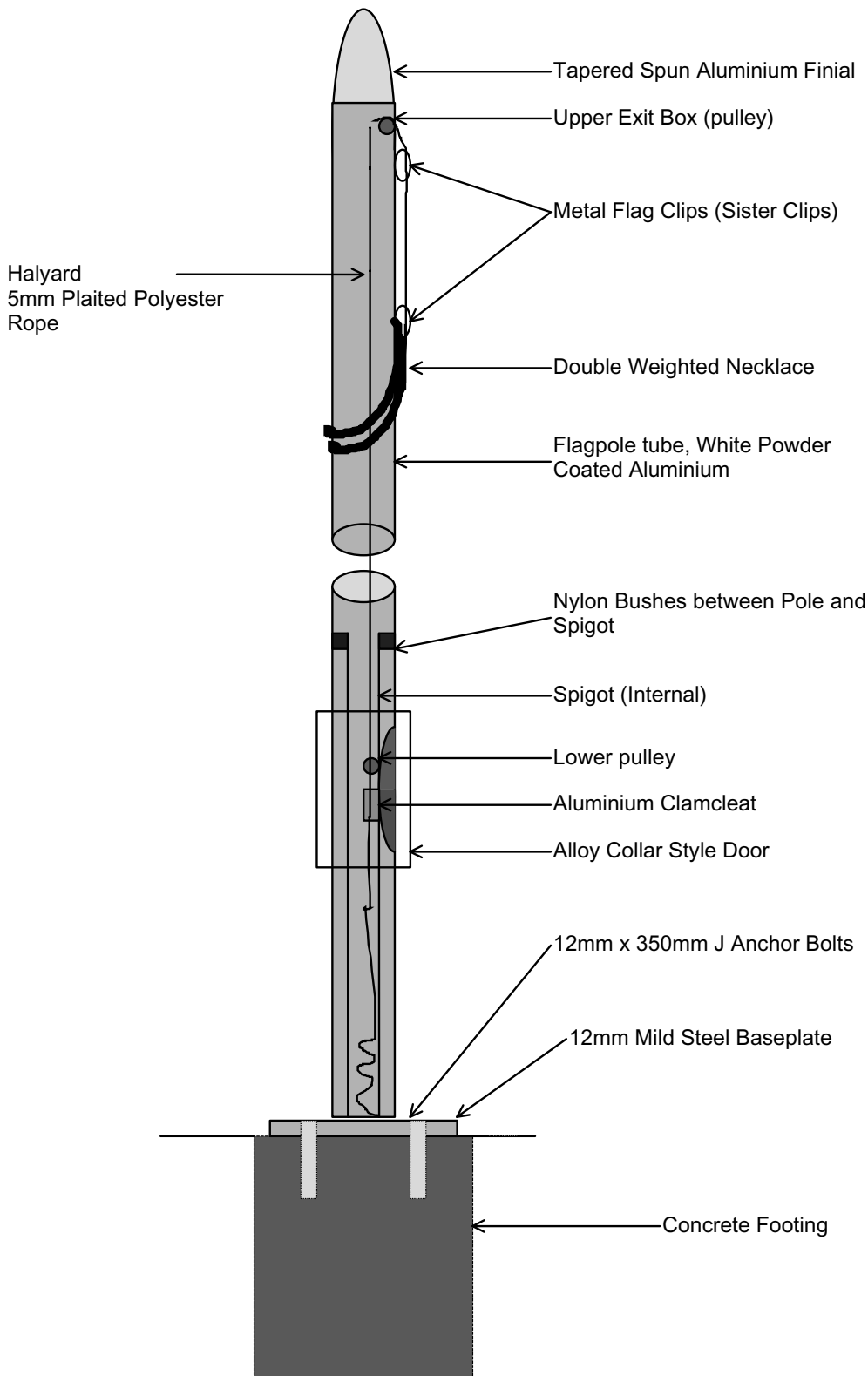
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PSF39**



# Design Guidelines



## Flagpole

**PRODUCT:**  
Cast aluminium flagpole

**MATERIALS/FINISH:**  
White Powder coated aluminium,  
tapered spun aluminium finial

**COMMENTS:**  
To be used for marking major  
entry points, as at Homebush Bay  
Ferry Warf and Australia Interna-  
tional Archery Park.

**MANUFACTURER'S DETAILS:**  
Flagpole World  
42 Edwin Street  
Mortlake NSW 2137

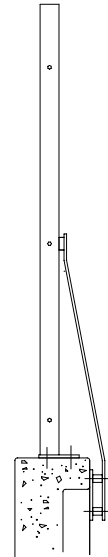
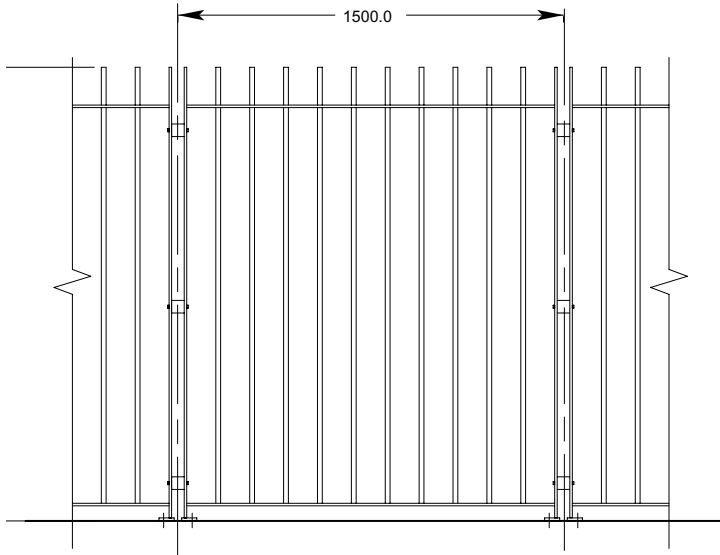
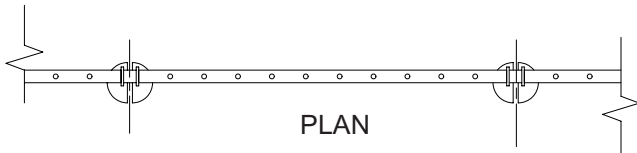
Ph: (02) 9743 1111  
Fax: (02) 97435821

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A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PSF41**

# Design Guidelines



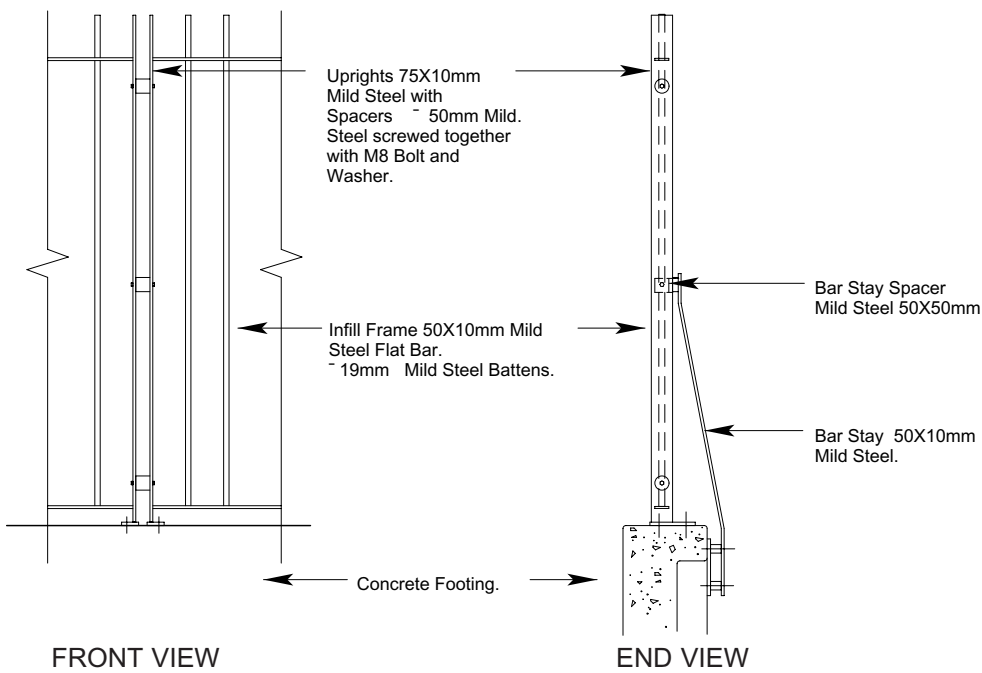
## Typical Fencing - Palisade

**PRODUCT:**  
Assembled Palisade Fencing

**MATERIALS/FINISH:**  
Mild Steel hot dip galvanised

**COMMENTS:**  
Assembled from readily available simple components.  
To comply with BCA requirements.

**PLACEMENT:**  
Refer to OCA Fencing Strategy



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**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF42a**

# Design Guidelines

## Typical Fencing - Palisade

Photographic illustrations -  
Homebush Bay Ferry Warf



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A STRUCTURAL ENGINEER

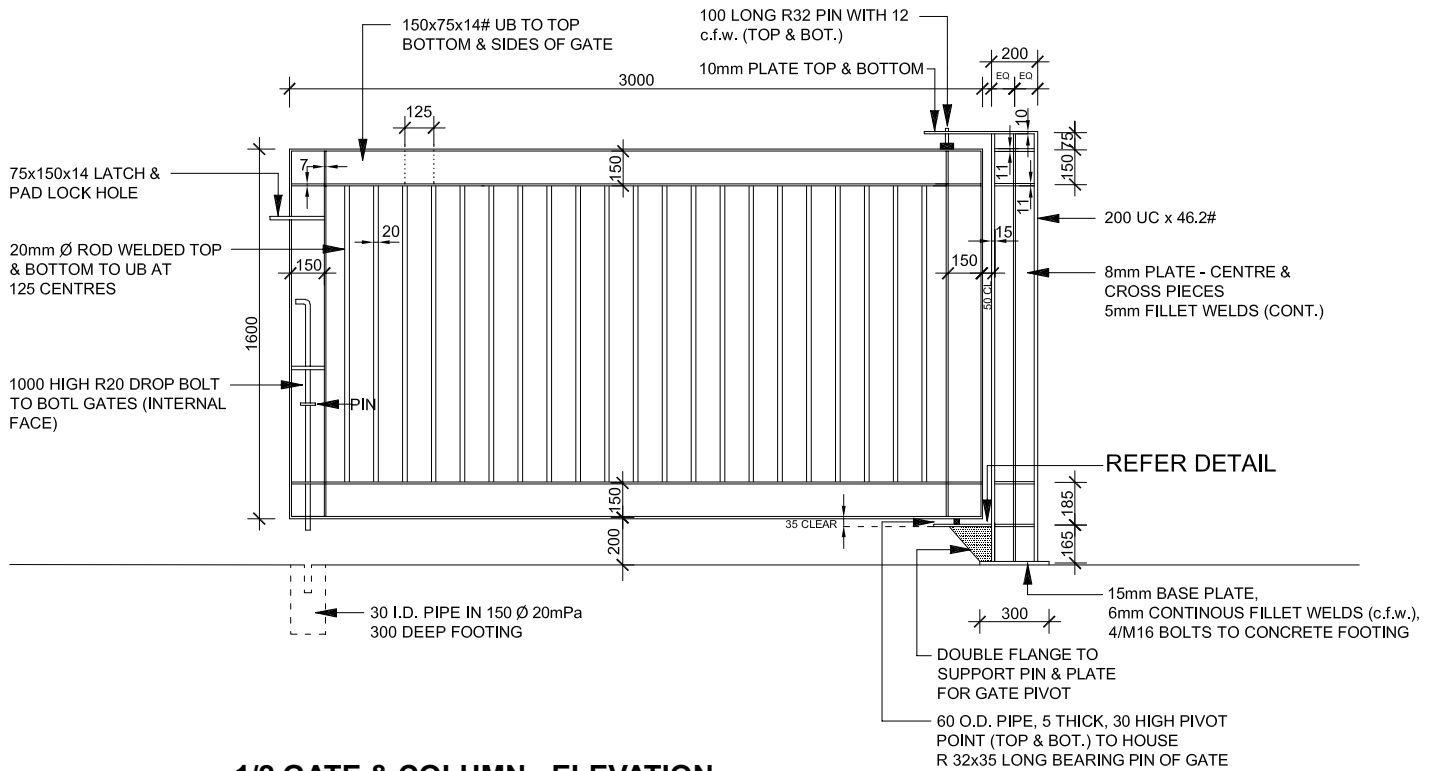
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(UEDM DETAIL)

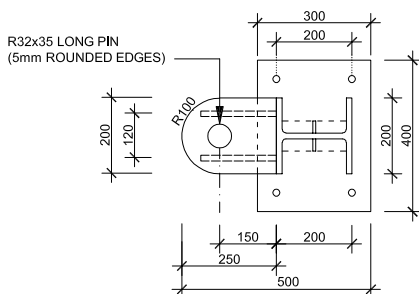
**SF42b**

# Design Guidelines

## Typical Gate - Palisade



**1/2 GATE & COLUMN - ELEVATION**



**LOWER SUPPORT DOUBLE FLANGE - PLAN**

Mather & Associates

ALL STRUCTURE TO BE VERIFIED BY A STRUCTURAL ENGINEER

DESIGN INTENT ONLY

**PSF43**

# Design Guidelines

TO BE CONFIRMED

## Replica Heritage Fence

### LOCATION:

To be installed in R.A.N.A.D.  
Precinct of Parklands.

### PRODUCTS:

### MANUFACTURER'S DETAILS

### COMMENTS:

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

**PSF44**

# Design Guidelines



## Cafe chairs

PRODUCT:  
Cafe tables

MATERIAL/FINISH:  
Polished aluminium as per manufacturer's specification.

### Aluminium slats

Commercial quality

Stackable

Polished aluminium frame and slats

### Timber slats

Commercial quality

Stackable

Polished aluminium frame with timber slats

### MANUFACTURER'S DETAILS

Emerdyn Pty Ltd  
24 Wiggs Road  
Riverwood NSW 2210  
Ph: (02) 9534 1314  
Fax: (02) 9534 5298

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF45**



# Design Guidelines



## Cafe tables aluminium and timber

PRODUCT:  
Cafe Tables

MATERIAL/FINISH:  
Polished aluminium frame as per  
manufacturer's specification with  
aluminium or timber top

### Square

Polished aluminium top sizes:

AF-460A 600 x 600x 700h

AF-470A 700 x 700x 700h

AF-480A 800 x 800x 700h

### Timber Top

Similar or equal to Emerdyn AF-  
703

size: 600 x 600 x 700h

Commercial quality  
polished aluminium  
rolled aluminium edges  
hardwood timber slats  
sturdy cast aluminium base

### Round

Polished aluminium top sizes

AF-460 600dia x 700h

AF-470 700dia x 700h

AF-480 800dia x 700h

Commercial quality  
polished aluminium  
rolled aluminium edges  
sturdy cast aluminium base

## MANUFACTURER'S DETAILS

Emerdyn Pty Ltd

24 Wiggs Road

Riverwood NSW 2210

Ph: (02) 9534 1314

Fax: (02) 9534 5298

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

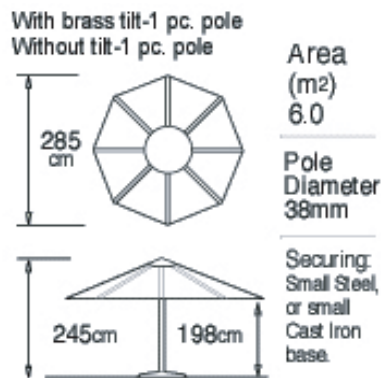
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**SF46**

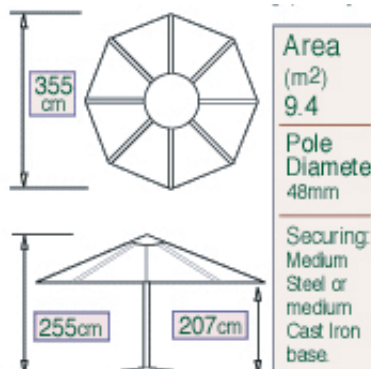
# Design Guidelines



**PADUA - MEDIUM**



**PORTOFINO - LARGE**



## Cafe / Market umbrellas

**PRODUCT:**  
Australian made  
Classic Market Umbrella

**MATERIAL/FINISH:**  
Australian hardwood frame  
Non fading acrylic material  
Cast iron bases  
Brass fittings

**COMMENTS:**  
Two sizes to be used  
Padua - medium  
Portofino - large

Material colour to be used:  
Black  
Natural

Flat steel base to be used:  
Charcoal

**MANUFACTURER'S DETAILS:**  
Shelta Australia  
187 Parramatta Road  
Homebush NSW 2140

Ph: (02) 9763 1166  
Fax: (02) 9746 7483

**ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER**

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**SF47**

# Design Guidelines

## Lighting



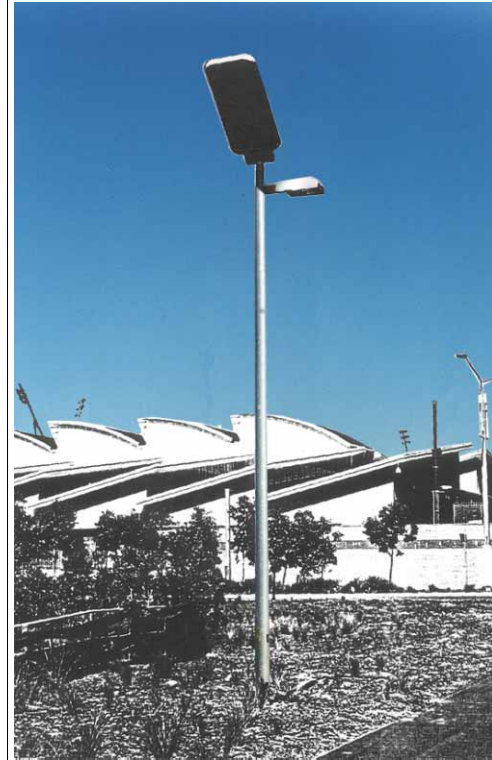
Ref	Description	Principle	Document	Revision	<b>LIGHTING</b>
<b>LIGHTING</b>					
PL3a	Parklands Solar Light Option 1	Option available	PEDM	July 2002	
PL3b	Parklands Solar Light Option 2	Option available	PEDM	July 2002	
L8c	12m pole light	Taperline series as in UEDM - associated with sports fields Taperline series as per UEDM	UEDM APPX1	Oct. 2001	
L8d	7m pole light		UEDM	Oct. 2001	
Lf Lg	Luminaires	For use on light poles (see Design Guidelines; Lighting)	UEDM	Oct. 2001	
Li	Uplight	Inground uplight	UEDM	Oct. 2001	
Ln	Recessed wall light		UEDM	Oct. 2001	

### **Approach to Lighting**

- Highlighting of landscape/built elements, eg. heritage buildings, to be architecturally lit rather than post-top lit
- Taperline series from UEDM provides off the shelf elements
- Special design solar pedestrian light
- Emphasis on environmental aspects of lighting
- Minimise post-top light
- Principle of careful selection of areas and paths to be lit
- Refer Appendix E for Lighting types proposed for Parklands areas

# Design Guidelines

## Parklands Solar Light - Option 1



LUMINAIRE: Kim-Sar  
FINISH: Grey  
LAMP: TE 26 Watt  
COLOUR: 21

PANEL: Premium 75 Watt  
FINISH: Wire Brushing

BATTERY: 120 AH/12 Volts  
BATTERY AUTONOMY: 7 Days  
OPERATION: 5.5 Hours

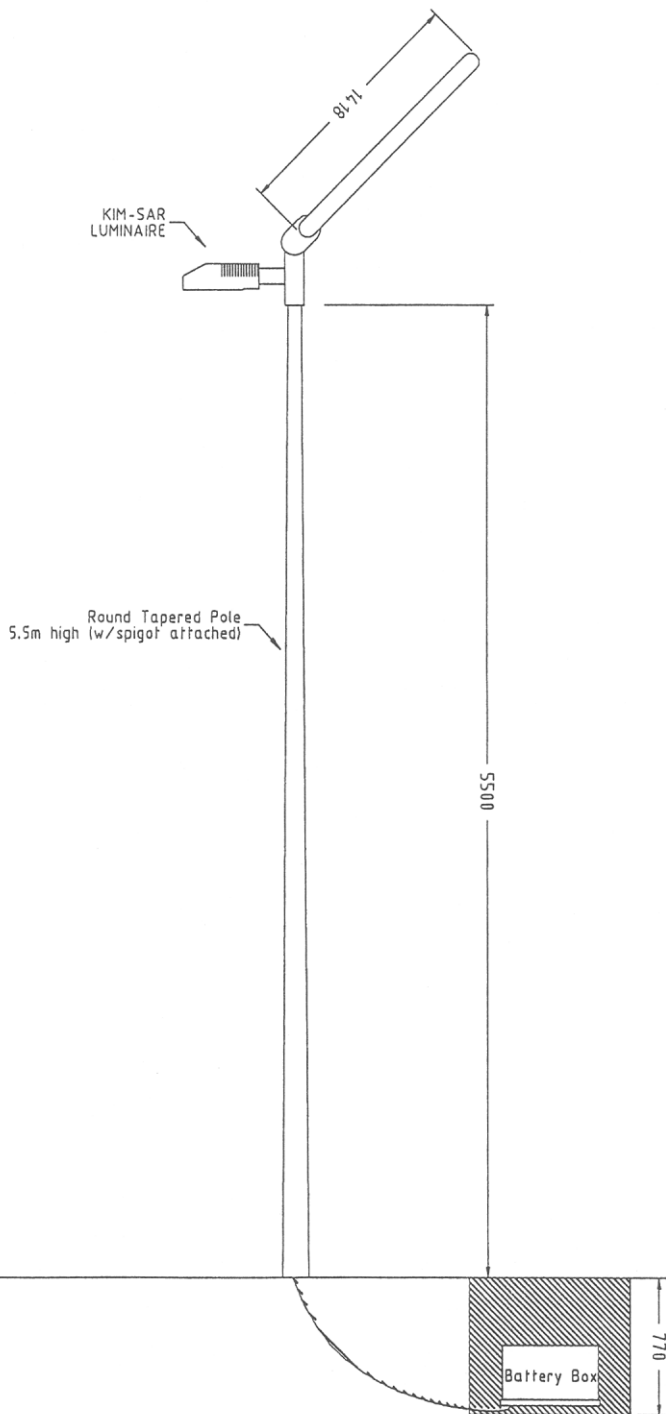
MANUFACTURER'S DETAILS:  
SolarG  
32 Woodfield Blvd  
Taren Point NSW 2229

Contact: Kim Krysyna  
Ph: (02) 9540 4553  
Fax: (02) 9540 4322

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

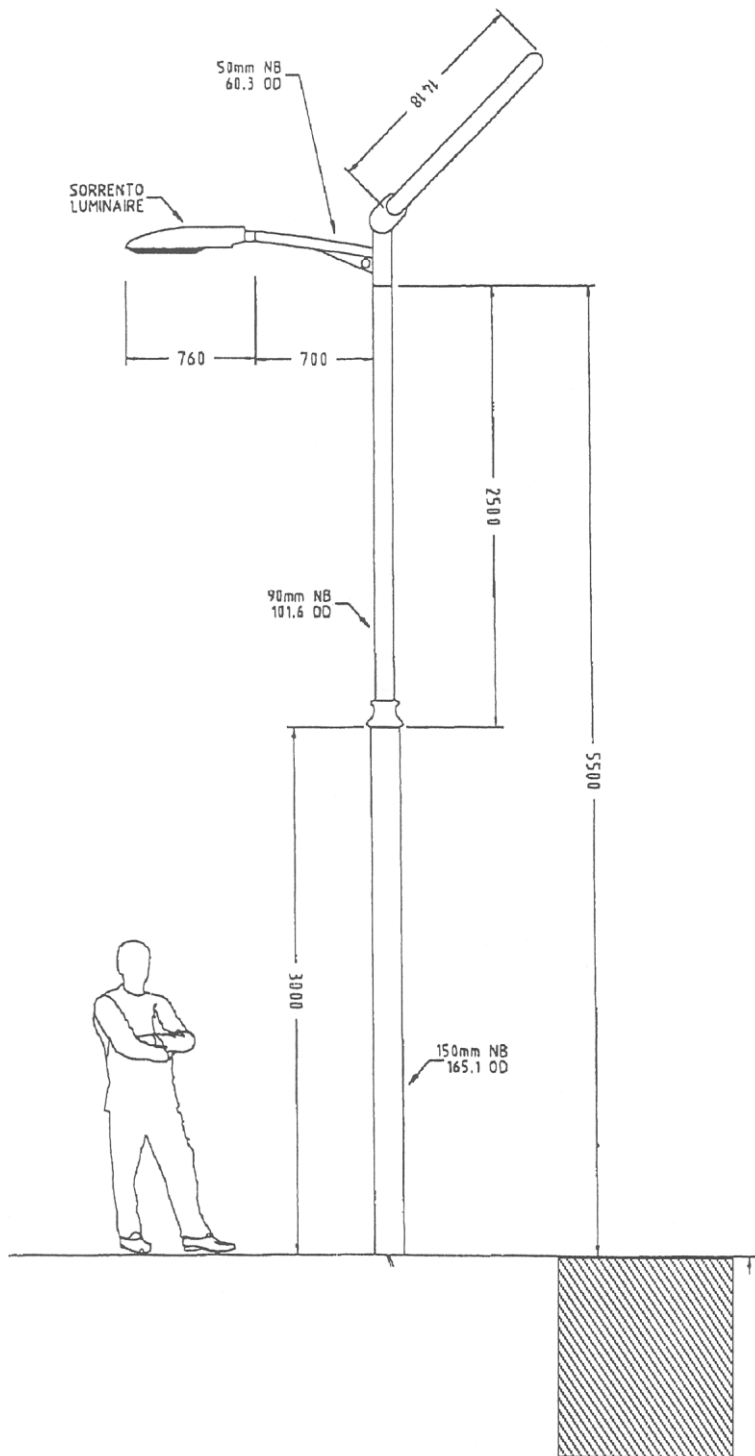
**DESIGN INTENT ONLY**

# PL3a





# Design Guidelines



## Parklands Solar Light - Option 2

Currently located at the Ferry Wharf of Sydney Olympic Park



LUMINARE: Sorrento

POLE: 5.5 metre,  
2 piece pole, charcoal grey  
powder coat finish

LAMP: DL 24watt

SOLAR PANELS: 75 watt  
panel in premium frame

OPERATION TIME: 4 hours

BATTERY: 120 AH/12 Volts  
BATTERY AUTONOMY: 7 Days  
OPERATION: 5.5 Hours

### MANUFACTURER'S DETAILS:

SolarG  
32 Woodfield Blvd  
Taren Point NSW 2229

Contact: Kim Krysyna  
Ph: (02) 9540 4553  
Fax: (02) 9540 4322

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

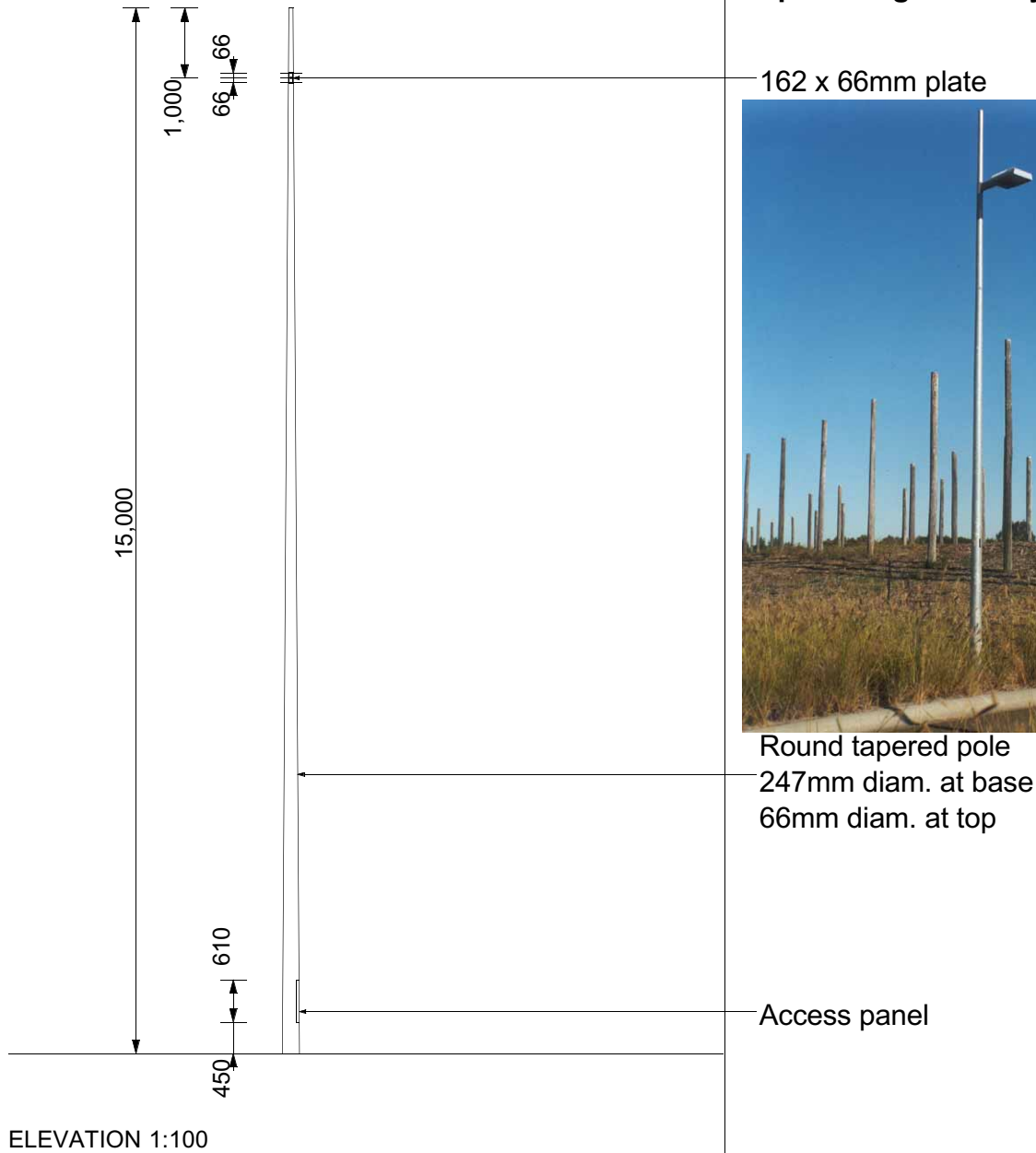
**DESIGN INTENT ONLY**

**PL3b**



# Design Guidelines

## Tapered Light Pole Type 8c



ELEVATION 1:100

PLAN 1:100



Round tapered pole  
247mm diam. at base  
66mm diam. at top

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

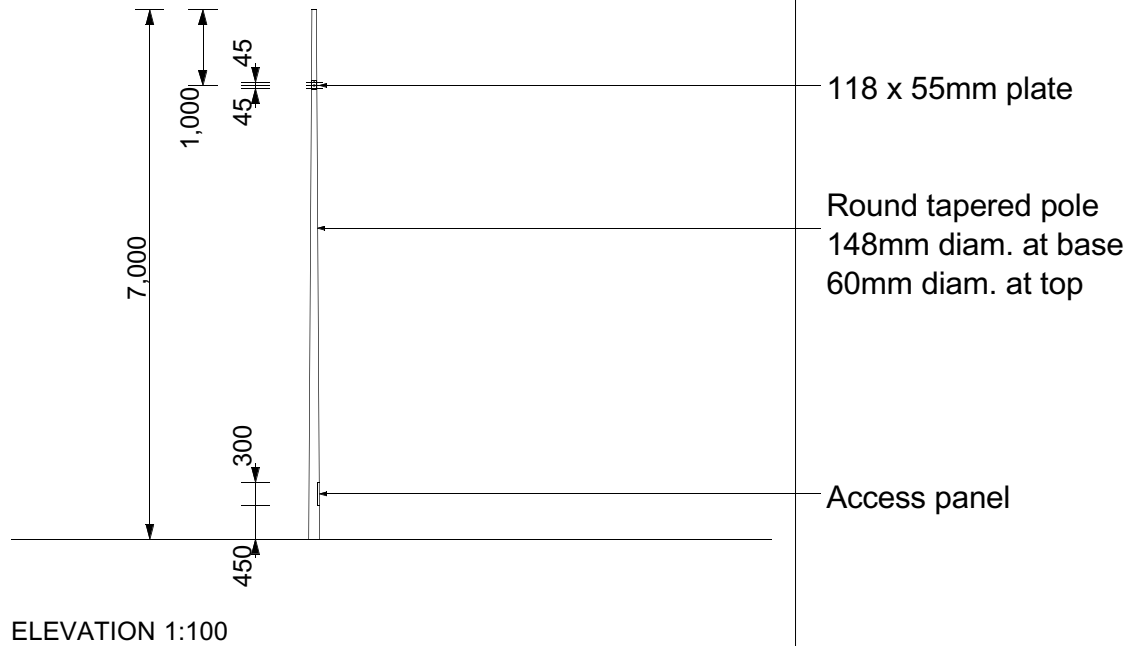
**DESIGN INTENT ONLY**

(UEDM DETAIL)

**L8c**

# Design Guidelines

## Tapered Light Pole Type 8d



PLAN 1:100



ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**L8d**

# Design Guidelines

DESCRIPTION: Coach Parking Luminaire  
(Originally tendered as Luminaire 7B)

AGENT: Pulvin Composite Pty Ltd

MANUFACTURER: Rexel Australia

MODEL: SAR Archetype

LAMP: 150W CDMT 3000 K 83 CRI  
Philips Metal Halide Ceramic Arc Tube

LIGHT DISTRIBUTION: Type 2: Side Throw  
Type 4: Forward Throw

CONTROL GEAR: Integral

FINISH: Clear glass lens  
Grey

DIMENSIONS: Height: 152 mm  
Length: 435 mm  
Width: 304 mm

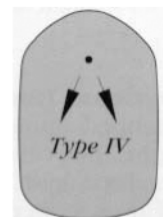
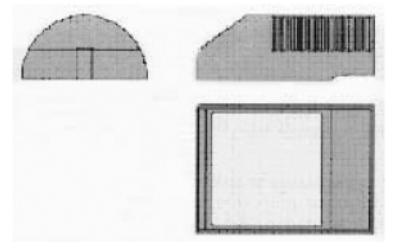
APPLICATION: Pole Type 8C

AIMING: Glass face down  
Orient as specified

REMARKS: IP 65



## Luminaire type f



SUPPLIER'S DETAILS:  
Pulvin Composite Pty Ltd  
Unit 18, 43 to 45 College St  
Gladesville NSW 2111

Ph: (02) 9879 3699  
Fax: (02) 9879 3688  
Contact: Stephen Warjabedian

MANUFACTURER'S DETAILS:  
Rexel Australia  
Unit 1, 56-60 Parramatta Road  
Lidcombe NSW 2144

Ph: (02) 9648 6994  
Fax: (02) 9648 6993

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**Lf**

# Design Guidelines

DESCRIPTION: Car Park Floodlight  
(Originally tendered as Luminaire 7A)

AGENT: Pulvin Composite Pty Ltd

MANUFACTURER: Rexel Australia

MODEL: AR Archetype

LAMP: 400W MS 400/HOR/T15/3K 3200 K 70 CRI  
Venture Metal Halide

LIGHT DISTRIBUTION: Type 4 forward throw

CONTROL GEAR: Integral

FINISH: Grey

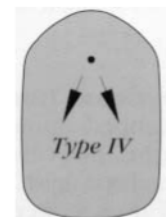
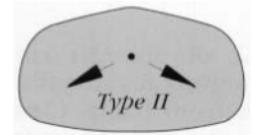
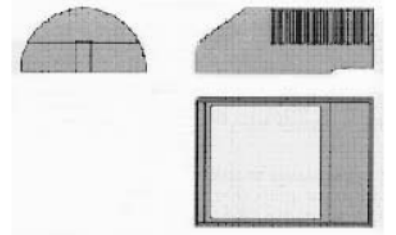
DIMENSIONS: Length: 572 mm  
Width: 406 mm  
Height: 203 mm

APPLICATION: Pole Type 8C

AIMING: Glass face down  
Orient as specified

REMARKS: IP65

## Luminare type g



SUPPLUER'S DETAILS:  
Pulvin Composite Pty Ltd  
Unit 18, 43 to 45 College St  
Gladesville NSW 2111

Ph: (02) 9879 3699  
Fax: (02) 9879 3688  
Contact: Stephen Warjabedian

MANUFACTURER'S DETAILS:  
Rexel Australia  
Unit 1, 56-60 Parramatta Raod  
Lidcombe NSW 2144

Ph: (02) 9648 6994  
Fax: (02) 9648 6993

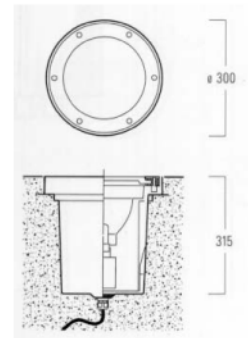
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER



# Design Guidelines

DESCRIPTION:	In ground up light (Originally described as Luminaire 8F)
AGENT:	WE-EF
MANUFACTURER:	WE-EF
MODEL:	ETC300-T
ACCESSORIES:	Internal glare louvre blades Installation polyethylene blackout
LAMP:	35W CDMT 3000 K 81 CRI 70W CDMT 3000 K 83 CRI Philips Metal Halide Ceramic Arc Tube
LIGHT DISTRIBUTION:	Symmetrical Wide Beam Narrow, Linear Spread, Asymmetrical Options
CONTROL GEAR:	Integral
FINISH:	Stainless steel flat top plate for use in paved areas, clear glass
DIMENSIONS:	Diameter: 300 mm Recess Depth: 315 mm
APPLICATION:	In ground
AIMING:	Vertical
REMARKS:	IP67

## Luminaire type I



## AGENTS DETAILS:

WE-EF Lighting  
Unit 6, 13 Downard Street  
Braeside Vic 3195

Ph: (03) 9580 5933  
Fax: (03) 9580 8316

ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)



# Design Guidelines

DESCRIPTION: Step light flush recessed  
(Originally described as Step Luminaire)

AGENT: Eagle Lighting NSW Pty Ltd

MANUFACTURER: Bega

MODEL: 2197

LAMP: 11W TC 3000 K 85 CRI  
Compact fluorescent triphosphor

CONTROL GEAR: Integral low loss ballast

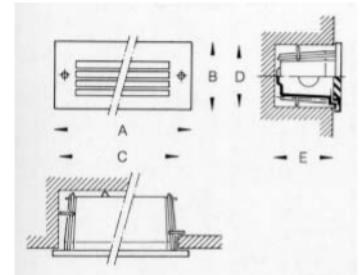
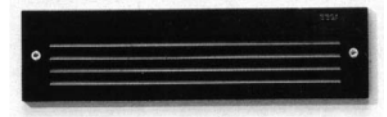
FINISH: Black with louvre

DIMENSIONS: Length A: 320 mm  
Height B: 70 mm  
Recess Depth E: 70 mm

MOUNTING DETAIL: Full flush to Architects' detail

REMARKS: IP54

## Luminare type n



## AGENTS DETAILS:

Eagle Lighting Pty Ltd  
Unit 4, 21 Mars Road  
Lane Cove NSW 2066

Ph: (02) 9420 5799  
Fax: (02) 9420 5988

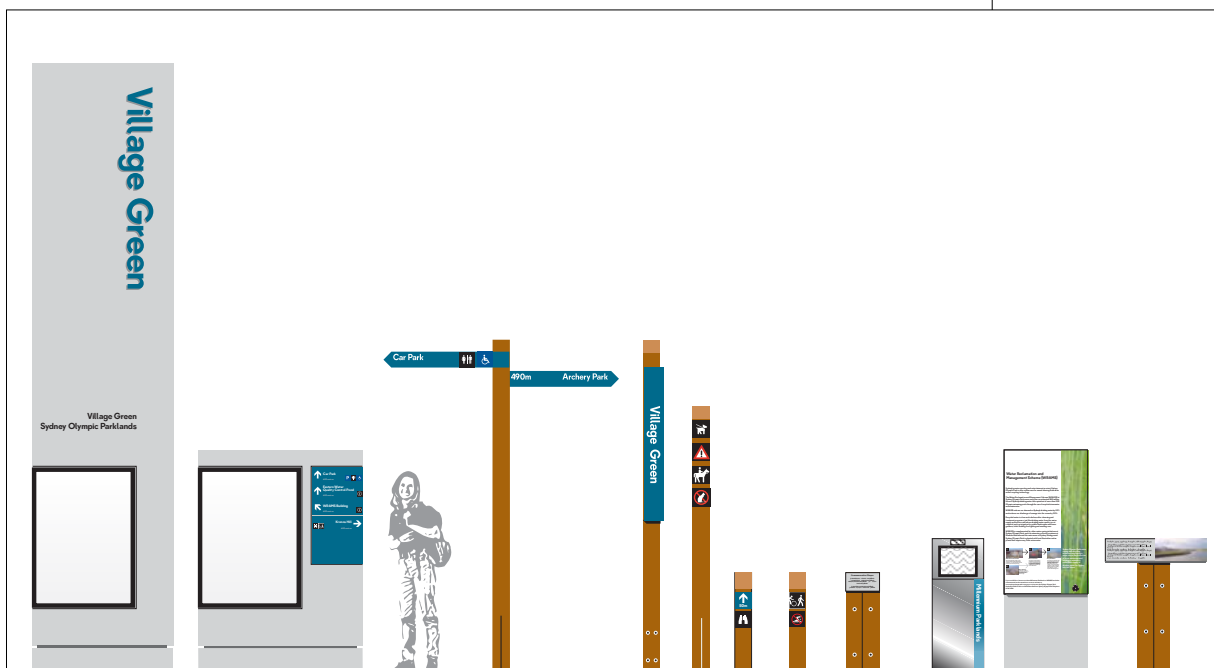
ALL STRUCTURE TO BE VERIFIED BY  
A STRUCTURAL ENGINEER

**DESIGN INTENT ONLY**

(UEDM DETAIL)

**Ln**





THIS SECTION IS  
SUPERSEDED AND REPLACED  
BY PEDM SIGNAGE 2008

Ref	Description	Principle	Document	Revision	SIGNAGE
SIGNAGE					
PS69a	Sign Types	Signage Overview	PEDM	July 2002	SIGNAGE
PS69b	Sign Types	Signage Overview	PEDM	July 2002	
PS70a	Typeface for Directional signs	Typeface selection	PEDM	July 2002	
PS70b	Typeface for Interpretive signs	Typeface selection	PEDM	July 2002	
PS70c	Message Guidelines	Wording for signs	PEDM	July 2002	
PS70d	Messages and text	Letter spacing and word structure	PEDM	July 2002	
PS70e	Access Issues	Viewing distances, legibility and letter heights	PEDM	July 2002	
PS70f	Arrows	Using arrows and keeping consistency	PEDM	July 2002	
PS70g	Graphic Set Out - Directional Panels	Layout of arrows, messages and symbols	PEDM	July 2002	
PS70h	Directional "fingers"	Layout of messages and symbols	PEDM	July 2002	
PS70i	Destination sign Graphic	Layout of destination name	PEDM	July 2002	
PS71a	Colours	Specifications for paint, vinyl and timber colours.	PEDM	July 2002	
PS72a	Materials and Finishes	Specifications for timber, concrete, aluminium and paving	PEDM	July 2002	
PS72b	Surfaces and Materials Protection	Anti graffiti coating, and surface protection treatments	PEDM	July 2002	
PS73a	Graphics Reproduction	Graphic application methods for directional and interpretive signs.	PEDM	July 2002	
PS74a	Pictograms – Services	Symbols to recognise services available.	PEDM	July 2002	
PS74b	Pictograms – Information	Symbols to inform.	PEDM	July 2002	
PS74c	Pictograms – Activities	Activities and symbols to assist people in wheelchairs, hearing and visual disabilities.	PEDM	July 2002	
PS74d	Pictograms – Regulations	Pictograms for prohibitory and regulation signs	PEDM	July 2002	
PS75a	Pedestrian Directional signs - Anchor Point sign	Sign type used at Facility Nodes - providing a map and entry information	PEDM	July 2002	

THIS SECTION IS SUPERSEDED AND REPLACED BY PEDM SIGNAGE 2008

Ref	Description	Principle	Document	Revision
PS75b	Footings elevation	Front elevation/section of footing detail for Orientation and Map signs	PEDM	July 2002
PS75c	Footings section	Side elevation/section of footing detail for Orientation and Map signs	PEDM	July 2002
PS76a	Local orientation / map sign	Sign type used at intersections - providing a map and directional information.	PEDM	July 2002
PS76b	Directional panels fixing	Method to attach directional slats to Map sign face	PEDM	July 2002
PS77a	Circulation sign	Sign type used to provide directional information at major pathway junctions.	PEDM	July 2002
PS77b	General Assembly Diagram	Assembly of directional 'finger blades' to post.	PEDM	July 2002
PS78a	Destination sign	Sign type used to identify a place or building name.	PEDM	July 2002
PS78b	Destination name fixing	Fixing method for destination name sign plates.	PEDM	July 2002
PS79a	Large Regulation sign	Sign type used to advise regulations and/or warnings.	PEDM	July 2002
PS80a	Footings assembly diagram	Footing & footing bracket assembly for Circulation, Destination and Regulation signs.	PEDM	July 2002
PS80b	Pad Footing	Typical pad footing details for all sign types.	PEDM	July 2002
PS80c	Footings assembly details	Footing & bracket details for Circulation, Destination and large Regulation signs.	PEDM	July 2002
PS81a	Minor Circulation sign	Sign type used to provide directional reinforcement at minor pathway junctions.	PEDM	July 2002
PS82a	Small regulation sign	Sign type used to advise limitations and constraints.	PEDM	July 2002
PS83a	Footing details	Footing & bracket details for minor Circulation and small Regulation signs.	PEDM	July 2002

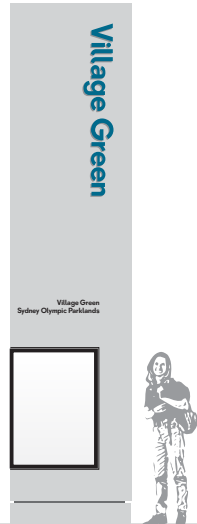
THIS SECTION IS  
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BY PEDM SIGNAGE 2008

Ref	Description	Principle	Document	Revision
PS84a	Plaques - In-ground	Commemorative or directional elements.	PEDM	July 2002
PS85b	General assembly	Freestanding sign with a plaque to remind or celebrate an event or person.	PEDM	July 2002
PS85c	Footing and Bracket details	Footing & bracket assembly to sign posts.	PEDM	July 2002
PS86a	RTA advance warning sign	Footing & bracket details for Commemorative plaque signs.	PEDM	July 2002
PS87a	Touch Screen Interpretive Sign	Vehicular directional sign type.	PEDM	July 2002
PS87b	Touch Screen Technology	High technology, audio visual interpretive tool.	PEDM	July 2002
PS88a	Large Interpretive Sign	Conceptual technology diagram.	PEDM	July 2002
PS89a	Medium Interpretive Sign	Sign type to provide a broad overview of interpretive information of the immediate vicinity.	PEDM	July 2002
PS89b	Medium Interpretive sign assembly	Sign type to provide site specific interpretive information.	PEDM	July 2002
PS89c	Footing and bracket details	Footing & footing bracket assembly for the Medium Interpretive sign.	PEDM	July 2002

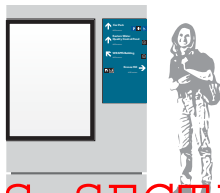
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# Design Guidelines

## Sign Types

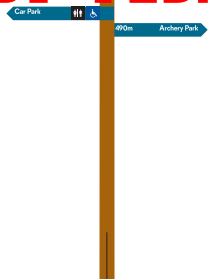


**PS 75a  
Orientation Sign**



**PS 76a  
Map sign**

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**PS 77a  
Circulation sign  
PS 81a  
Minor Circulation sign**



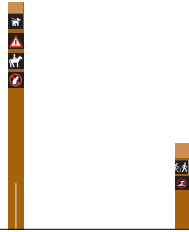
**PS 78a  
Destination Sign**

**DESIGN INTENT ONLY**

**PS69a**

# Design Guidelines

## Sign Types



PS 79a  
Large Regulation sign  
PS 82a  
Small Regulation sign



PS 85a  
Commemorative Plaque  
PS 84a  
Pavement Marker

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PS 87a  
Touch Screen  
PS 88a  
Large Interpretive Sign  
PS 89a  
Medium Interpretive sign



PS 86a  
RTA Advanced Warning sign  
Vehicular sign

**DESIGN INTENT ONLY**

**PS69b**

ABCDE

FGHIJKLMNOPQ

RSTVWXYZ

abcde

fghijklmnopqrstu

vwx yz

1234567890

## Graphic Guidelines

### Typeface for Directional signs

The typeface for the Sydney Olympic Parklands directional sign types is the **Olympic 2000** font.

This typeface is compatible with standard software programmes used with standard manufacturing techniques.

It is the **primary** typeface and is to be used on all directional signs.

No other weights or styles are available in the Olympic font.

The directional sign types are :

- Orientation sign
- Map sign
- Circulation sign
- Minor Circulation sign
- Destination sign

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DESIGN INTENT ONLY

PS70a



**A B C D E**

**F G H I J K L M N O P**

**Q R S T V W X Y Z**

**a b c d e**

**f g h i j k l m n o p q r s t**

**u v w x y z**

**1 2 3 4 5 6 7 8 9 0**

## Graphic Guidelines

### Typeface for Interpretive signs

The typeface for the Sydney Olympic Parklands interpretive signs is **Akzidenz Grotesk (plain)**

This typeface is compatible with standard software programmes used with standard manufacturing techniques.

Interpretive sign types are :

- Large Interpretive sign
- Medium Interpretive sign
- Touch Screen

Other types :

- Commemorative signs

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**DESIGN INTENT ONLY**

**PS70b**

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## Message Guidelines

### Directional Messages

Wording for all signs will acknowledge these principles :

- Consistent flow of information.
- Short as possible in order to be read quickly.
- Mean the same thing to all people.
- Use of plain English.
- Limit the use of uppercase letters to the beginning of lines, warnings and place names.
- Upper and lower case lettering to be used for maximum legibility.
- Punctuation to be avoided.
- Hyphenation not to be used.
- One line for one message.
- Limit the number of messages to the least number necessary to avoid confusion and over information.

### Logic and consistence

- Destinations will be listed in order of occurrence for directional signs.

### Language

- Signs will be written in English.

### Flexibility

Directional signs are designed to allow for maximum flexibility and the interchangeability of message elements when required.

Directional fingers and sign panels are fabricated to allow for interchange between signs and simple removal by a manufacturer if a message panel or directional finger requires an update. The fingers and panels can also be recycled unless damaged.

It is important that in any signage system that directional messages, sign fingers or sign panels are removed and or replaced immediately once the information they contain is no longer relevant.

**DESIGN INTENT ONLY**

**PS70c**

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## Messages and text

### Spacing

**Tracking and kerning** : the spacing between the letters will appear to create a visually consistent rhythm of strokes and spaces. By adjusting letterspacing, it is possible to improve legibility for the different uses of the text - see examples this page.

Word spacing must strike a balance between being too narrow, so that the words run together, and being too wide, so that the eye trips into the space between the words.

### Visual Length of messages

The length of a line should be comfortable to read. If too short, words and phrases visually break up. If too long, the reader must search for the beginning of each line.

### Word structure

The most readable arrangement of letters for sign messages is **upper and lowercase letters**. Selective capitalisation can be used to place emphasis on a particular word within a phrase or sentence.

Selective words will be highlighted in a sign message schedule and approved by the Sydney Olympic Park Authority.

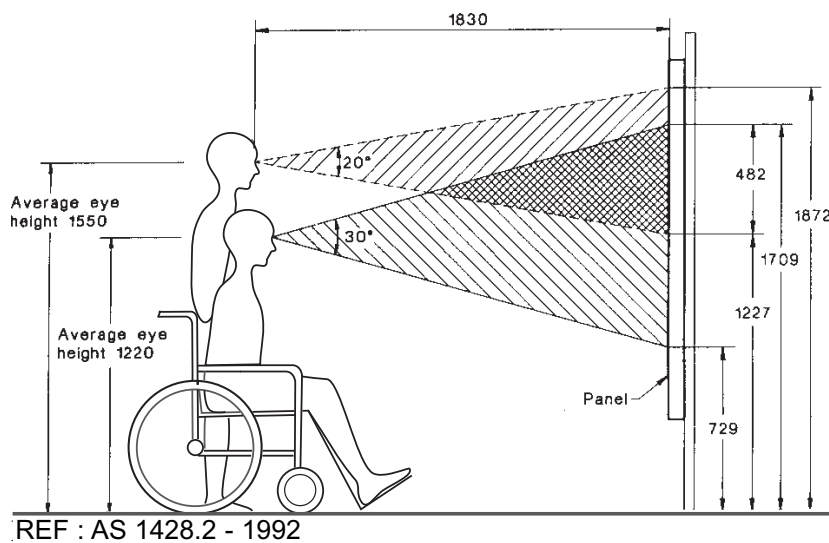
**DESIGN INTENT ONLY**

**PS70d**

# Design Guidelines

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y-height **Ex** x-height **olympic**



## HEIGHT OF LETTERS FOR VARYING VIEWING DISTANCES

Required viewing distance in metres	Minimum height of letters in mm
2	6
4	12
6	20
8	25
12	40
15	50
25	80
35	100
40	130
50	150

AS 1428.2 - 1992

## Access Issues

### Legibility

This typeface has a large x-height. One of the advantages of typefaces with large x - heights is that a smaller size can be specified without sacrificing legibility or readability. Typefaces of the same point size may appear smaller or larger because of the difference in their x-heights.

The x-height of the Olympic typeface is approximately two thirds the height of the height of the uppercase letter, which is also recommended for better legibility.

### Notes from the Sydney Olympic Parklands Access Strategy (1998 - 2000)

- Wherever possible, pictograms should replace words.
- Signs containing interpretive or other detailed information will be adjacent to seating.
- Language used on signs will be positive - ie. Accessible Toilets not Disabled toilets.
- Signs indicating destinations will give clear information on the degree of difficulty and distance involved. This is to be achieved on the message panels and maps.

### Height of signs

Message panels, map lightboxes and directional 'fingers' in these Signage Guidelines comply with the current Australian Standards.

### Height of letters

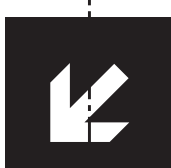
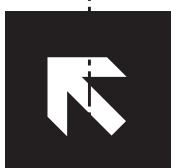
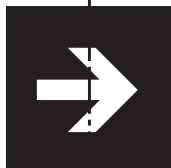
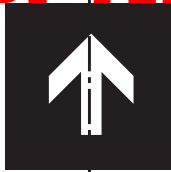
The lettering height will vary for different signs, however the height of letters (Y Height) on directional message panels and directional 'fingers', complies with this guide.

DESIGN INTENT ONLY

PS70e

# Design Guidelines

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## Arrows

The arrow has been developed as a graphic device to indicate or instruct direction.

This arrow design is appropriate for most signing applications and is the most widely used for international applications.

To ensure clear consistent understanding of the information depicted by the arrow, the guidelines for their use indicated herein are to be followed.

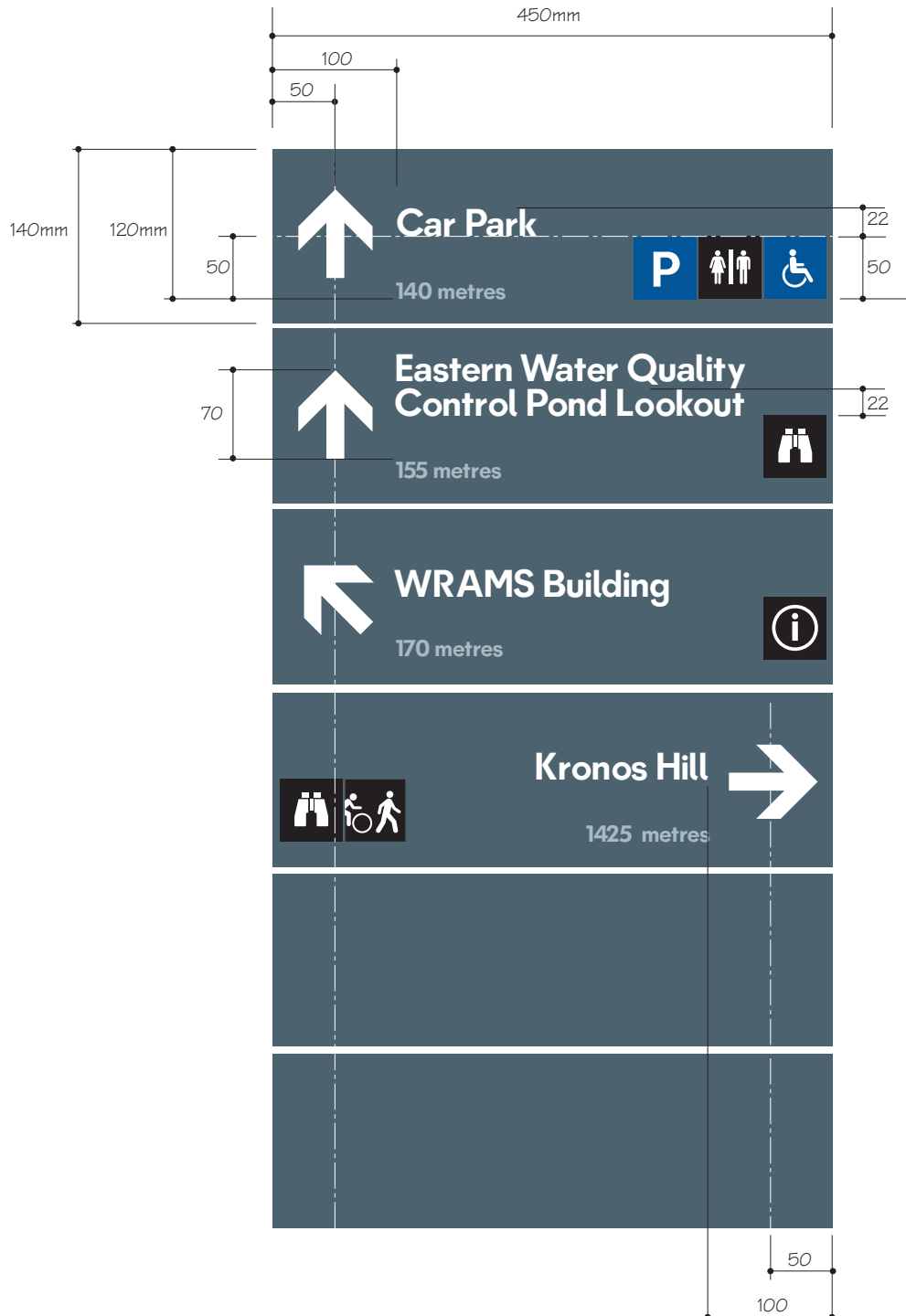
1. For design consistency, one arrow will be used throughout the Parklands for directional signs.
2. Closest destination first : top of the directional sign panel. Destinations displayed below are to be in the order of distance away from the sign location with the arrow direction to suit.
3. Arrows will be ranged left when applied to directional signs with messages and are to range right when messages are to the right.
4. Arrows are never to be used upside down. They will be up, left and right oriented only.
5. Arrows will indicate corner directions when positioned at 45°.
6. Size of arrow is 3 times Y height (uppercase) minimum.

**DESIGN INTENT ONLY**

**PS70f**

# Design Guidelines

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## Directional panels

### Graphic Set Out

#### Specific Details

Typeface : PS 70a

Colours : PS 71a

Pictograms : PS74a - PS74c

Sign Types : PS76a

Fixing details : PS76b

#### Format :

- Arrows should be located on the side of the sign panel to which they are pointing.
- Uppercase lettering height is as shown - larger than minimum size required by Australian Standards for viewing distance.

#### Panels :

- Distances - Closest destination first, in order of distance. Arrows follow guidelines PS70f
- The background of the sign panels is a semi gloss finish.

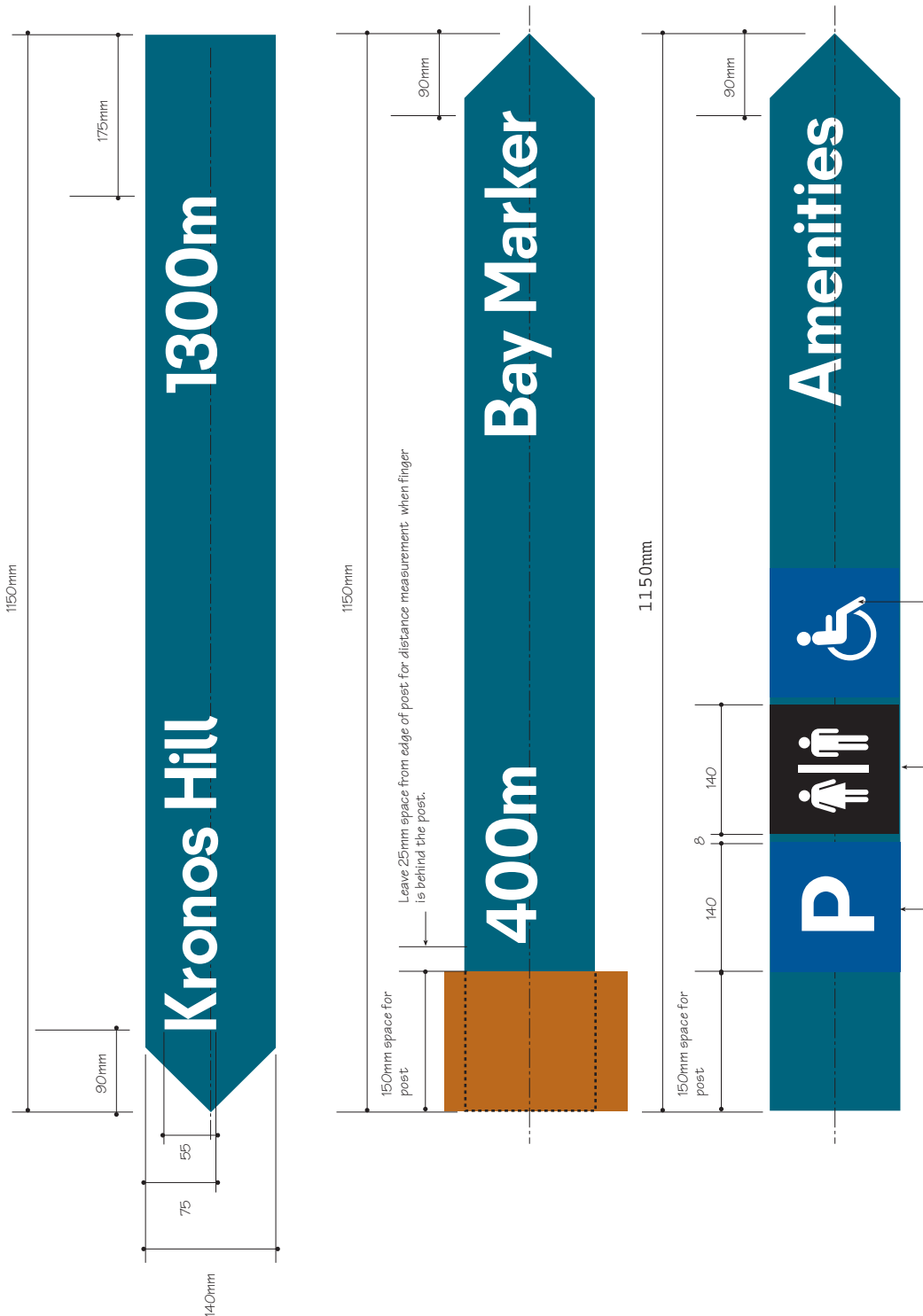
Not to scale

DESIGN INTENT ONLY

PS70g

# Design Guidelines

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Directional 'fingers'

Graphic Set Out

Specific Details

Typeface : PS70a

Colours : PS 71a

Sign Type : PS 77a

Assembly : PS77b

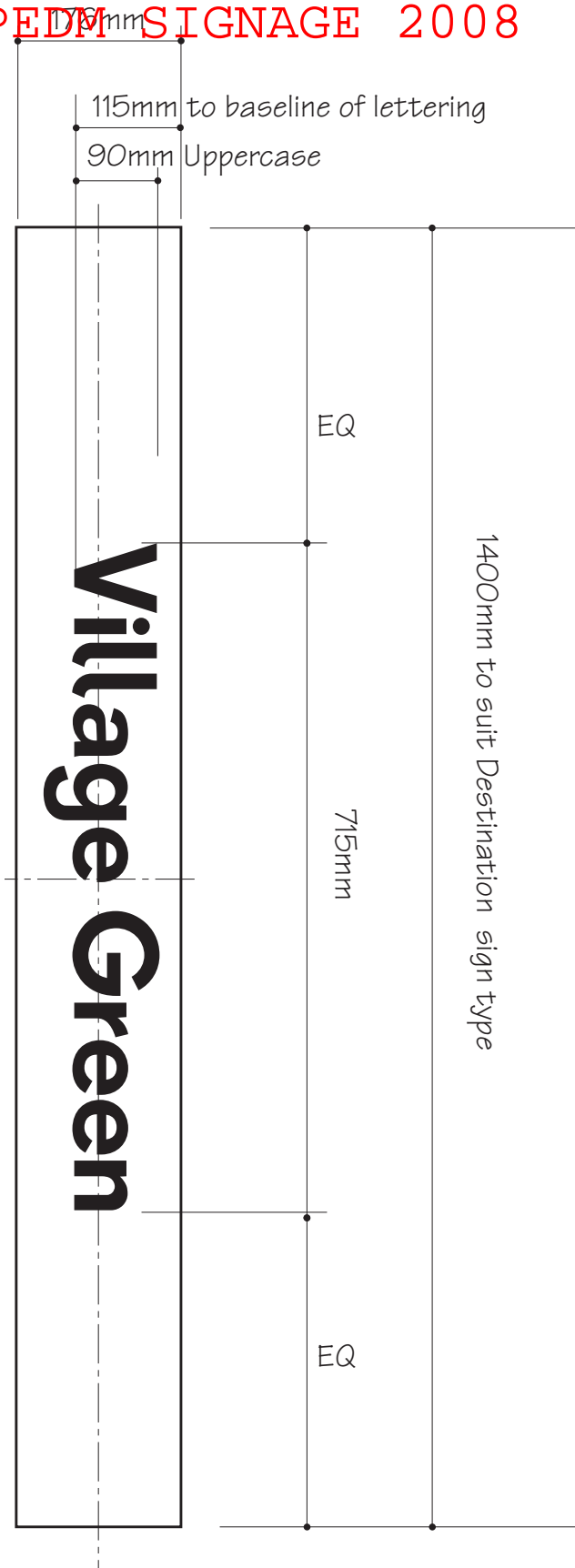
DESIGN INTENT ONLY

PS70h



## Design Guidelines

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### Destination Sign Graphic

#### Graphic Set Out

The logotype is used as an identifying element of the **destination signs** and is to be used as demonstrated in these signage guidelines.

The proportions shown must be maintained when the logotype is reduced or enlarged.

#### Specific Details

**Finishes :** Lettering to be cut from aluminium and recessed into sign panel to remain flush with the finished surface of sign.

#### Colours :

- Letters to be painted bright white - two part polyurethane, satin finish.
- Background colour : Refer to PS71a

**Fixing :** PS 78b

DESIGN INTENT ONLY

PS70i

# Design Guidelines

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## Colour

### Paint

One paint colour has been selected for the majority of coloured painted surfaces in the sign family.

This colour is **Dulux 'Midnight Haze'**

**Reference Number :**  
**90 BG 08/112**

**Painted elements are :**

**Anchor Point name - PS 75a**  
**Destination sign Graphic background - Sign Type PS 70i**  
**Directional panels - PS 70g**  
**Directional sign fingers - PS70h**

### Vinyl

**Text messages for message panels and destination fingers :**

White reflective vinyl - Class 1 according to AS 1906 part 1 unless otherwise stated.

**Distances on destination fingers :**

White reflective vinyl - Class 1 according to AS 1906 part 1 unless otherwise stated.

**Distances on sign panels :**

Graphi Cal 'Slate Green' No. 805

**Arrows :** White reflective vinyl.

**Pictograms :** Refer to PS 74a - 74d

**Timber :**

Paint finish Sikkens Cetol THB 3 coat system, Colour 009 Dark Oak (or approved equivalent).

**Lightbox :**

Frame painted gloss black

**DESIGN INTENT ONLY**

**PS71a**

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## Materials and Finishes

### Timber

Recycled Ironbark or Blackbutt beams - dressed to specified sizes.

Available from most recycled timber yards in 6.0metre lengths.

### Concrete

Natural unfinished concrete, steel reinforcing, matt finish.

### Aluminium

Aluminium plate to be used for the following :

- Anchor Point name.
- Circulation sign blades/ directional 'fingers'.
- Directional message panel.
- Destination graphic assembly.
- Pictograms on Regulation and Minor signs.
- Sign supports for Large and Medium interpretive signs.
- Sign supports for Commemorative sign plaques.

### Typical paving for finishing footings at pathway nodes.

Washed concrete pavement - to comply with AS 1379, strength 20MPa at 28 days.

PEDM : Refer to Paving Section detail PP 13a

Specifications : Minimum effective cement content, 280kg/m<sup>3</sup>, minimum air content 4.5%.

Maximum slump : 80mm

Aggregate : To match 100% Crushed Nepean Gravel 20mm (existing)

**DESIGN INTENT ONLY**

**PS72a**

## Surfaces protection

### Paint finishes

Materials finishes subject to corrosion (ie mild steel) shall be galvanised, primed or otherwise treated with permanent protection. Undercoats shall be evenly applied to conceal frames and supports.

Finishes for all materials coloured surfaces painted in a two part polyurethane.

### Anti Graffiti Coatings

Anti graffiti coatings may be applied to graphic areas and all surfaces.

Recommended method is the AGS 3502 matt clear graffiti protective coating by Trion Tensid AB (Sweden) (or approved equivalent). This will be a permanent coating that offers long term environmental and graffiti protection. An anti graffiti system will be available in matt, satin or gloss.

Painted onto all surfaces, the only restriction is that a water based stain rather than a mineral based stain must be applied to the timber.

Use 'Graffof' (or approved equivalent) to remove residue and neutralise with water. A brush should be used to massage graffiti off, rather than abrasives.

## Materials Protection

### Timber

- Protective coating : Sikkens Cetol THB, Colour : Dark Oak (or approved equivalent)
- Caution that this particular finish is not applied before an anti graffiti paint system as it is turps based and will react with the anti graffiti system.
- A water based UV protection must be used, such as Cetol UV Interior (or approved equivalent.) The anti graffiti system can provide additional UV protection and can also be tinted as an alternative to an exterior timber stain product.

### Concrete

The recommended anti graffiti system can be applied to concrete, however some darkening in the colour may occur. The base tint for the concrete can be lighter to compensate for this.

### Aluminium

- Two part clear satin polyurethane coating to prevent scratching and removal of vinyl graphics and paint.
- Dual purpose as a graffiti protection, and can be cleaned with thinners or prepsol.

### Footing brackets

- Hot dip galvanise all brackets before fixing sign and pouring concrete at sign locations.

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**DESIGN INTENT ONLY**

**PS72b**

# Design Guidelines

## Recommended techniques for reproducing graphics.

Well known processes that have been tried and tested and are accepted by the community users and sign manufacturers will be used for the application of graphic elements, pictograms and messages.

In most cases, it is desirable that graphic elements and letters are permanently applied to sign slats or panels.

Message application for sign types will be consistent. One or more technique can be used per sign, however whenever message slats are changed around or replaced, messages and graphics must be re-applied using the same technique to maintain consistency.

### Application

Techniques selected for the application of colour should be carefully chosen to ensure colour rendition is as colour fast as possible in direct sunlight. Paints and coatings will fade in time, but some will fade faster than others. Manufacturers specifications must be checked and tested.

The most durable and fade resistant paints and coatings should be selected following testing.

### Directional signs

The following techniques and processes are the recommended methods for the production of lettering and graphic forms :

**Adhesive Vinyl lettering** is the preferred method of applying of applying graphics to most surfaces as it is a quick, accurate and cost effective method

Adhesive vinyls are available in a number of standard colours and external grades. Cast vinyl grade is specified for use in all applications for its external durability, colour fast 5 year guarantee and stability in fluctuating weather conditions. Translucent and opaque grades are available.

Class 1 reflective vinyls are also available in a number of colours and are strongly recommended for external vehicular signs and pedestrian signs in illuminated areas.

Vinyl is used to create negatives or expose a painted surface for **'Mask and Spray'** techniques, which can replace a simple screen print where low runs are required.

**Laser cutting** is the most accurate method of cutting letters and shapes to any detailed form. Edges must be cleaned after cutting to remove singed material. Large shapes can be cut out from heavy gauge metal using a specialised water jet technique.

### Interpretive signs.

Recommended options are :

#### 1. Photo Anodised aluminium

Single or four colour image is injected into the anodic layer of a 1.6mm aluminium panel.

This produces an extremely clear and high resolution photographic image or solid colour. It is resistant to surface graffiti and has good ultra violet resistance.

Film is created from digital artwork. Panel sizes are determined by standard four colour film sizes but can be butt joined with only a hairline visible.

#### 2. 3M Scotchcal adhesive vinyl.

Most cost effective method of reproducing both solid graphics and photographic images. Files are downloaded from disc and printed onto adhesive vinyl which is laminated with an anti graffiti coating, either clear polyurethane or a tedlar laminate. The print is cut to size and fixed to a solid substrate such as aluminium.

The resolution is of a fairly poor quality, but it does have some advantages

#### 3. Acid Etch

This technique also requires film made from the original digital files to expose aluminium, steel or stainless steel to acid. The etched areas are then filled with an enamel which is baked into the surface. It provides very good resistance to vandalism and graffiti plus failure to fade in sunlight. It is limited to solid or screened single colours and low resolution for photos.

#### Commemorative plaques.

Acid etched stainless steel is recommended - see above.

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DESIGN INTENT ONLY

PS73a

# Design Guidelines

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## Services



1. Telephone



2. Restaurant



3. Snacks / Cafeteria



4. Coffee Shop



5. Toilets (Unisex)



6. Toilets Female



7. Toilets Male



8. Baby Change Room



9. Vehicles



10. Coach



11. Taxi



12. Boat Ramp



13. Fire Extinguisher



14. Litter Disposal



15. Recycle



16. Lost and Found



17. Accessible Toilet



18. First Aid



19. Meeting Point



20. Parking

## Pictograms

Page 1 of 4

Pictograms are picture messages without words. They are used as both a reinforcement of word messages and an independent order of informational elements in their own right. They are an essential graphic communication device for signs where a simple non-typographical message is appropriate and is used to reinforce sign messages.

Other advantages of pictogram use are:

- Clear communication internationally between cultures of different nations without text.
- International graphic recognition.
- Distinctive design which avoids stylistic fads and appeals to a multi-cultural audience.

Refer to Guidelines sheets PS for set out details.

Pictogram categories :

1. Services
2. Information
3. Activities
4. Access
5. Regulation

Colours :

Standard : Black and white.

Access Symbols : Blue and white.

- Match Pantone 653

Parking : Blue and white.

- Match Pantone 653

First Aid : Red and white.

- Match Pantone 032

DESIGN INTENT ONLY

PS74a

# Design Guidelines

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## Information



21. Information



22. Stairs



23. Strollers



24. First Aid



25. Vehicle access



26. Bus Stop



27. Ferry Transportation



28. Rail Transportation



29. Litter Disposal



30. Litter Disposal



31. Drinking Water



32. Bubbler



33. Pedestrians



34. Leashed Pets



35. Horse Trail



36. Shared Path

## Pictograms

Page 2 of 4

### References :

**AS 2899.1 - 1986** Part 1 General Information Signs.

**AS 1428.2 - 1992** Design for access and mobility. Part 1, Part 2 Enhanced and additional requirements - Buildings and facilities.

**AS 2342 - 1992** Development, testing and implementation of information and safety symbols and symbolic signs.

Official Signs and Icons - Ultimate Symbol, United States of America. Endorsed by the Society of Environmental Designers.

UEDM Pictograms, pages S3 and S4

**The recommended pictograms within these guidelines are to supplement UEDM pictograms in non-service situations.**

DESIGN INTENT ONLY

PS74b



# Design Guidelines

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## Activities



37. Point of Interest



38. Shelter



39. Picnic Tables



40. Playground



41. Bicycles



42. Viewing Platform



43. Wildlife



44. Boat Ramp



45. Open Fires



46. BBQ

## Access



47. Disabled Access



48. Hearing and speech impaired telephone



49. Volume Control Telephone



50. Hearing Impaired



51. Difficult path



52. Easy path

## Pictograms

Page 3 of 4

### Access issues

Internationally recognised pictograms to assist people with hearing and/or visual disabilities and enhance the ease of wayfinding for all people.

Pictograms will be used to give clear information on the degree of difficulty of a given route or pathway.

**DESIGN INTENT ONLY**

**PS74c**

# Design Guidelines

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## Regulations



1. No jumping



2. No Alcohol



3. No Bicycles



4. No camping



5. No cans or glass



6. No Diving



7. Do Not Drink



8. No Fishing



9. No Littering



10. No Trailbikes



11. No parking



12. No pets



13. No Skateboards



14. No Smoking



15. No Swimming



16. No Trucks



17. No vehicles



18. No Wading



19. No Open Fires



20. No cats



21. No Entry



22. Warning

## Pictograms

Page 4 of 4

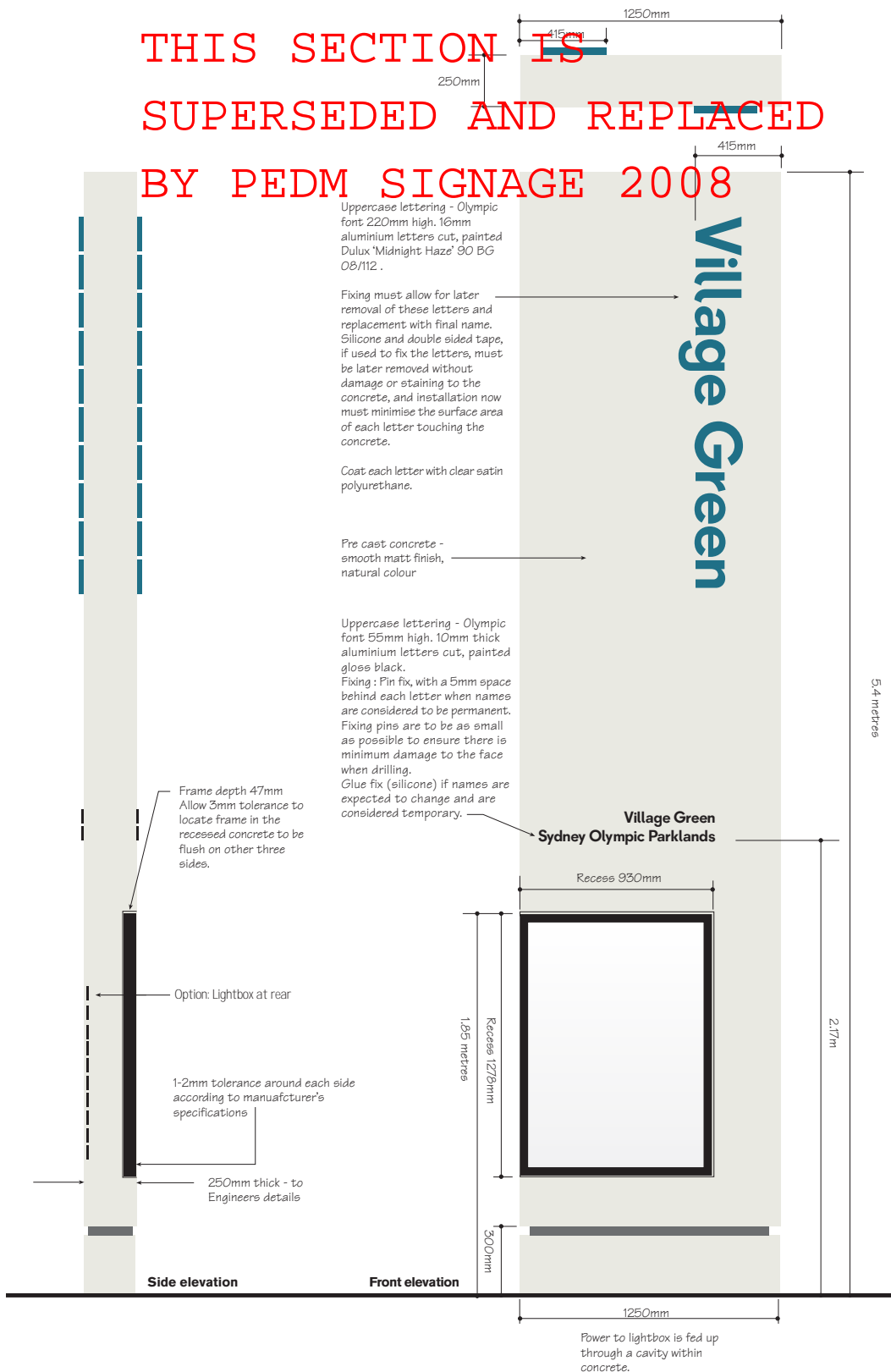
This set of pictograms are used for prohibitory and regulation signs only.

DESIGN INTENT ONLY

PS74d

# Design Guidelines

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## Orientation Sign

**Location :** Facility Node.

**Function :**

- To be visible from a distance by cars and pedestrians.
- Primary directional information.

A typical orientation sign will :

- Reinforce the Sydney Olympic Parklands identity and name.
- Name the Facility Node.
- Provide A0 size illuminated maps which may include pedestrian pathway systems, cycle path routes, detail local maps containing interpretive information at specific sites.

### Specific details

**Colours :** PS 71a

**Materials :** See notes & PS 72a

**Footings :** PS 75b, PS 75c

**Lightbox :** 'Interium' external lightbox : Tolini model : frame size 1275 x 927mm (to suit A0 image) area 841x1189mm - waterproof and hinged on right hand side. Recessed into face of concrete sign. Recess dimensions to suit depth of frame (47mm) plus tolerance to manufacturer's specifications. Frame is to sit flush against the edges of the concrete.

**Fluorescent Tubes :** 2 off

- T5 16mm diameter 35w 6000K 'Daylight'
- Model: Osram FH 35w/860 'Daylight'. For best colour rendition, replace both tubes at the same time.

**Ballast :**

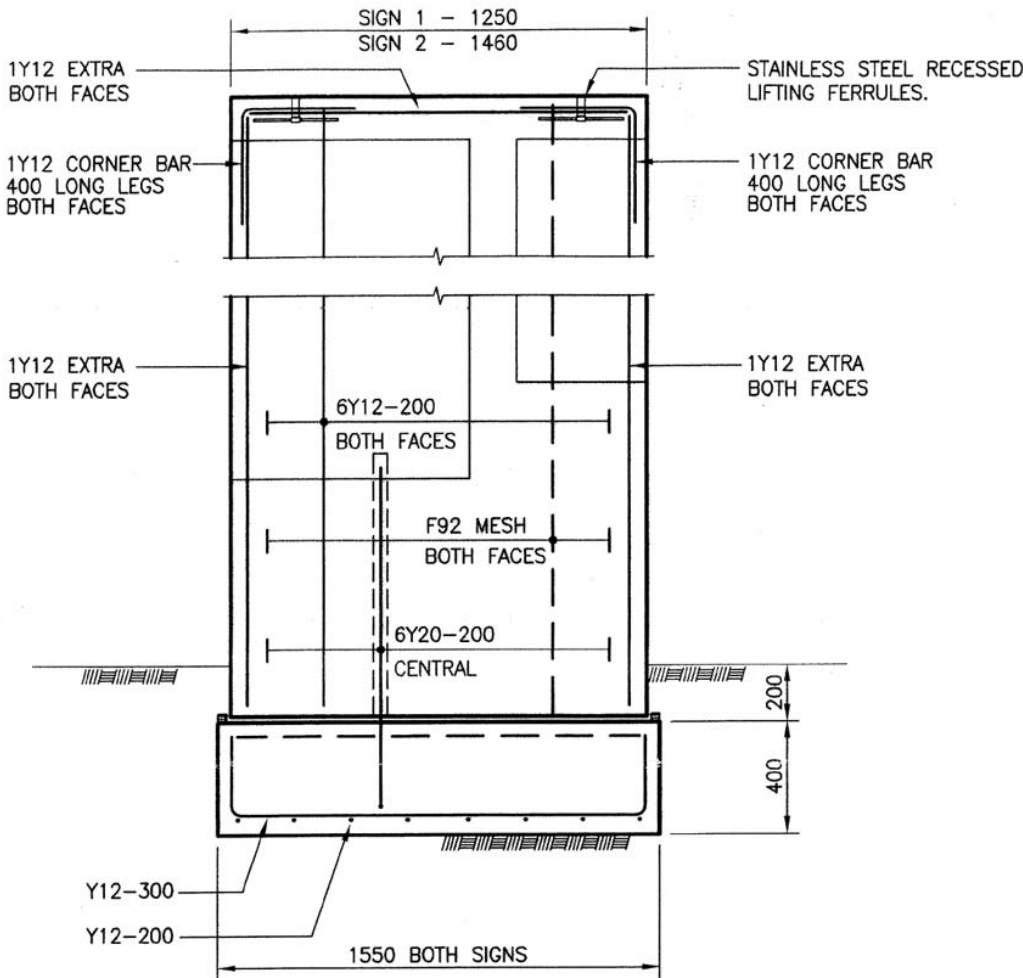
- Dual output to suit T5 35w tubes.
- Model : OSRAM Quicktronic QT-FH 2x35w/230-240

**DESIGN INTENT ONLY**

PS75a

# Design Guidelines

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## ELEVATION

**NOTE:**

CONCRETE STRENGTH AT 28 DAYS - 40 MPa  
 CONCRETE COVE TO REINFORCEMENT:  
 FOOTING - 50 ALL AROUND  
 WALL - 40 MIN. ALL AROUND

**Orientation and Map sign**

**Footings - Elevation**

**Specific details**

**Materials :** Natural unfinished concrete.

**Paving around base :** Washed concrete pavement - to comply with AS 1379, strength 20mpa at 28 days.

**Specifications :** Minimum effective cement content, 280kg/m<sup>3</sup>, minimum air content 4.5%.

Maximum slump : 80mm

Aggregate : 100% Crushed Nepean Gravel 20mm

**Note :**

Sign 1 refers to Orientation sign  
 Sign 2 refers to Map sign

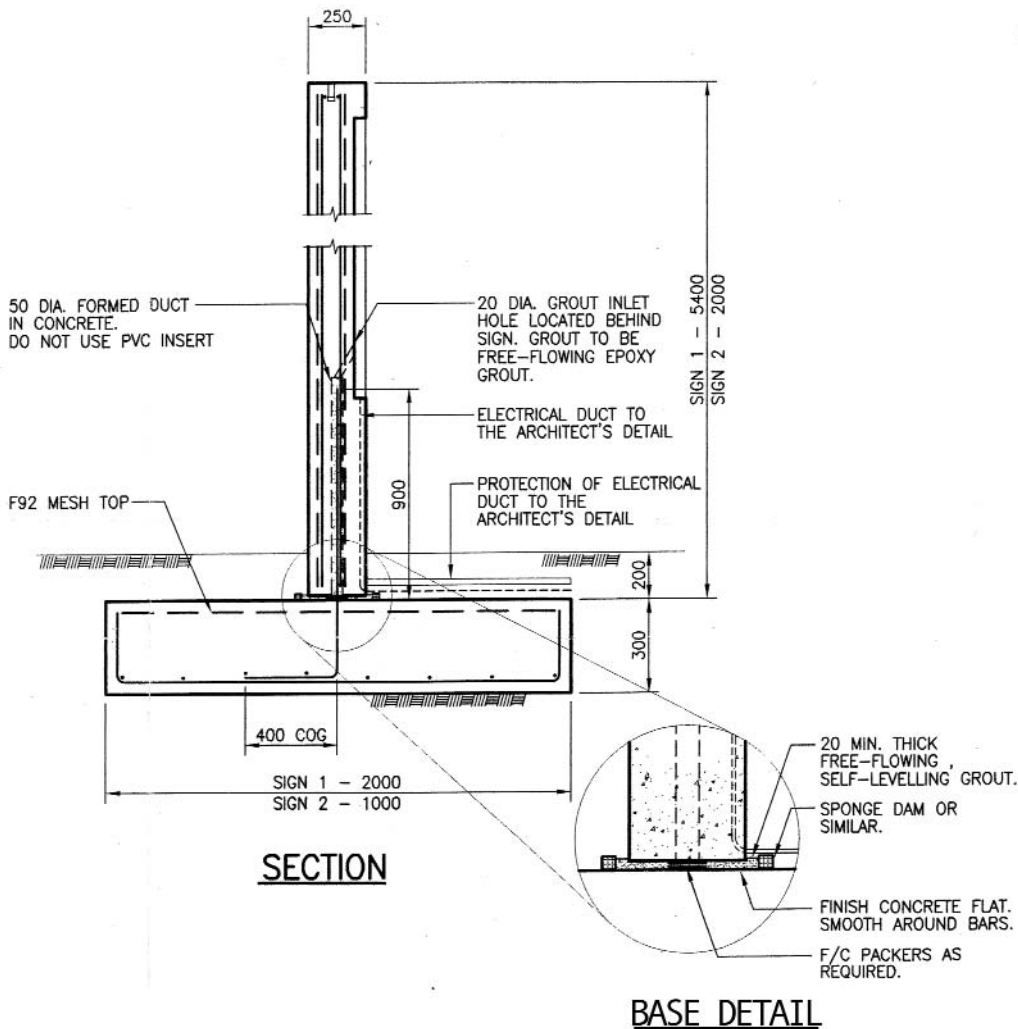
Not to scale

**DESIGN INTENT ONLY**

**PS75b**

# Design Guidelines

**THIS SECTION IS  
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Orientation and Map sign

Footings - Section

Specific details

See drawing notes.

Note :

Sign 1 refers to Orientation sign  
Sign 2 refers to Map sign.

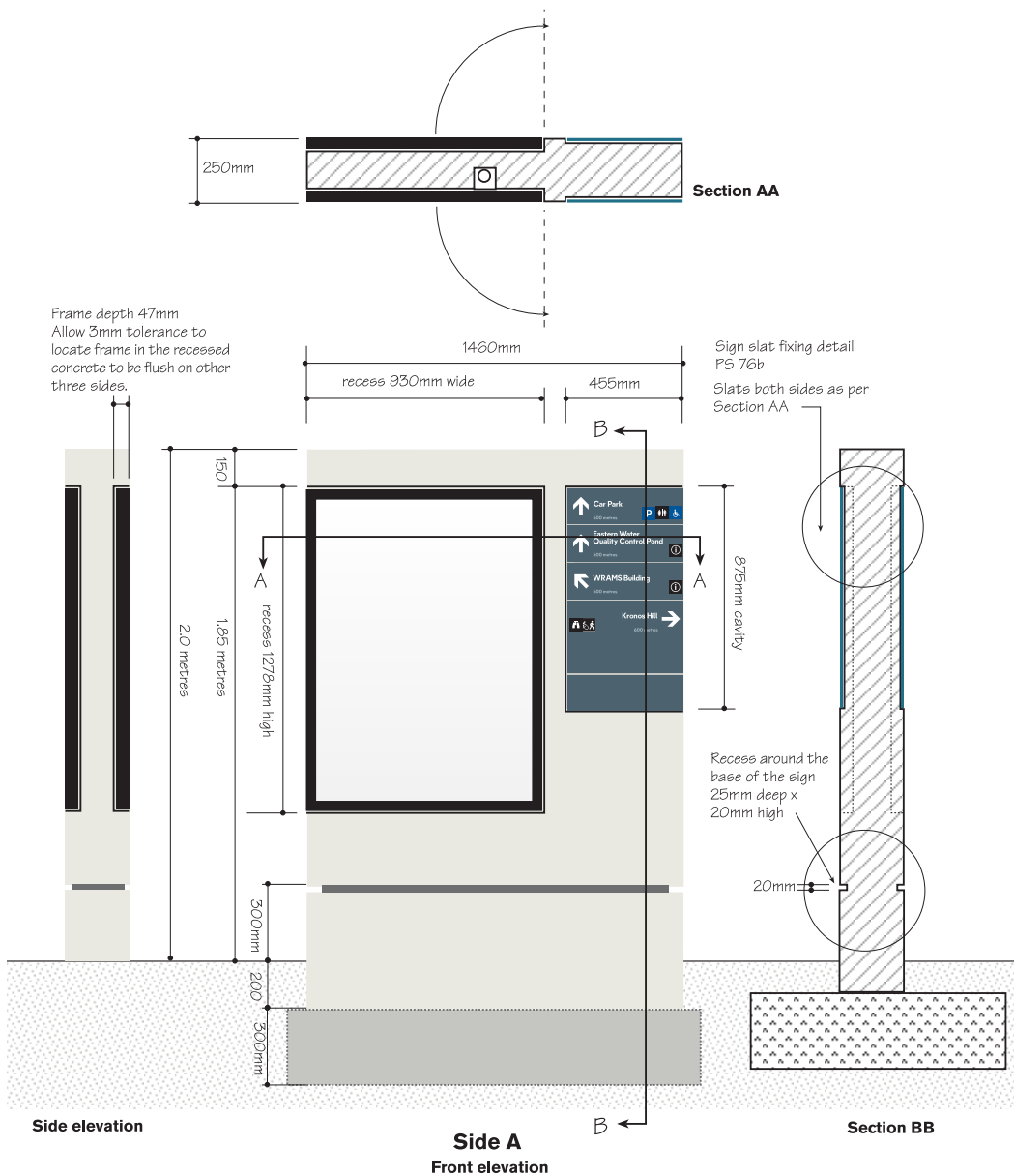
Not to scale

DESIGN INTENT ONLY

PS75c

# Design Guidelines

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## Map sign

**Location :** Intersection.

**Function :** Information refreshment / reorientation.

A typical local orientation sign will :

- Provide directional information.
- Provide a map.
- Provide 'What's on' information in a waterproof poster cabinet.

## Specific details

**Colours :** PS 71a

**Materials :** PS 72a

**Message panel :** PS 70g

**Footings :** PS 75b, PS 75c

**Lightbox :** Refer to PS75a

**Poster Cabinet :** Interium 'Tolini' case without electronics and fluorescent tubes.

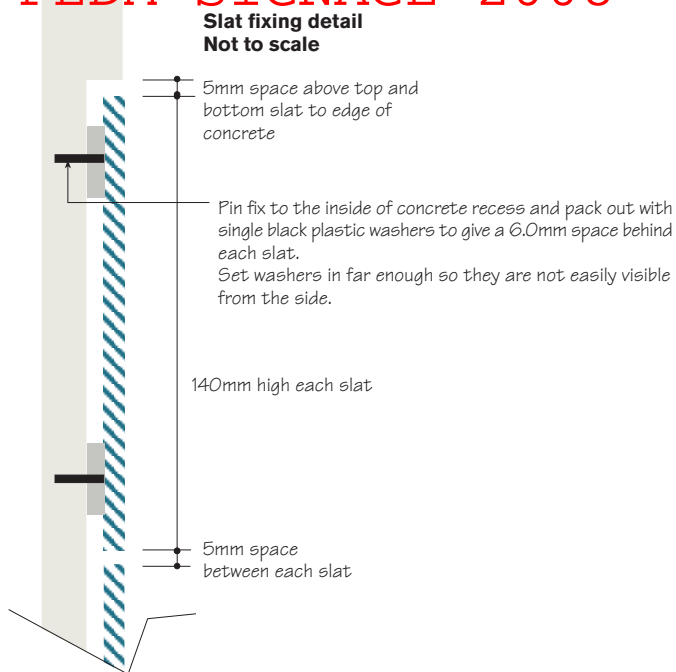


**DESIGN INTENT ONLY**

**PS76a**

# Design Guidelines

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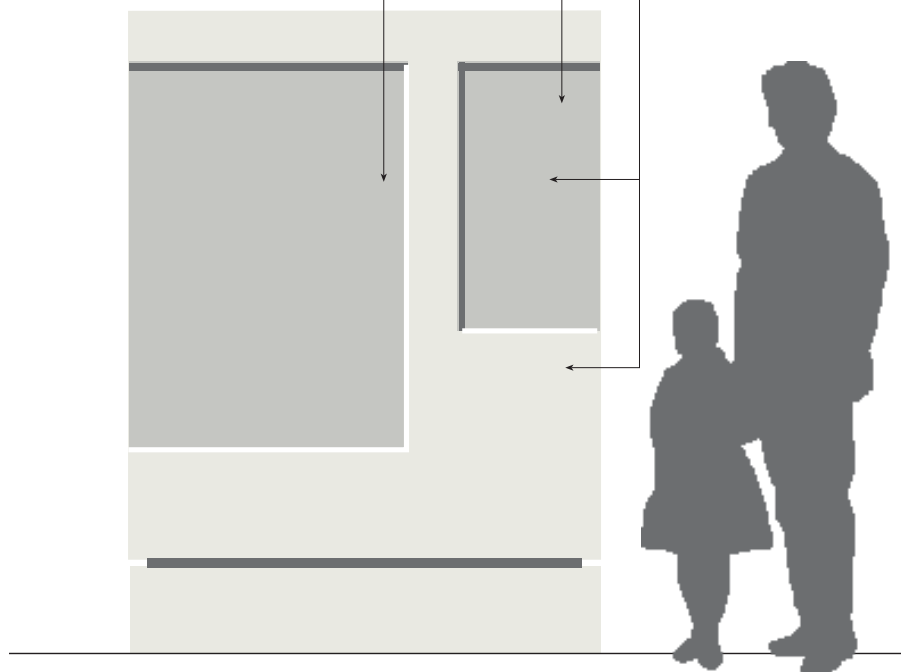


Concrete sign face - relief areas cast in concrete mould for the installation of lightboxes, pinboard and sign slats.

Lightbox here  
cavity to suit 1275 x 927mm frame

Slats here

Pre cast concrete -  
smooth finish



**Front elevation**

**Map sign**

**Directional panels**

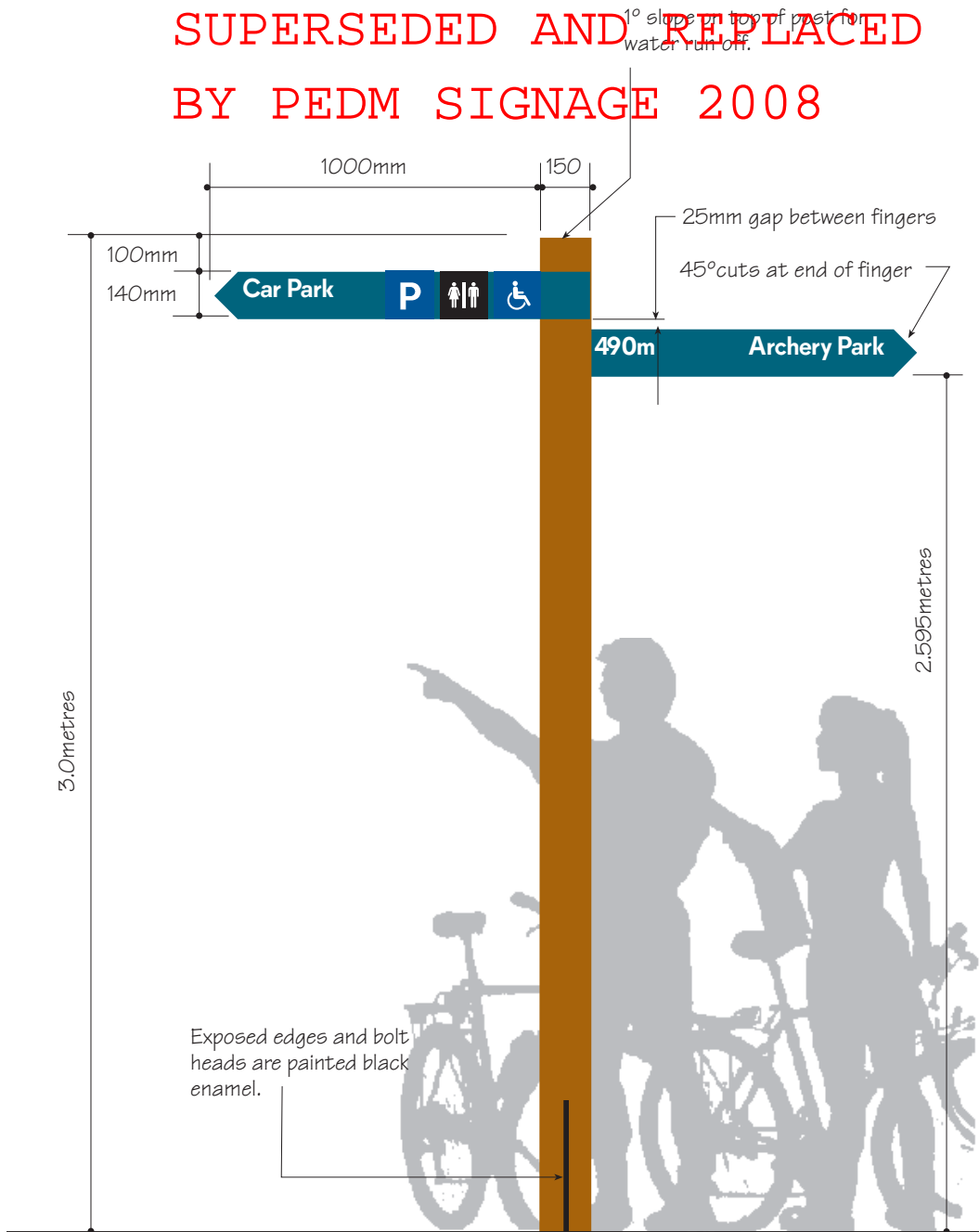
**DESIGN INTENT ONLY**

**PS76b**



# Design Guidelines

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## Circulation Signs

**Location :** Major Junction

**Function :**

- To provide directional information at major pathway junctions.
- Indicate distances to destinations.
- Pictograms to demonstrate degree of difficulty.

### Specific details

**Colours :** PS 71a

**Materials :** PS 72a

**Graphic set-out :** PS 70h

**General Assembly :** PS 77b, 80a

**Footings :** PS 80b, PS 80c



**DESIGN INTENT ONLY**

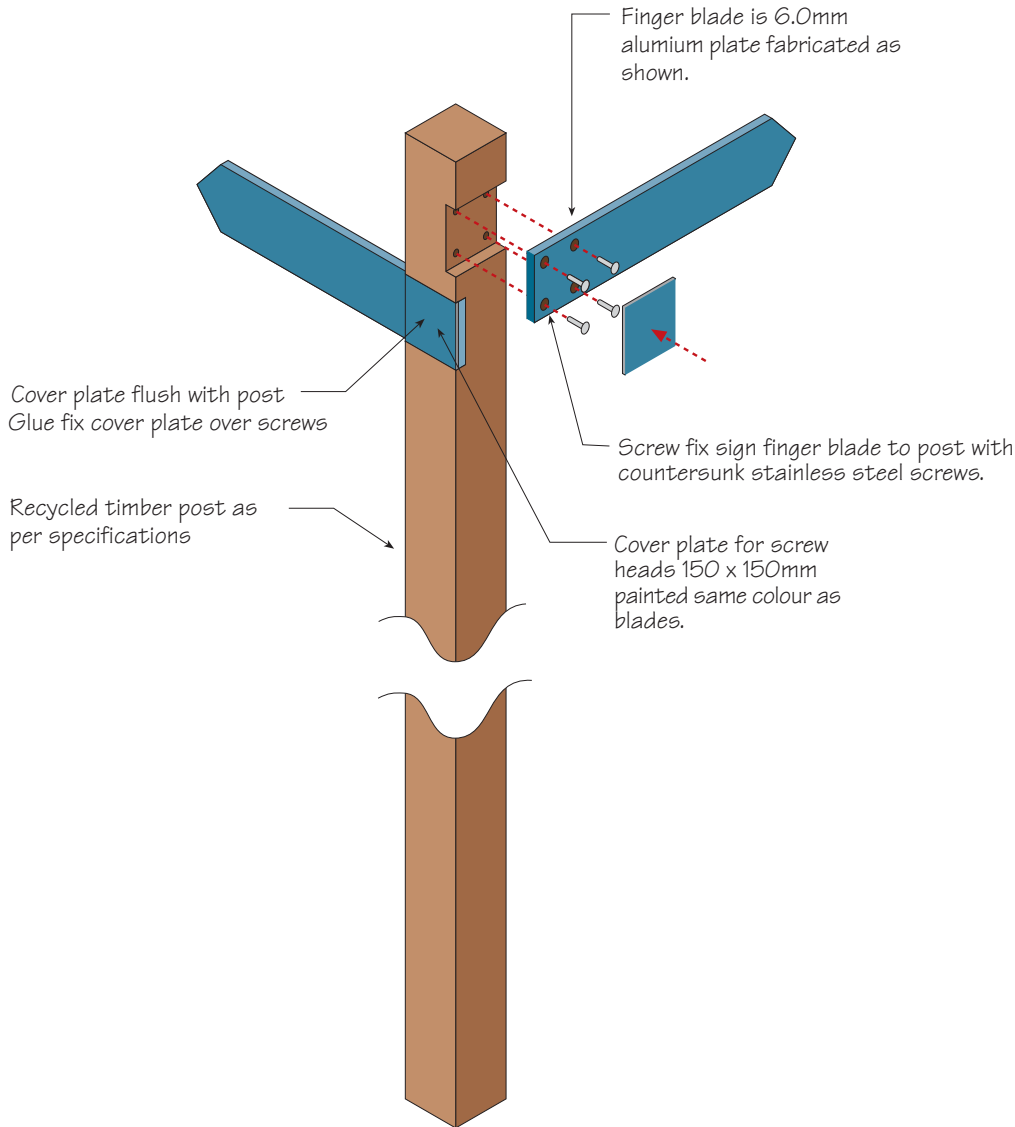
**PS77a**

# Design Guidelines

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Circulation signs

General assembly

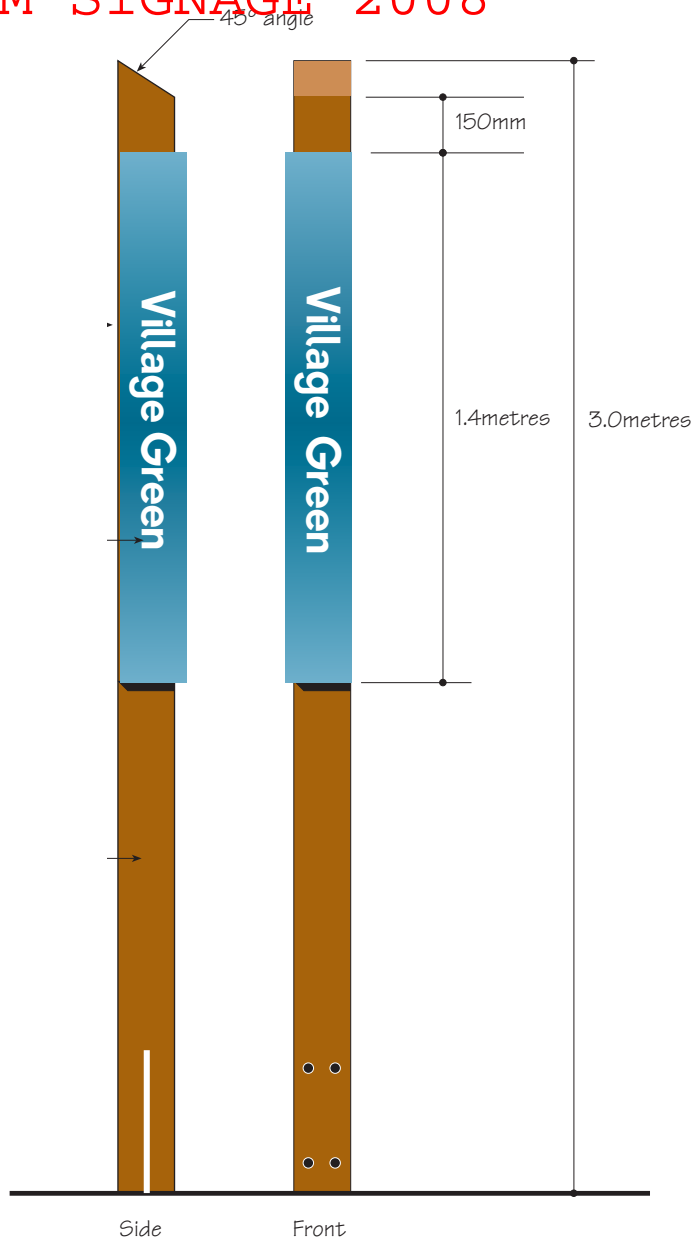


DESIGN INTENT ONLY

PS77b

# Design Guidelines

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## Destination sign

**Location :** Place with a name.

**Sign Type :** Destination sign for places and buildings.

**Function :** One name to reinforce and identify the arrival point.

### Specific details

**Materials :** Notes & PS 72a

**Destination name fixing :** PS 78b

**Graphic Guideline :** PS 70i

**Colours :** PS 71a

**Footings :** PS80b, PS 80c

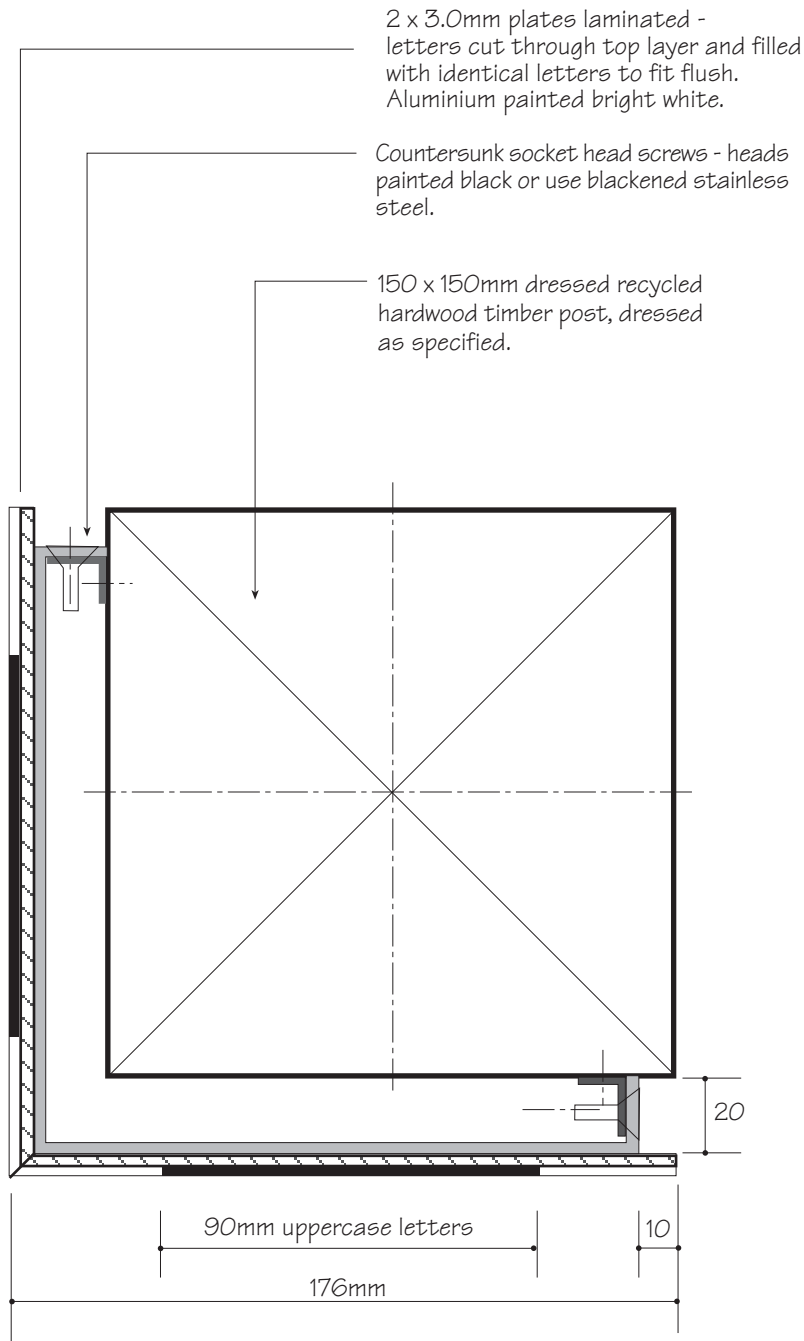


DESIGN INTENT ONLY

PS78a

# Design Guidelines

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Destination sign

Destination name fixing

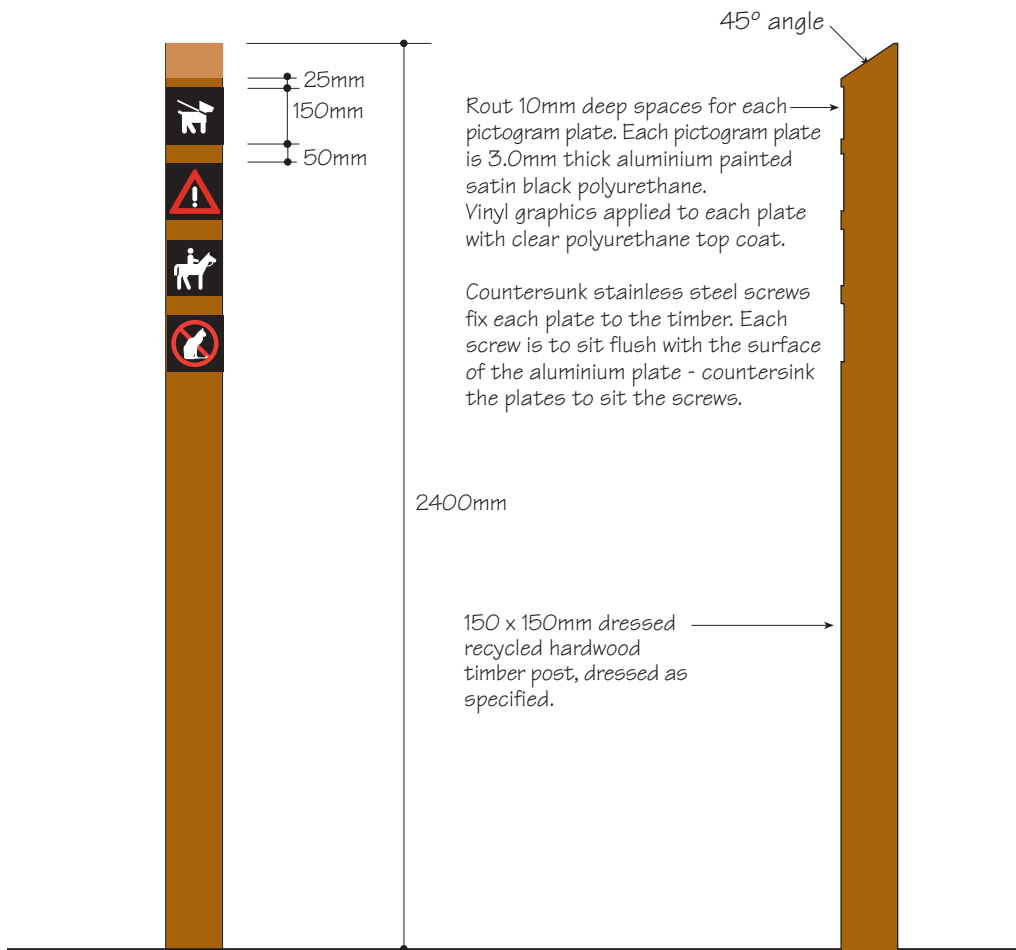
Scale 1:2

DESIGN INTENT ONLY

PS78b

## Design Guidelines

# THIS SECTION IS SUPERSEDED AND REPLACED BY PEDM SIGNAGE 2008



### Regulation Sign : Large

#### Function :

- To advise Park regulations and/or warning signs.
- Limitations and constraints.

#### Principles :

- To be visible by pedestrians.
- To appear non threatening.
- Use international symbols where possible.
- Maximum of four pictograms per sign.
- Not to dominate the landscape.

#### Specific details

**Colours :** PS 71a

**Materials :** PS 72a

**Surface protection :** PS 72b

**Pictograms :** PS 74d

**Fixings :** See notes attached.

**Footings :** PS 80b, PS 80c

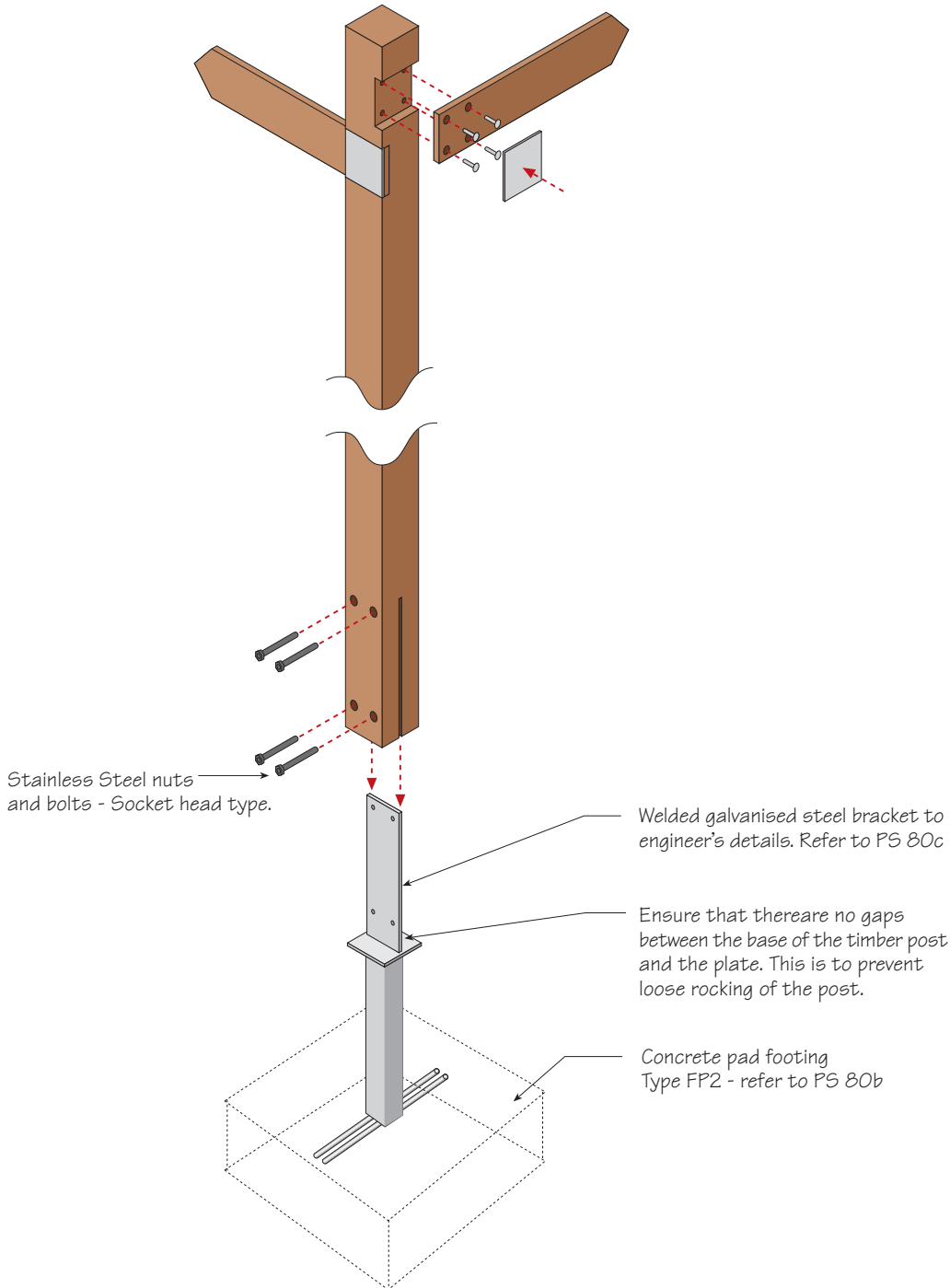


DESIGN INTENT ONLY

PS79a

# Design Guidelines

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General assembly

Circulation signs  
Destination signs  
Large Regulation signs

Footings : Refer to Engineer's drawings PS 80b, PS 80c

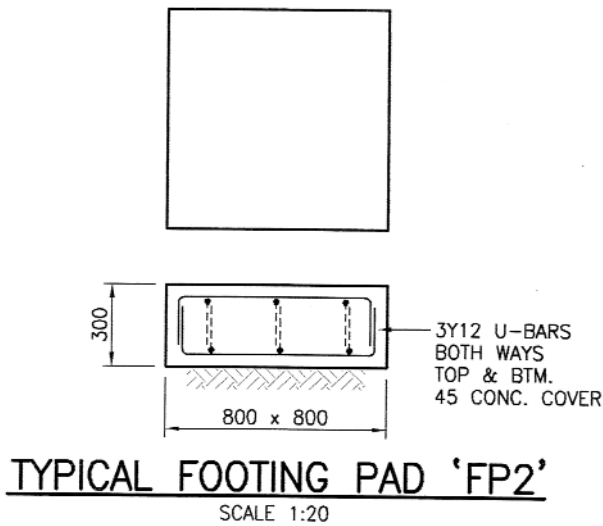
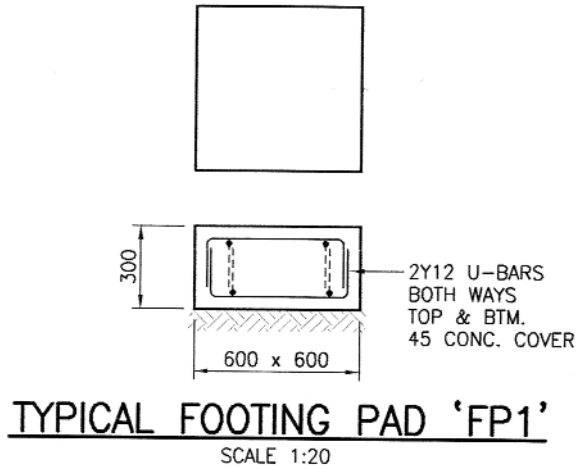
Not to Scale

DESIGN INTENT ONLY

PS80a

# Design Guidelines

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## Pad Footings FP1 and FP2

### Specific details

#### FP1 type for for sign types :

Small Regulation signs  
Minor circulation signs  
Commemorative signs  
Medium Interpretive signs

#### FP2 type for for sign types :

Circulation signs  
Identification signs  
Large Regulation signs

Materials : See notes

Concrete Strength : 25MPa. For depth of footing below ground refer to relevant steel bracket detail.

Scale 1:20

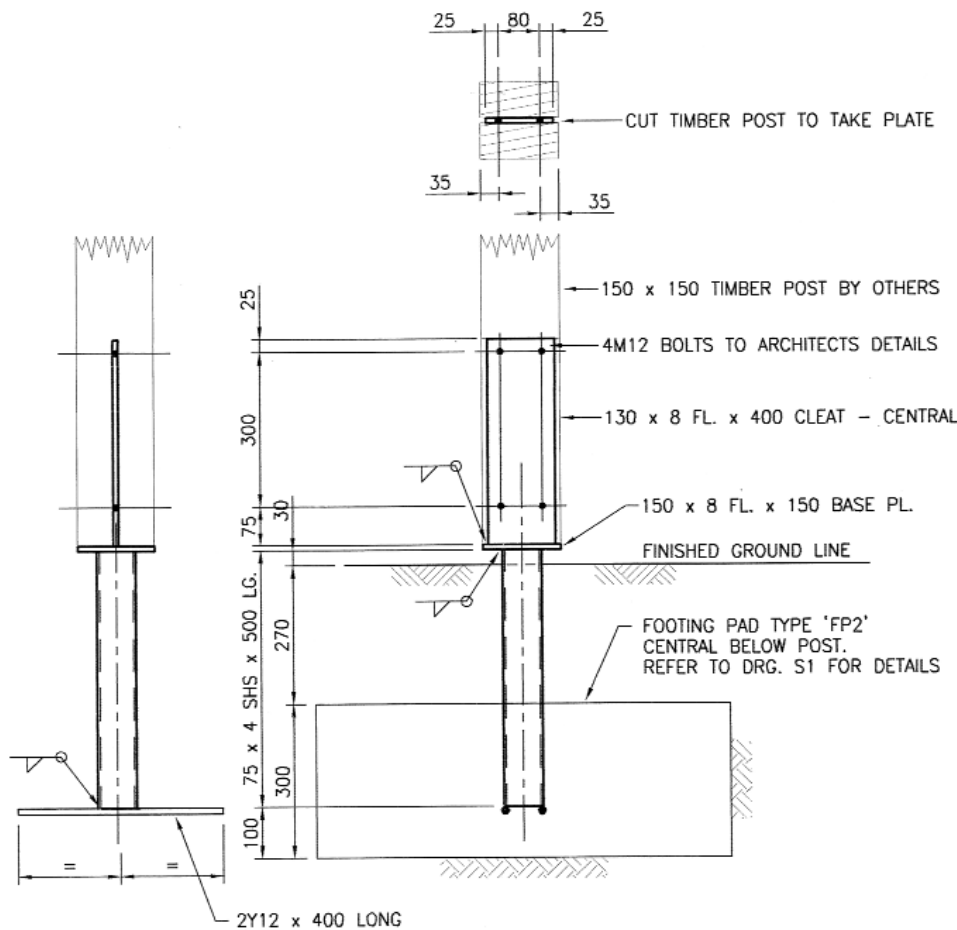
DESIGN INTENT ONLY

PS80b



# Design Guidelines

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## Footings and Bracket Details

Circulation signs  
Destination signs  
Large Regulation signs

### Specific details

**Materials :** See notes & PS72a

**Concrete Strength :** 25MPa. For depth of footing below ground refer to relevant steel bracket detail.

**Note :** Post Support Bracket to be Hot dip galvanised after fabrication.

**Pad footing type FP2 :** PS 80a

Not to scale

DESIGN INTENT ONLY

PS80c

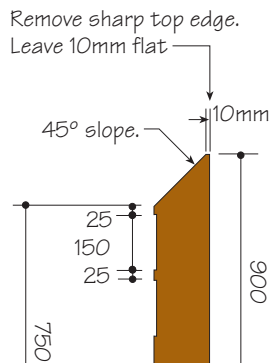
# Design Guidelines

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Rout 10mm deep spaces for each pictogram plate. Each pictogram plate is 3.0mm thick aluminium painted satin black polyurethane. Vinyl graphics applied to each plate with clear polyurethane top coat.

Countersunk stainless steel screws fix each plate to the timber. Each screw is to sit flush with the surface of the aluminium plate - countersink the plates to sit the screws.

Recycled timber post, dressed to size specified - See specification notes.



## Minor Circulation Sign

**Location :** Minor Junctions - the most simple T intersections or at path loop junctions which reconnect to the same path.

**Function :** Providing simple directional reinforcement with one directional indicator - a distance and a graphic or interpretive symbol.

### Specific details

**Colours :** PS 71a

**Materials :** PS 72a

**Pictograms :** PS 74a, 74b, 74c

**Assembly :** see notes

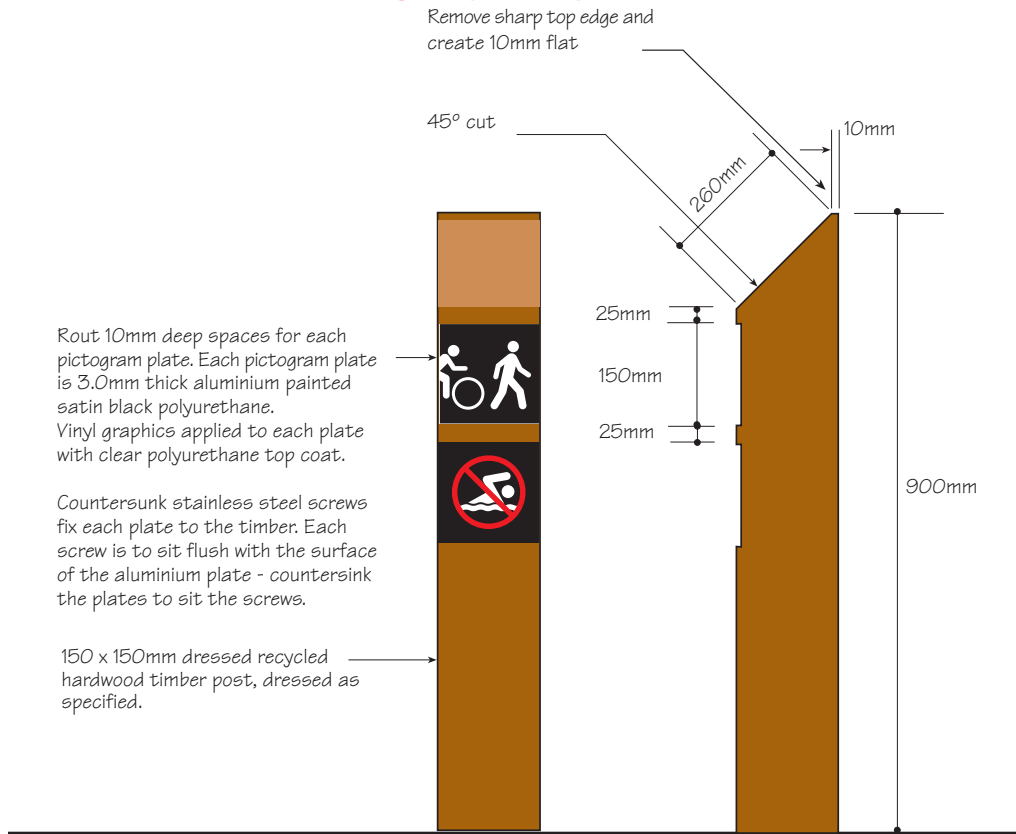
**Footings :** PS 80b, PS 83a

**DESIGN INTENT ONLY**

**PS81a**

# Design Guidelines

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## Regulation Sign : Small

**Function :** To advise limitations and constraints.

**Principles :**

- To be visible by pedestrians.
- To appear non threatening.
- Use international symbols where possible.
- Maximum of two pictograms per sign.
- Not to dominate the landscape.

**Specific details**

**Colours :** PS 71a

**Materials :** PS 72a

**Surface protection :** PS 72b

**Graphic reproduction :** PS 73a

**Pictograms :** PS 74d

**Fixings :** See notes attached.

**Footings :** PS 80b, PS 83a

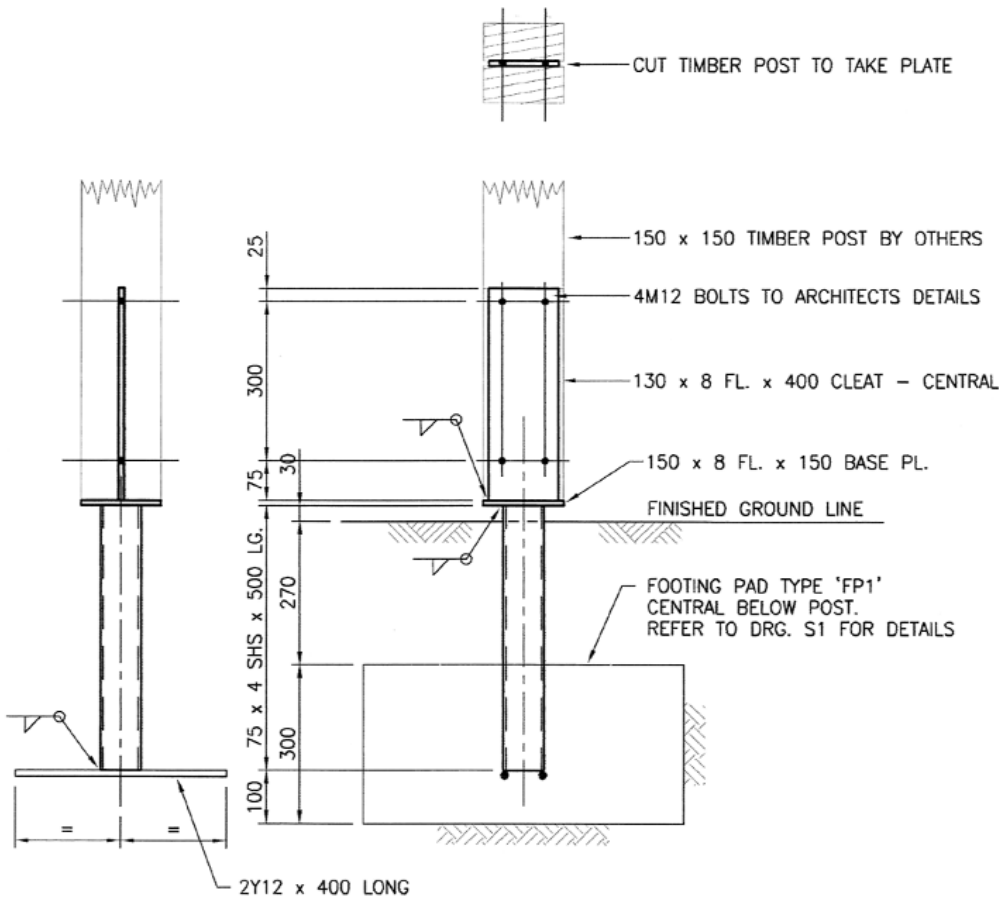


**DESIGN INTENT ONLY**

**PS82a**

# Design Guidelines

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**Footing and bracket details**

**Minor Circulation signs  
Small Regulation signs**

**Specific details**

**Materials :** See notes & PS 72b

**Concrete Strength :** 25MPa.  
For depth of footing below ground refer to relevant steel bracket detail.

**Note :** Post support bracket to be hot dip galvanised after fabrication.

**Pad footing type FP1 :** PS 80b

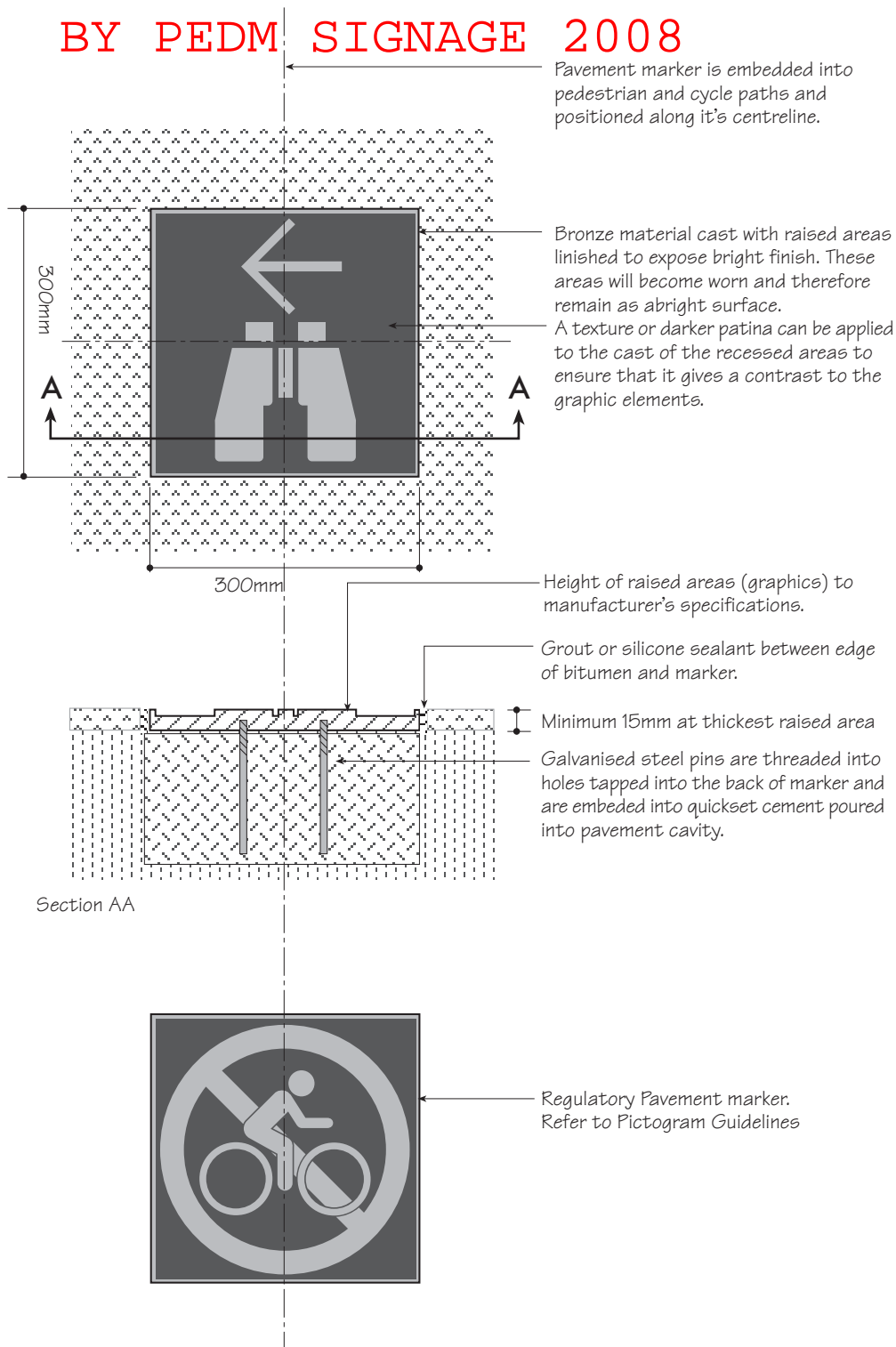
**Not to scale**

**DESIGN INTENT ONLY**

**PS83a**

# Design Guidelines

## THIS SECTION IS SUPERSEDED AND REPLACED BY PEDM SIGNAGE 2008



### Plaques

#### In-ground or pavement

##### Functions :

1. In-ground commemorative or directional elements which can also be utilised on freestanding timber structures.

2. To reinforce directional messages and pictograms used on regulatory signs.

##### Principles :

- To be visible by pedestrians and riders on bicycles.
- Use international symbols where possible.
- Not to dominate the landscape.

##### Specific details

**Materials :** See notes

**Fixing :** See notes

**Colours :** See notes

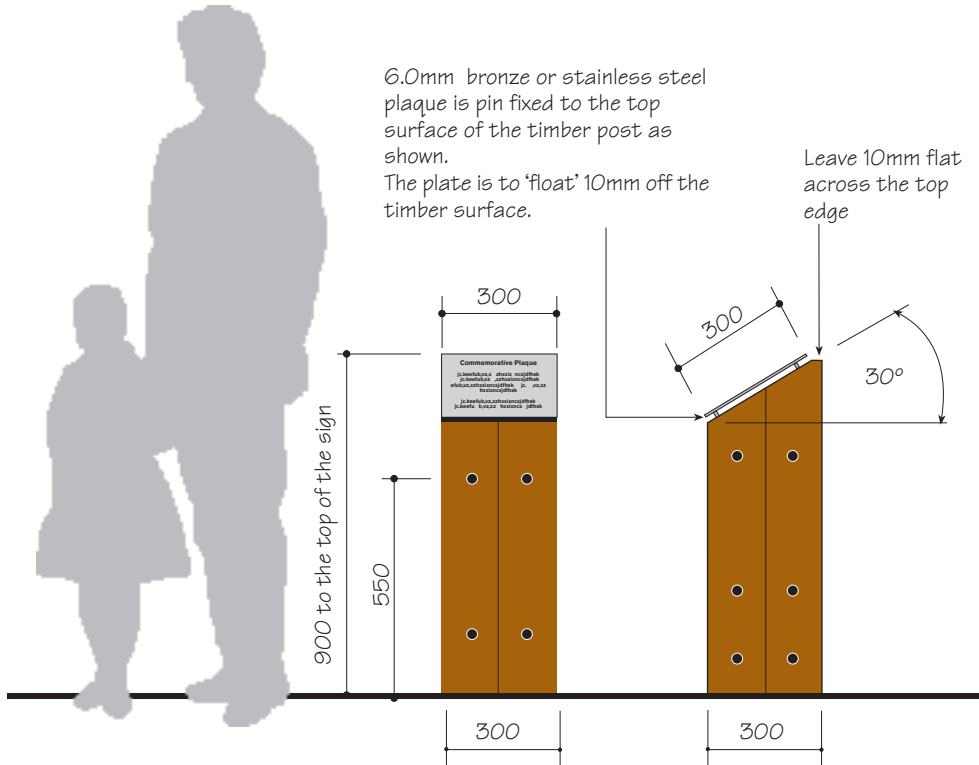
**Pictograms :** PS 74a - PS 74d

DESIGN INTENT ONLY

PS84a

# Design Guidelines

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## Commemorative Plaques

### Freestanding

**Location :** A specific place, where a memory or ceremony is to be stated or celebrated.

**Sign Type :** Commemorative sign.

**Function :** Convey a single message - up to 40 words. A single image may be integrated if appropriate.

### Specific details

**Colours :** PS 71a

**Materials :** PS 72a

**Surface protection :** PS 72b

**Graphic reproduction :** PS 73a

**Assembly :** PS 85b

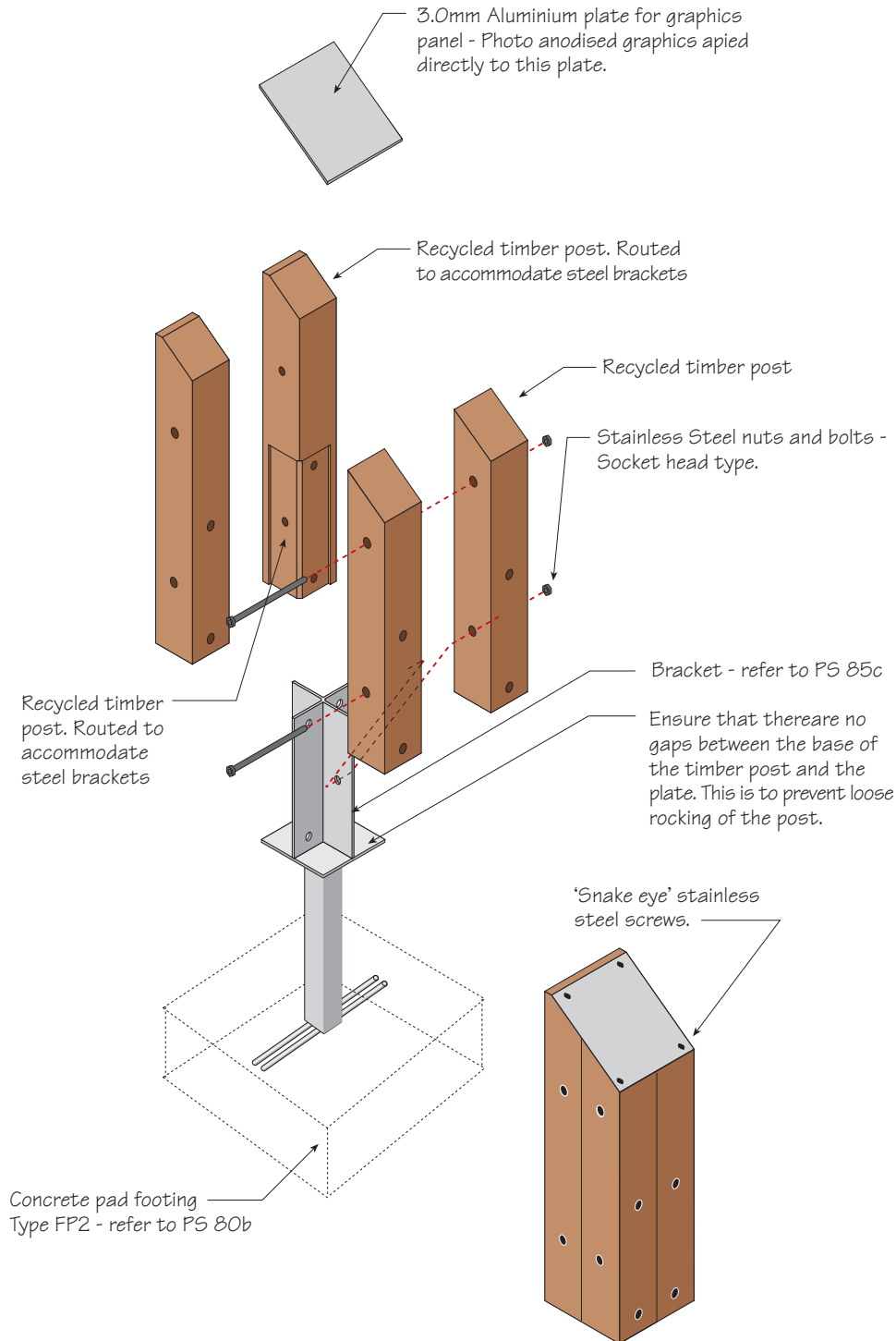
**Footings :** PS 85c

DESIGN INTENT ONLY

PS85a

# Design Guidelines

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## Commemorative Plaques General assembly

### Specific Details :

Engineering details : refer to PS85c and PS 80b

Not to scale

DESIGN INTENT ONLY

PS85b



# Design Guidelines

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## Commemorative Plaques

### Footing and bracket details

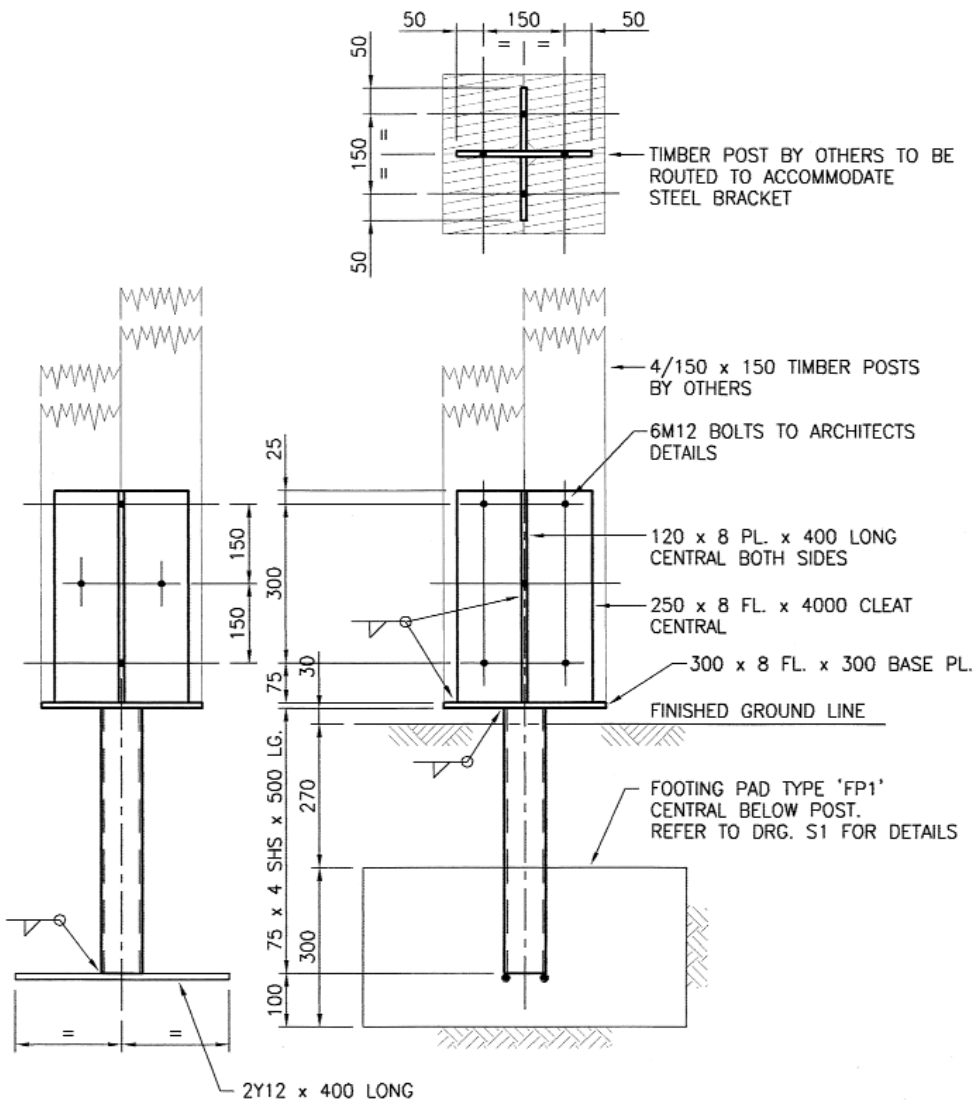
#### Specific details

Materials : See notes

Concrete Strength : 25MPa.

Note : Support bracket to be hot dipped galvanised after fabrication.

Pad footing type FP1 : PS 80b



DESIGN INTENT ONLY

PS85c

# Design Guidelines

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## Vehicular Directional Sign

**Location :** Within Sydney Olympic Parklands at turn offs.

**Sign Type :** Sydney Olympic Parklands vehicular directional signs based on RTA principals and based on the existing Sydney Olympic Park vehicular directional system.

**Principle :** One message at destination turn-offs.

**Function :** Provide directions to Facility Nodes.

**Australian Standard :** Manual of uniform traffic control devices : Part 2 : Traffic control devices for general use.

**RTA Standards :** Refer to traffic Engineering Manual for specific details regarding dimensions, letter height according to sign type required.

**Colours :** Class 1 white and green letters on Class 2A standard green background.

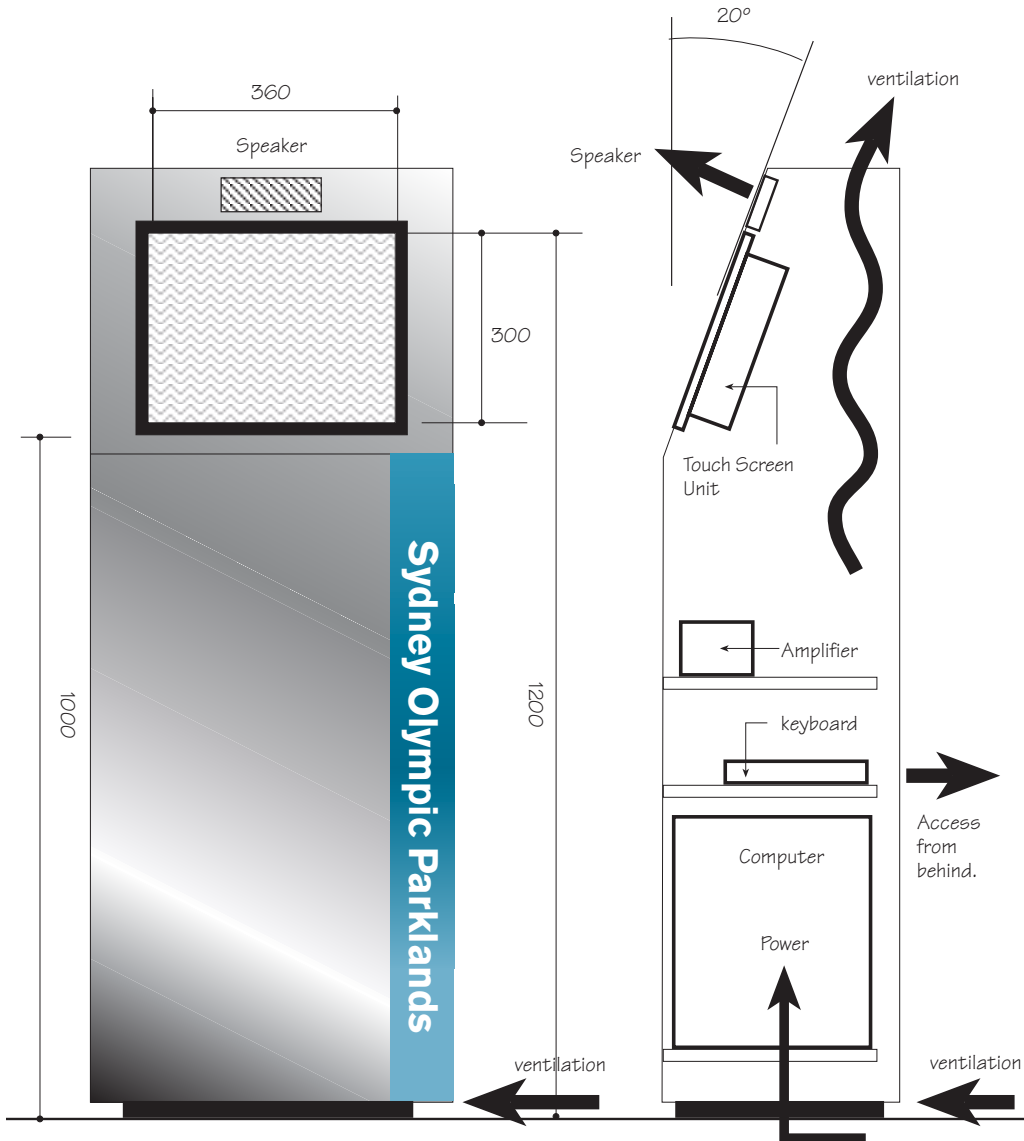
**Typeface :** Olympic font : sizes to specifications as above.

DESIGN INTENT ONLY

PS86a

# Design Guidelines

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## Interpretive Signs

### Touch Screen Unit

#### Locations :

**External :** Facility node, also associated with its own freestanding picnic shelter or weather proof shade structure.

**Internal :** Visitor Centres.

**Sign Type :** Touch Screen.

**Technology :** Refer to PS 87b

#### Function :

- Provide a broad overview of interpretive issues of the immediate vicinity.
- Suitable for group learning / outdoor education.

#### Examples :

Large, simple graphics. May also incorporate touch screens, audio visual points - links to guided tours, lighting effects triggered by automatic or prompted switches, graphic panels with descriptive images.

#### Materials :

Cladding in fibreglass, aluminium and stainless steel. LCD monitor to be laminated to 8.0mm thick 'Touch Tough' glass.

#### Graphics :

Site specific graphics can be sandblasted or screen printed onto front fascia of unit.

**Restrictions :** Unit must be located under cover to protect glass touchscreen and LCD display from ultra violet light.

**Note :** This is an example only - Specific graphics and layouts will be designed together with future exhibition and interactive graphic design for the Parklands.

DESIGN INTENT ONLY

PS87a

# Design Guidelines

## THIS SECTION IS SUPERSEDED AND REPLACED BY PEDM SIGNAGE 2008

Step 1: Indicative of the type of icons which can be simply touched on a screen to access the next layer of information

	<b>Whats on</b>	Sydney Olympic Parklands
	<b>Who's here</b>	
	<b>Wildlife</b>	
	<b>Building</b>	
	<b>Landscape</b>	
	<b>Historical features</b>	


Step 2: Access next layer.



**RANAD site**

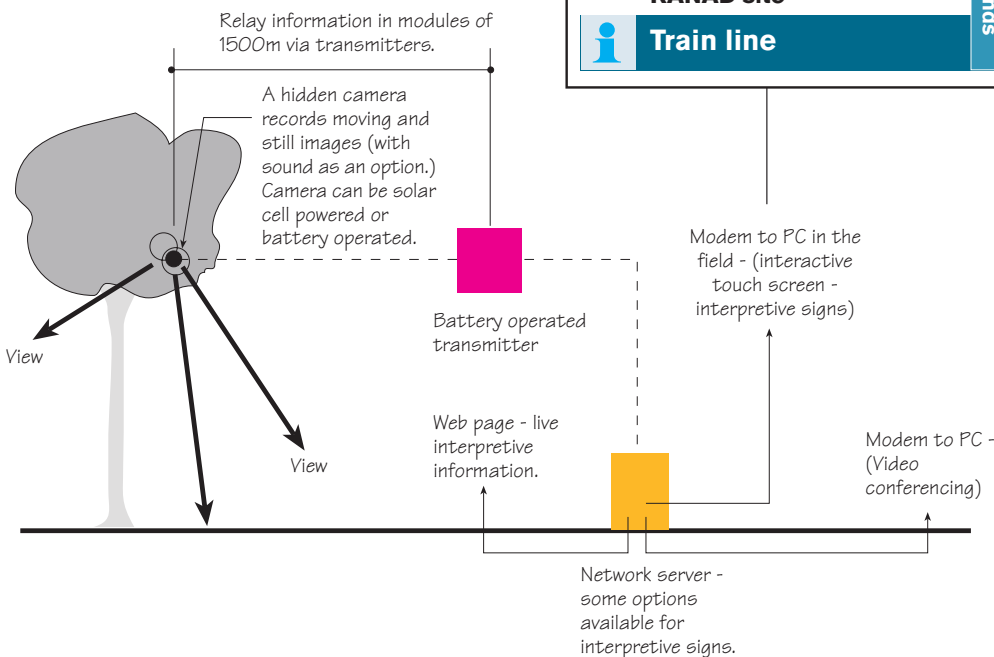
	<b>Historical features</b>	Sydney Olympic Parklands
--	----------------------------	--------------------------

Step 3: Access next layer. Possible live images.



**RANAD site**

	<b>Train line</b>	Sydney Olympic Parklands
--	-------------------	--------------------------



### Interpretive Signs

### Touch Screen Technology

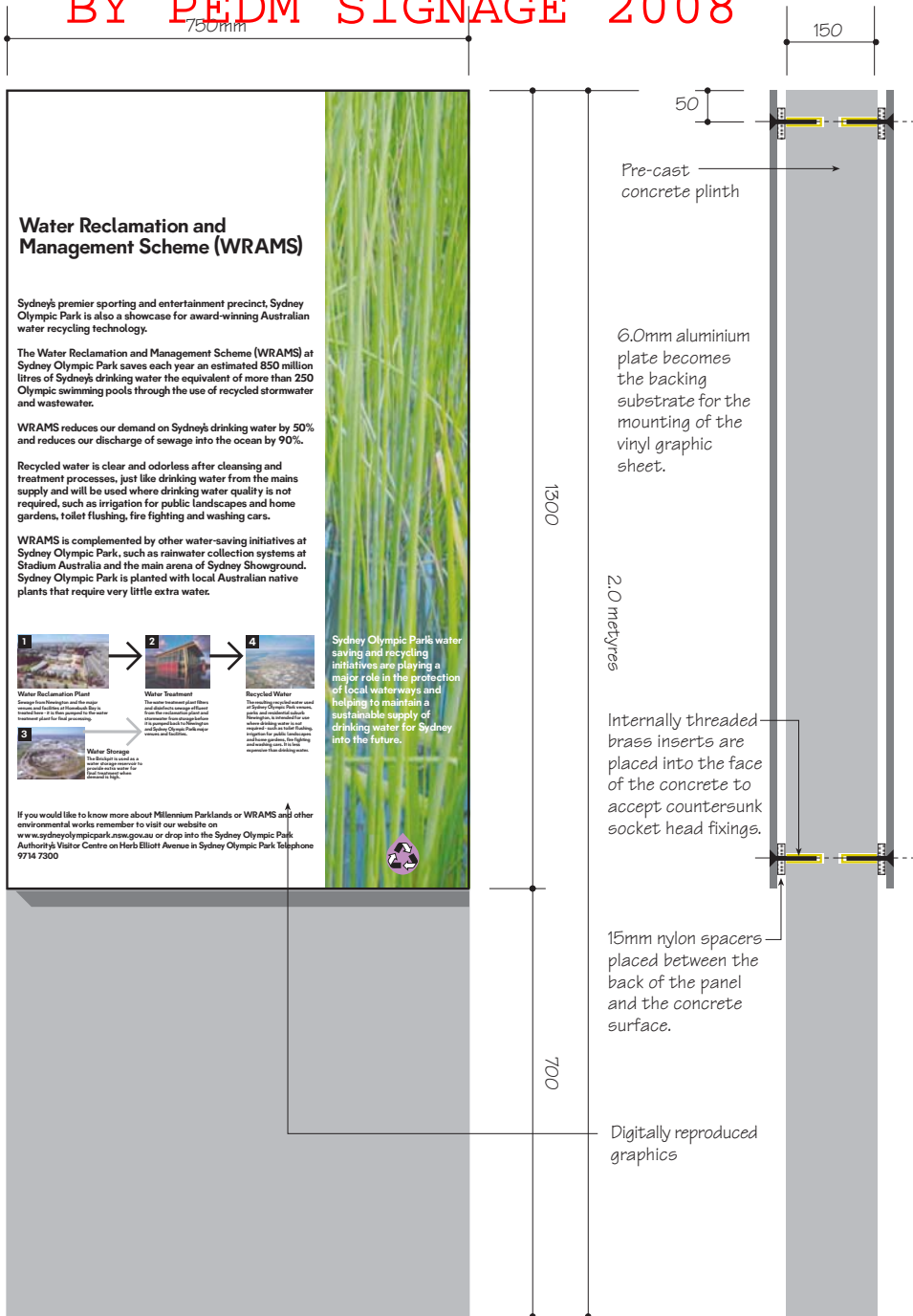
**Note :** This is an example only - Specific graphics and layouts will be designed together with future exhibition and interactive graphic design for the Parklands.

**DESIGN INTENT ONLY**

**PS87b**

# Design Guidelines

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## Large Interpretive Sign

**Location :** Facility node.

**Sign Type :** Large interpretive sign.

**Function :** Provide a broad overview of interpretive issues of the immediate vicinity.

Suitable for group learning / outdoor education.

**Specific details :**

**Materials :** PS 72a

**Surface protection :** PS 72b

**Graphic reproduction :** PS 73a

**Footings :** PS 75b and PS 75c

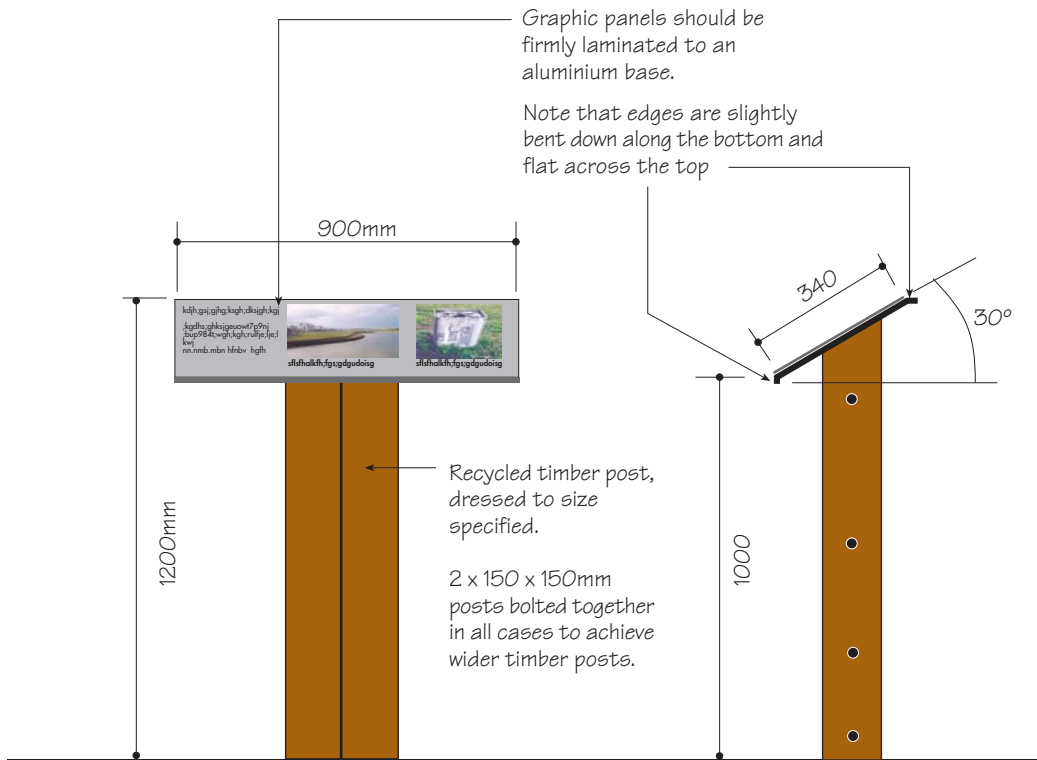
**Assembly :** See notes

DESIGN INTENT ONLY

PS88a

# Design Guidelines

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## Medium Interpretive Sign

**Location :** At a specific interpretation sites- aimed at what you can see.

Typically associated with the path network or a freestanding viewing platform, a lookout or along a boardwalk.

**Sign Type :** Static medium interpretive sign.

**Function :** Communicate a message about a place or theme.

Contain maximum 200 words.

### Specific details :

**Materials :** PS 72a

**Graphic reproduction :** PS 73a

**Footings :** PS 80b, PS 89c

**Assembly :** PS 89b

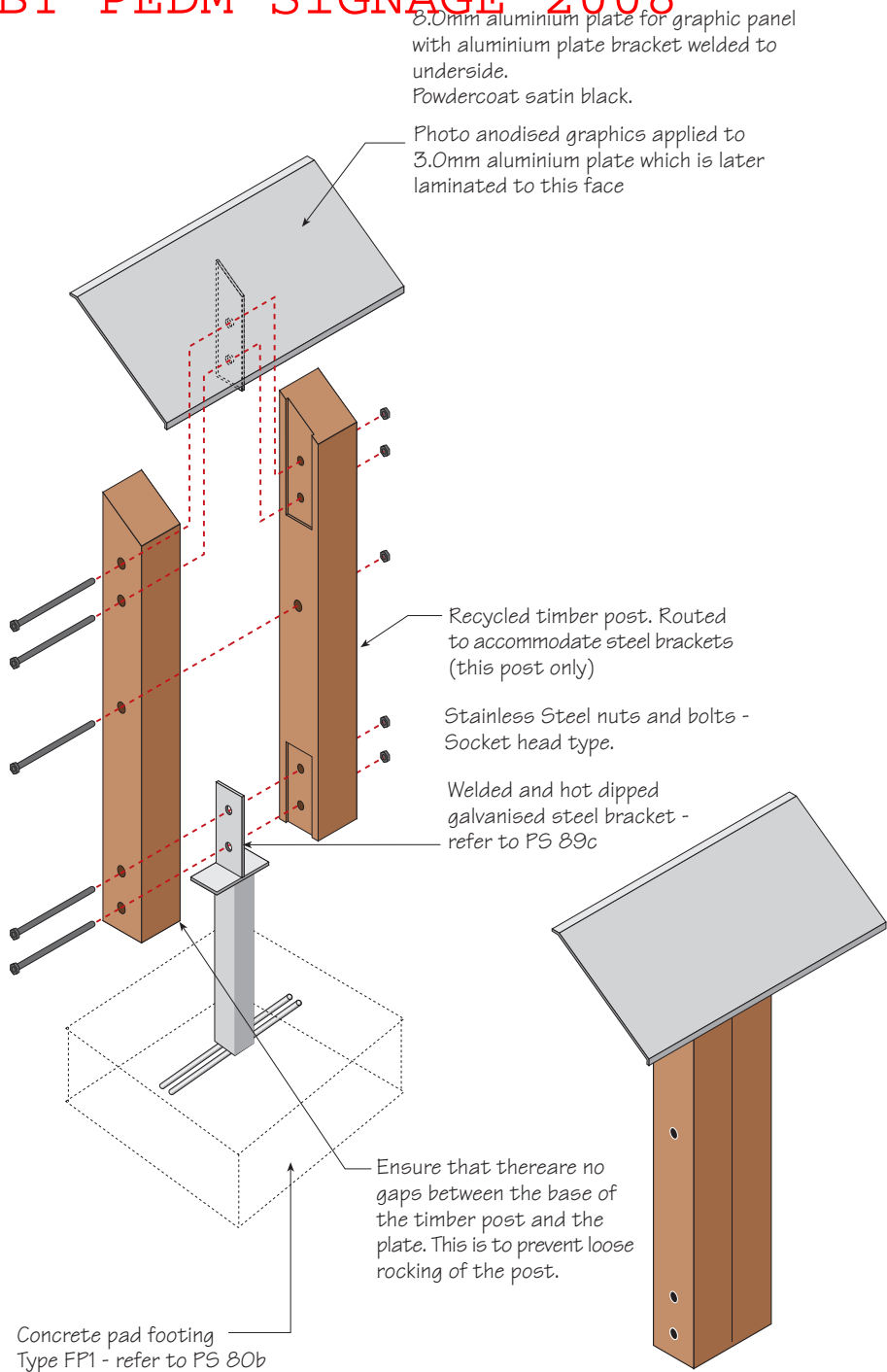


DESIGN INTENT ONLY

PS89a

# Design Guidelines

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## Medium Interpretive sign

### General assembly

#### Specific Details :

**Engineering details :** refer to PS89c and PS 80b

Not to scale

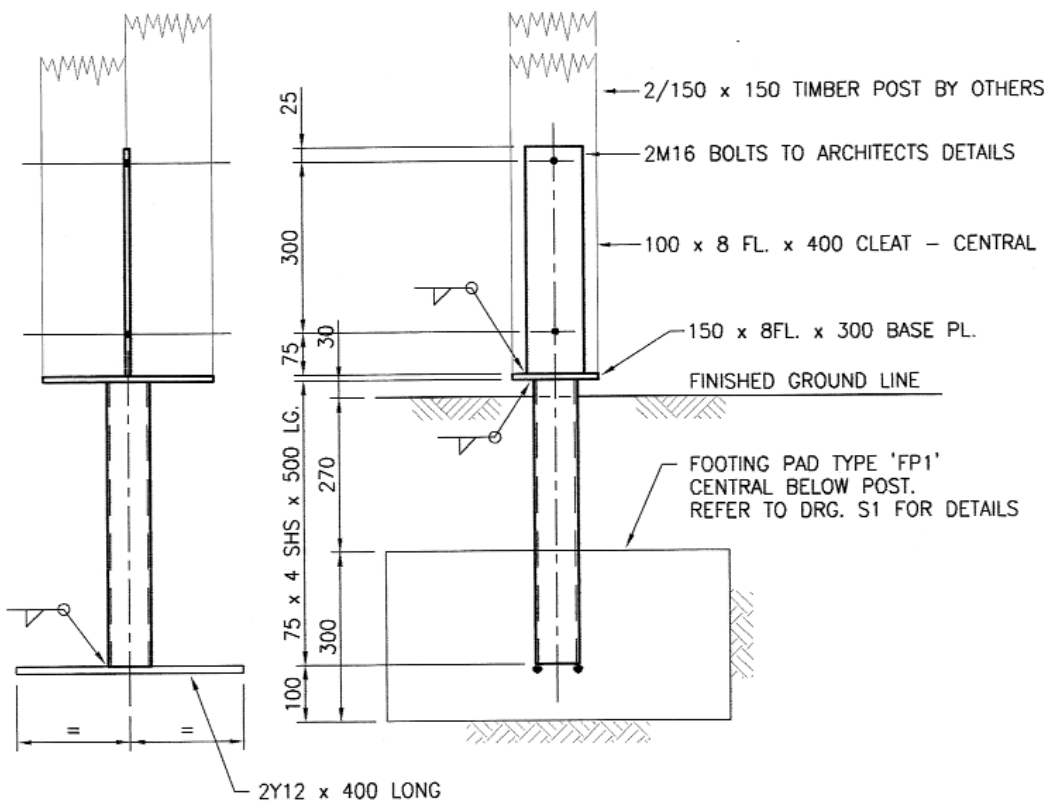
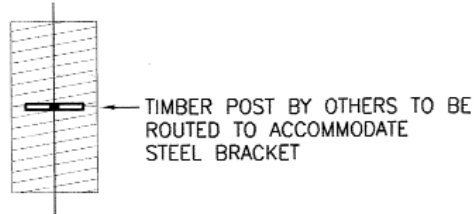
**DESIGN INTENT ONLY**

**PS89b**



# Design Guidelines

THIS SECTION IS  
SUPERSEDED AND REPLACED  
BY PEDM SIGNAGE 2008



Medium Interpretive sign

Footing and bracket details

Specific details

Materials : See notes & PS 80b

Concrete Strength : 25MPa.

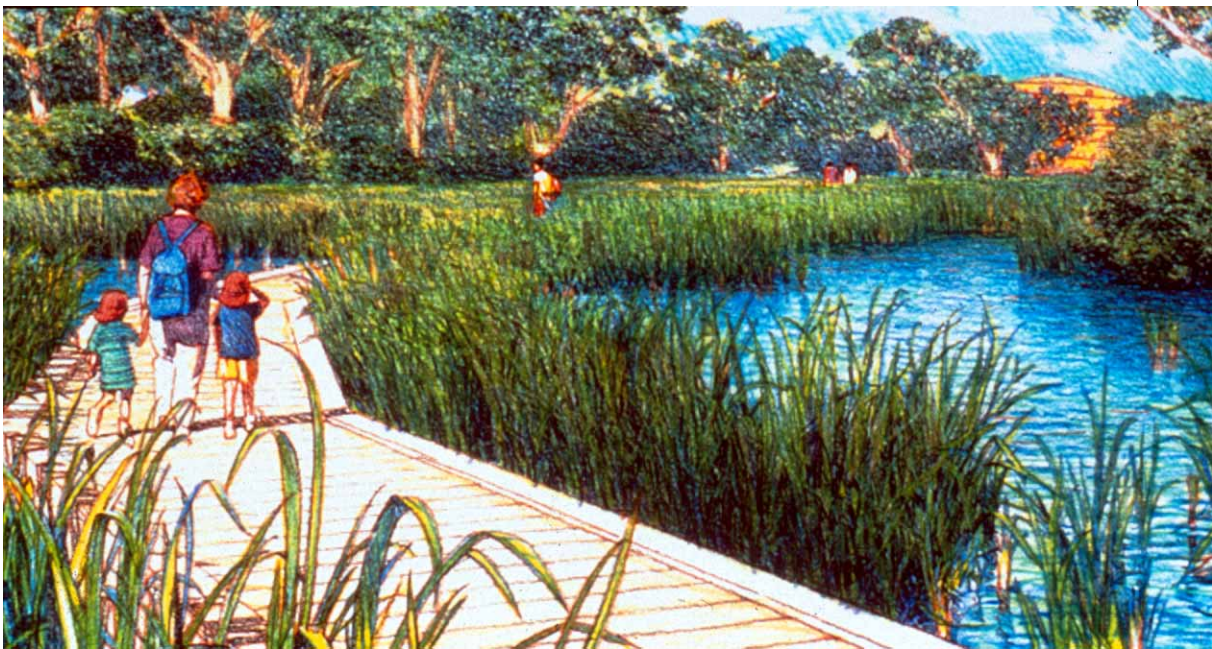
Note : Support bracket to be hot dipped galvanised after fabrication.

Pad footing type FP1 : PS 80b

DESIGN INTENT ONLY

PS89c

## Authorship & Acknowledgements



Chris Grubbs

## **Authorship & Acknowledgements**

The Sydney Olympic Park Authority (SOPA), incorporating the former Olympic Co-ordination Authority (OCA), has undertaken the work with key input by consultants for specific sections. The following are the key authors of the study:

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- \* Clouston Associates
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The pages of the UEDM inserted into this document were undertaken by Olympic Co-ordination Authority / Government Architect Design Directorate in conjunction with the following consultants:

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- \* HASSELL Pty Ltd
- \* Barry Webb and Associates
- \* KWA Design
- \* Emery Vincent Design
- \* Connell Wagner Pty Ltd
- \* Access Australia

# ***Appendix A***

**Elements in the landscape**

<b>Element</b>	<b>Components</b>	<b>Material</b>	<b>Supplier</b>
<b>PLE1</b> <i>Minor walls</i>		Concrete	
<b>PLE2</b> <i>Typical Steps</i>		<p>Recycled hardwood timber planks (see below) on steel structure.</p> <p>Recycled hardwood timber: Grade One: natural oil finish</p> <p><i>Species:</i> Turpentine Iron Bark Grey Gum White Mahogany Tallowwood</p> <p>Alternative: Treated timber with Copper Azole – Type A (CBA-A)</p>	<p>Treated timber with Copper Azole (NSW): Prime Pine Minto NSW Contact: Stuart Montgomery Ph: (02) 9820 1577</p> <p>Boral Conact: Bob Cox Ph: (02) 6632 1866</p> <p>J Natalis &amp; Son Grafton , NSW Contact: Trevor Bailey Ph: (02) 6642 3477</p>
<b>PLE3</b> <i>Typical Ramp</i>		Material to correspond to location and material selected for path hierarchy/ type with which it is associated. See PEDM Paving Section for details.	

**Constructed Elements**

<b>Element</b>	<b>Components</b>	<b>Material</b>	<b>Supplier</b>
<b>PLE4</b> <i>Boardwalks (general)</i>	Posts	Recycled hardwood timber: Grade One: no treatments required <i>Species:</i> Turpentine Iron Bark Grey Gum White Mahogany Tallowwood  Alternative: Treated timber with Copper Azole – Type A (CBA-A)	
	Decking	Recycled hardwood timber (see above)	
	Beams	Recycled hardwood timber (see above)	
	Balustrades	Galvanised RHS posts Stainless Steel Wires Timber top rail (see above)	
<b>PLE5</b> <i>Footbridges</i>	Decking	Recycled hardwood timber as for boardwalks.	
	Decking	Recycled hardwood timber as for boardwalks.	
	Structure	Recycled hardwood timber as for boardwalks.	
	Balustrading	Steel and timber as for boardwalk.	
<b>PLE6</b> <i>Viewing Platforms</i>	Floor (on ground)	<i>Informal lookouts:</i> Timber (see above) or grassed platform <i>Hill top lookouts:</i> Markers- grass Mounds- insitu concrete with dowelled joints	
	Floor (suspended)	Recycled hardwood timber decking as for boardwalks.	

**Shelters**

<b>Element</b>	<b>Components</b>	<b>Material</b>	<b>Supplier</b>
<b>PLE7/ PLE8</b> <i>Picnic shelter/ Shade structure (permanent)</i>	Footings	Concrete	
	Footing shoe	Galvanised MS blade footing shoe.	
	Floor (on ground)	Reinforced concrete slab with smooth steel troweled finish. Natural colour.	
	Floor (suspended) NB: only to be used in specific circumstances ie: if slope of site doesn't allow flat ground for shelter to be placed.	Recycled hardwood decking timber (see below)	
	Posts	Sustainable hardwood decking timber (see below)	
	Roof sheeting	Zincalume corrugated iron	
	Timber	Recycled hardwood timber: Grade One: natural oil finish <i>Species:</i> Turpentine Iron Bark Grey Gum White Mahogany Tallowwood	
	Roof Battens	Recycled hardwood timber (see above)	
	Ceiling	Plywood- renewable timber	
	Rafters	Galvanised steel angle	
	Roof water collection device (rainwater tank: to be housed within enclosure wall structure)	Polyethylene	<i>Similar or equal to:</i> City Rainwater Tanks (Aust) Pty. Ltd. 11 Severn Street St. Marys, NSW 2760 PH: (02) 9623 2428
	Gutters and down pipes	Stainless steel. Gutter to be in continuous length.	
	Solar Panels and battery box		<i>Similar or equal to:</i> BP Solar: 1/100 Old Pittwater Road Brookvale NSW 2100 PH: (02) 9454 5127 Contact: Nigel Morris



**Shelters cont.**

<b>Element</b>	<b>Components</b>	<b>Material</b>	<b>Supplier</b>
	Lighting	8W fluro: internal lighting to shelter 20W fluro: area lighting to barbecues	part of Solar package
	Walls	Timber battens or timber boards on a timber studframe.	

**Furniture**

<b>Element</b>	<b>Components</b>	<b>Material</b>	<b>Supplier</b>
<b>PLE9</b> <i>Barbecues</i>	Hot plate with electric timer, gas fired.	Stainless steel	
	Barbecue base	Masonry (with cement rendered base)	
	Top	Concrete with stainless steel cladding.	
<b>PLE10</b> <i>Enclosure wall/ Drink station</i>	Wall (with recesses to allow installation of drink/ fast food machine, telephones, hot water unit, minor storage, electrical switchboards, signage, bubblers etc). Wall to fit between structure of shelters.	Timber stud frame with timber boarding. Cladding as for Picnic Shelter walls.	
<b>PLE11</b> <i>Vehicular Gate</i>	Post	Galvanised steel	
	Barrier arm	Galvanised steel Stainless steel tie wire and pipe.	
<b>PLE12</b> <i>Vehicular Barrier</i>	Post	Recycled hardwood timber: Grade One: no treatments required. <i>Species:</i> Turpentine Iron Bark Grey Gum White Mahogany Tallowwood  Alternative: Treated timber with Copper Azole – Type A (CBA-A)  Galvanised MS bolt fixing.	
	Cross bar	As above	

# ***Appendix B***

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## **1. Introduction**

### **Purpose**

This appendix establishes the brief for the design of selected large elements that in turn forms part of the Sydney Olympic Parklands Park Elements Design Manual. This document has been compiled following various workshops with Sydney Olympic Park Authority's (SOPA) personnel from Planning & Urban Design, Parklands teams and parklands program team in which the concerns, aspirations and requirements of the various sections within SOPA were obtained. This document should be referred to for guidance in the siting, application and documentation of the various parkland elements.

This document outlines the following requirements for the selected large elements.

- intended function/purpose
- the number of each element likely to be required;
- their location/setting;
- expected levels of use (number of people, size of groups etc.);
- access (disabled / elderly) and safety requirements;
- maintenance considerations;
- Parklands design consideration;
- program requirements; and
- potential interpretative opportunities.

## **1. Introduction**

### ***Setout and Scope***

This report is setout in two parts.

Section 1 discusses general requirements which are relevant to the design of all of the large elements whilst Section 2 identifies specific requirements for each of the selected large elements.

The brief focuses on the following selected elements, which formed part of HASSELL's commission:

- minor retaining walls;
- steps;
- ramps;
- boardwalks;
- viewing platforms/ lookouts;
- foot bridges;
- picnic shelters;
- shade structures;
- barbecues;
- drink stations;
- small vehicular gates;
- small vehicular barriers.

## **2. General Requirements**

General principles, objectives and requirements relevant to the design of all of the large Parklands elements are set out below under the areas of:

- Parklands design consideration;
- program requirements; and
- maintenance and management considerations.

### **2.1 Parklands Design Considerations**

Consideration should be given to the following general parkland design issues.

- The elements must be simple and uncomplicated, robust and designed as part of the parkland setting in which they occur, rather than being features in the landscape.
- Temporary elements in sensitive areas could have an art component to celebrate their temporary nature and the experience of the setting.
- Materials and finishes should be selected which do not become outdated or are likely to be discontinued or unavailable in the future. Quality material should be used to ensure they are long lived to leave a legacy for future generations and convey the value and esteem in which Parklands are held by the community.
- Elements/structures should generally be clustered around activity nodes in the Parklands to service the high use areas and prevent undue clutter in the remainder of the Parklands. In remote parts of the Parklands very limited provision of facilities is desirable so as to promote the experience of 'nature' and isolation.
- Individual elements should ideally be adaptable and capable of supporting a range of functions or attachments so as to reduce the need for other separate items to be placed in the Parklands.
- In keeping with environmental sustainability practices, recycled materials, renewable resources and materials with low manufacturing and transportation energy costs are to be used where possible.
- The basic palette of materials and finishes are to be unstained recycled hardwood, galvanised steel, off form exposed aggregate concrete, asphaltic concrete and stabilised decomposed granite.

### **2.2 Program Requirements**

Consideration should be given to the following program requirements when designing, documenting and siting the large parkland elements.

- Maximise the potential use of elements and structure for a range of variety activities, events and commercial opportunities by providing in-built flexibility and adaptability in the design.
- SOPA's Access Strategies requirements are to be addressed in the design and location of the element. Adequate shelter and shade is crucial for users



## **2. General Requirements**

especially in the initial stages of the Parklands if remote parts of the site are to be accessed by the elderly and disabled.

- Potential funding opportunities may be available through the hiring of venues and corporate sponsorship. Temporary, removable or adaptable components which can facilitate corporate sponsorship and venue hire should be considered.
- The implementation of elements could be undertaken as part of the Parklands program with the initial elements treated as prototypes for trial and feedback from the community. The design and updating of the PEDM could be an iterative process incorporated into the program.

### **2.3 Maintenance and Management Considerations**

Consideration should be given to the following maintenance and management issues.

- Materials and items selected must be long lived, robust and easily cleaned to reduce maintenance costs.
- Long term availability of materials and property items must be assured to enable elements can be replaced or extended in the same materials and products in the future.
- Removable items must be easily handled, stacked and stored. Finishes must be robust to prevent chipping and scratching.
- Where possible, parts, fixings and fittings should if possible be standardised between elements to reduce the stock of spare parts and tools required by the maintenance teams.
- Where items are not required to be removable they should be made permanent to minimise undue costs in manufacturing and maintenance.
- The implications of temporary verses permanent elements should be well thought through as temporary items may end up permanent.
- Potential exists for certain items to be designed as a 'kit of parts' for multiple applications eg. - a removable fence as a temporary barrier.
  - bollards with chain links as temporary barriers.
- The provision of power, water and telecommunications services to multi-use areas and activity nodes/structures should be considered to provide maximum flexibility of use for public and commercial events and venue hire. The provision of these services will make selected settings more commercially marketable and increases the chances of obtaining corporate sponsorship.

### **3. Specific Requirements for Specific Elements**

Specific requirements for each of the selected large elements are outlined below. Elements have been ordered and numbered to correspond to the design details outlined in the Parklands Elements Design Manual.

#### **3.1 *Minor Retaining Wall Structures***

**PLE1**

##### ***Intended Function/Purpose***

- To retain earth embankments up to 1m in height in prominent parts of the Parklands adjacent to activity nodes/ park entries and the urban core. Wherever possible the use of retaining devices should be minimised in preference for design solutions that work with the natural underlying landform. Gabion wall structures are the preferred retaining devices to be used throughout the majority of the Parklands.
- Retaining walls required in areas adjoining park entrance and car parks and picnic facilities may be required to fulfil other functions such as providing anchor points for signs, seats, lights and litter bins so as to reduce the clutter of separate items in the Parklands.

##### ***Number of Elements likely to be required***

- Number and extent are unknown.

##### ***Location/Setting***

- Prominent parts of the Parklands which will have high levels of use and where a higher standard of finish than gabion retaining walls is required.
- Areas potentially adjoining structures or parts of the urban core (such as the carnival site or Australian Avenue Promenade) where sharp detailing and a high level of finish is appropriate to the character of the setting.

##### ***Level of Use***

- The extent of walling should generally be strictly limited in favour of design solution, which works with the natural landform rather than imposing retaining elements within the landscape.

##### ***Access***

- The use of handrails should be minimised except where required for safety reasons.

### **3. Specific Requirements for Specific Elements**

#### **Parklands Design Consideration**

- Materials or proprietary products chosen as possible attachments to wall structures should be robust with simple uncomplicated detailing.
- The design and placement of the walls should be understated and not be a feature within the landscape but be seen as an integral part of the landform which they are retaining.

#### **Program Requirements**

- A range of attachments and fixings for interpretive informants, displays, signage, temporary structures and art components may be required. Attachments should be grouped or kept to a minimum to avoid clutter and to maintain the visual integrity of the wall and the adjoining landscape.

#### **Maintenance and Management Consideration**

- Materials or products selected need to be adaptable to a number of applications so as to avoid a 'mish mash' solution.
- Retaining walls should be designed for a long life span as they are expensive to replace.
- Cleaning graffiti needs to be addressed with the application of a matt anti-graffiti membrane.

### **3.2 Steps and Ramps PLE2 and PLE3**

#### **Intended Function/Purpose**

- Steps are to provide pedestrian access in areas of steep gradient where standard grades are not possible or desirable.
- Ramps are to provide pedestrian, cycle and disabled access where standard grades are not possible or desirable.

#### **Number of Elements likely to be required**

- Numbers or extent are unknown.

#### **Location/Setting**

### **3. Specific Requirements for Specific Elements**

- Steps and ramps are likely to be required in numerous locations throughout the Parklands, where access opportunities are limited. However, steps and ramps should generally be limited in preference for solutions which work with the natural gradient and landform.
- In selected areas such as the Markers the use of steps or ramps may be used for deliberate effect and to provide a range of experiences and challenges.

#### **Level of Use**

- Stairs are for pedestrian use only.
- Ramps are to provide access for pedestrians, cyclist and disabled as necessary.

#### **Access**

- To comply with SOPA's Access Strategies.
- To comply with AS 1428: 'Design for Access and Mobility'.

#### **Parklands Design Consideration**

- Standard widths and grades are required for unified application throughout the park. The widths of the stairs and ramps should correspond to their designer's purpose and should address the path hierarchies identified in the Concept Development Report (HASSELL 1998).
- Handrails, if required, should form part of a family of handrails used for other elements (refer to boardwalk balustrade and handrail details).
- Batters should have a maximum grade of 1:3 and retaining walls adjoining stairs and ramps should be neatly resolved with the junctions of materials and surfaces thought through.

#### **Programme Requirements**

- *No specific requirements.*

#### **Maintenance and Management Considerations**

- *Ramp widths should be able to be varied to suit a range of applications and where necessary accommodate service vehicles when alternative access routes are not possible.*
- *Materials used for stairs and ramps should be hardwearing and not subject to constant erosion.*

### **3. Specific Requirements for Specific Elements**

#### **3.3 Boardwalks**

**PLE4**

##### ***Intended Function/Purpose***

- To provide pedestrian access through fresh and saltwater, wetlands enabling a deep appreciation of the lowlands.
- To provide a range of interpretive and educational experiences for Parklands uses.

##### ***Number of Elements likely to be required***

- The use of boardwalks is to be kept to a minimum in order to reinforce the 'natural' quality of the wetlands.
- The Circulation and Facilities Plan for the Hill Road Corridor prepared by HASSELL (HASSELL 1998), as part of the concept development phase identifies up to six boardwalks in the freshwater zone to connect islands throughout the wetlands.
- The Circulation and Facilities Plan for the Haslams Creek and Brick Pit Precinct prepared by HASSELL (HASSELL 1998), as part of the concept development phase identifies two boardwalks in the Haslams Creek tidal wetlands.

##### ***Location/Setting***

- Boardwalks within the freshwater wetlands are to be located down in the wetlands immediately above the water level so as to ensure the users immersion in the setting (max. 400mm above the permanent water level).
- Boardwalks within the saltwater wetlands are to be located within the mangrove root zone to interpret the tidal nature of the environment and located within the mangrove canopies at selected locations to provide a full appreciation of the wetland system. Two locations for boardwalks in the Haslams Creek Precinct identified as part of the Concept Development Phase as follows:
  - on the path route running along the northern banks of Haslams Creek between the 2SM channel inlet and the Holker Street busway. Opportunities exist at this location for views north along Haslams Creek towards Homebush Bay and to provide both floating and elevated sections of boardwalks;
  - on the accessibility path on the southern bank of Haslams Creek, west of the Eastern Water Quality Control Pond. Opportunities exist at this location for pontoon and elevated sections of boardwalk.
  - along the foreshore walk adjacent to the Parramatta River and Homebush Bay.
- Floating boardwalks currently exist in Bicentennial Park. The design of floating boardwalks for other parts of the Parklands does not form part of this commission.

### **3. Specific Requirements for Specific Elements**

#### **Level of Use**

- Boardwalks are likely to be used by a broad section of the community for recreation and educational purposes.
- Boardwalks are particularly likely to be used by school and special interest groups for educational purposes and scientific endeavour.

#### **Access**

- In keeping with accessibility positive principles, timber decking boards will run perpendicular to the direction of travel with gaps between boards less than 13mm to accommodate wheelchair users.
- Generally all boardwalks are to be accessibility positive with a minimum width of 1800mm between kerbs to allow two wheel chairs to pass.
- Reference should be made to relevant Australian Standards for wheelchair users, (refer AS1428: 'Design for Access and Mobility').
- Kerbs should generally be used to constraint pedestrians, cyclists and wheelchairs. Kerb height to conform to requirements of AS 1428.1: 'Design for Access and Mobility'.

#### **Parklands Design Considerations**

- Boardwalks in the fresh water wetlands are to be designed close to the water's surface. The wetlands have a linear quality and the design of the boardwalks should reflect this.
- Boardwalks are to be simple and unobtrusive in design and construction.
- Handrails and balustrades are to be kept to a minimum and used only where required for safety,
- At selected areas of environmental or scenic interest interpretive signs could be incorporated into broader sections of the boardwalk.
- Boardwalks are to be designed as angled straight runs contrasting to the rounded and more organic form of viewing platforms.

#### **Program Requirements**

- Opportunities for an interpretive art overlay exist at sensitive areas to or on a seasoned basis to enrich the visitors' experience. The possibility of changeable 'plug in' elements (art/interpretive) component could be considered.

#### **Maintenance and Management Considerations**

### **3. Specific Requirements for Specific Elements**

- Timber sizing, specification and fixing and fittings should be of a high standard appropriate to the corrosive nature of the marine environments in which the boardwalks will be located.
- Fixings and fittings and timber selection for boardwalks, viewing platforms and pedestrian foot bridges should be standardised to minimise the need to store a variety of tools and materials to undertake repairs and alterations.

#### **3.4 Footbridges**

**PLE5**

##### ***Intended Function/Purpose***

- Pedestrian cycle and disabled access across minor drainage channels, swales and depressions etc.
- Not intended for vehicular access.

##### ***Number of elements likely to be required***

- Small number of foot bridges may be required throughout the parklands.

##### ***Location and Setting***

- Foot bridges may be located in a variety of lowlands settings.
- Foot bridges should be set close to the ground or water level so as to minimise the visual presence of the structures and immerse visitors in the landscape setting.
- Setout and widths should be consistent with the Site Wide Circulation Strategy outlined in the Concept Development Report (HASSELL 1998).

##### ***Access***

- Generally all foot bridges are to be accessibility positive with a minimum width of 1800mm between kerbs to allow wheel chairs to pass.
- In keeping with accessibility positive principles, timber decking boards will run perpendicular to the direction of travel, with gap between boards less than 13mm, to accommodate wheel chair use.

##### ***Parklands Design Consideration***

- Kerbs should generally be used to constraint pedestrians, cyclists and wheelchairs. Handrails should only be used where levels dictate their provision due to safety requirements.

### **3. Specific Requirements for Specific Elements**

- Foot bridges are to be designed as part of the family of board walk and viewing platforms.

#### **Program Requirements**

- Not applicable

#### **Maintenance and Management Considerations**

- Timber sizing, specification and fixing and fittings should be of a high standard appropriate to the corrosive nature of the marine environments in which the foot bridges will be located.
- Fixings and fittings and timber selection for boardwalks, viewing platforms and pedestrian foot bridges should be standardised to minimise the need to store a variety of tools and materials to undertake repairs and alterations.

### **3.5 Viewing platforms**

**PLE6**

#### **Intended Function/Purpose**

- To provide viewing opportunities at designated scenic and selected environmentally sensitive areas enhancing the recreational and educational experience of visitors.
- To provide interpreter and educational information in areas of environmental and scenic interest.
- To provide destinations and stopping/rest points along pathways which pedestrians and cyclists may visit.

#### **Number of elements likely to be required**

- A large number of viewing platforms are likely to be required throughout the Parklands.

#### **Location/Setting**

- Viewing platforms are to be provided in a wide range of settings offering different viewing and interpretation opportunities.
- Viewing platforms are to vary in scale appropriate to the level of use and the setting.



### **3. Specific Requirements for Specific Elements**

- Required in salt water wetlands along Haslams Creek providing a variety of wetland and creek views.
- Required around the brick pit rim to provide viewing access to the brick pit and its environs. Viewing opportunities have been identified at strategic locations around the rim in the Concept Development Plan, (HASSELL 1998).
- Selected viewing platforms around the brick pit will be elevated to provide enhanced views of the pit and opportunities to interpret the original forest species to be grown on the natural soils of the rim.
- Required adjoining boardwalk and elevated land adjoining the 2SM Wetland, the Hill Road Car park multi-use recreation area and Haslams Creek.
- Viewing platforms are required in select locations (ie. as terminators to adjoining streets) and to coincide with major activity nodes along the Parramatta and Homebush Bay foreshores (ie. RANAD wharf, Ferry Terminal and Point Park).

#### **Level of Use**

- The level of use will vary throughout the Parklands depending in location and programmed events.
- Viewing platforms adjoining the brick pit areas likely to be heavily used given their proximity to the urban core and the significant community interest and attraction to the brick pit. Small medium and large visitor groups may use these platforms.
- Viewing platforms along Haslams Creek and in Wetland areas are likely to receive a moderate level of use by individuals and small groups.

#### **Access**

- All viewing platforms should be designed to provide access for the aged and disabled in accordance with SOPA's Access Strategies standards.
- Handrails will be mandatory in elevated situations.
- Viewing platforms should be connected directly to the path system.

#### **Parklands Design Considerations**

- Differentiated from boardwalks by form, being of curved shaped.
- At selected points viewing platforms may have stair or ramped access to provide higher canopy views through mangroves and forests.
- Handrails should be simple, light and elegant in character and be made of recycled hardwood, unfinished timber.
- Where appropriate interpretive information and or art overlays could be provided to enrich the visitors experience and help interpret the setting.
- Where possible interpretive information should be incorporated into the structure or handrails to minimise clutter and the need for additional elements.

### **3. Specific Requirements for Specific Elements**

- Transparent galvanised steel mesh floors may be used to replace timber decking to enhance interpretive opportunities and user experience in special circumstances.

#### **Program Requirements**

- Seating may be required on selected viewing platforms which form destinations or which cater for large numbers of people.

#### **Maintenance and Management Considerations**

- Timber sizing, specification and fixing and fittings should be of a high standard appropriate to the corrosive nature of the marine environments in which the viewing platforms will be located.
- Fixings and fittings and timber selection for boardwalks, viewing platforms and pedestrian foot bridges should be standardised to minimise the need to store a variety of tools and materials to undertake repairs and alterations.

### **3.6 Picnic Shelters**

**PLE7**

#### **Intended Function/Purpose**

- Permanent picnic shelters are required at various locations throughout the Parklands to provide shade and shelter for picnic and barbecue groups and rest stops for Parkland's users.
- The shelters may contain removable or permanent seats and tables depending on their location.
- The shelters should be capable of being adapted for programmed events and hired for commercial events.
- Structures of varying sizes may be required to accommodate large gatherings and events. This can be achieved by extending the modular unit of the picnic shelter to a maximum of four units, clustering or nesting of multiple structures or the design of specifically large structure.
- The addition of a rainwater collection tank (housed within an enclosure wall) allows the opportunity to provide water in remote parts of the Parklands where reticulated water supply is expensive. The use of such tanks demonstrates a commitment to ESD principles in the conservation and re-use of water resources.

### **3. Specific Requirements for Specific Elements**

#### **Number of Elements likely to be required**

- The number of picnic shelters required may change throughout the life of the Parklands subject to programming requirements and the number of Parkland's visitors.
- As an initial guide between two to three shelters may be required at minor multi use areas, and between four to six required at the designated large mass picnicking areas.
- A total of between 10 to 20 picnic shelters may be required throughout the Parklands. Numbers are indicative only and will require further research in response to future user needs and requirements.

#### **Location / Setting**

Shelters would be located adjoining multi-use recreation areas and activity nodes where major servicing barbecues, public transport drop off points and car parking is provided.

Picnic shelters are likely to be provided in the following locations.

- Southern Haslams Creek multi-use area (Say 1 – 2 No).
- Hill Road car park mass picnic and multi-use area (Say 4 – 6 No).
- Marjorie Jackson Parkway multi-use area (Say 1 – 2 No)
- Bennelong Road electro-train station (Say 1 – 2 No).
- Point Park (Say 4-6 No).
- North Auburn picnic and multi-use area (Say 4-6 No)
- Silver Water park (Say 2-4 No).

#### **Level of Use**

- Shelters are to cater for a variety of group sizes from small individual groups (2 to 6) to larger extended family and community gatherings.
- Shelters should be designed in a manner, which may allow additional shelters to be added, or the existing shelters expanded to provide for larger gathering and programmed events.

#### **Access**

- The picnic shelters should provide access to all age groups and disabled persons.
- Shelters should generally be located adjoining public transport drop off points and car parks to provide ease of access for the disabled.
- Accessibility positive paths should be provided to all picnic shelters.
- Pavement surfaces (precast concrete pavers) beneath the structures should comply with SOPA's Access Strategies.

### **3. Specific Requirements for Specific Elements**

#### **Parklands Design Considerations**

- Structures should not dominate the landscape setting within which they are placed.
- While the structure must be part of a broader family of elements, some localised variation to reflect site constraints and the character of the environment in which they occur, should be considered to provide a deeper appreciation of the setting.
- Panels containing Parkland directional information, public displays, sponsorship, interpretive information or an art relevant to each shelter's location and setting can be attached to or form part of enclosure wall units which can slot in between the shelters' structure (refer to Enclosure Wall Unit). This will assist in centralising information around activity nodes and minimise the need of separate elements, which may otherwise clutter to parklands.
- The dimensions of the footings will need to be verified by a structural engineer for each individual application within the Parklands. This will be required to take account of varying ground conditions, slope, wind loading and the sizing of the structures. A dimension for the height of the connection plate has been provided to maintain visual consistency between structures.
- Drainage options for rainwater collected on shelter roofs will also need to be assessed for each individual application within the parklands. The three options are as follows:
  1. Pipe to nearest creek/ watercourse or storm water drainage system.
  2. Rainwater tanks to be used in remote areas where water supply may be difficult. Rainwater collection tank can be housed inside an enclosure wall unit (refer to Enclosure Wall/ Drink Station for details).
  3. Absorption trench in non- remediated ground and where distance prevents option one.
- A timber floor system as an alternative to concrete pavers may be used where the slope of the land requires a raised platform or where a special floor finish is required. NB. This is generally not a preferred option and should only be considered when there is no alternative location for the shelter.

#### **Program Requirements**

- Flexibility in design should be considered to expand, modulate or group structures to suit changing programme needs.
- Larger structures could be designed to cater for programmed events. Consider provision of lighting, power, water and removable seats and tables.
- A variety of wall types/ forms may be introduced to provide shelter or privacy between shelters. Walls may also provide support/ and or enclosure for elements such as telephones, notice boards, hot water units, rainwater tanks, drink dispenser units.

### **3. Specific Requirements for Specific Elements**

#### ***Maintenance and Management Considerations***

- Potential exists to hire out shelters for commercial functions and to obtain corporate sponsorship. To maximise the opportunity power and water services should ideally be provided to structures. Selected larger structures should be designed to meet commercial functions and corporate sponsorship needs.
- Box gutters on shelter roofs will require gutter guards to prevent leaf litter build up. Gutters are to be stainless steel to ensure longevity. Regular maintenance will be required.

### **3. Specific Requirements for Specific Elements**

#### **3.7 Shade Structures**

**PLE8**

##### ***Intended function/purposes***

- Two types of structures required – temporary and permanent.
- Temporary shade structures required for programmed events, displays, seasonal initiations and queuing areas.
- Short term and permanent shade structures required to provide shade and shelter during the initial stages of the Parklands establishment where there is little shade on site provided by trees. Some of these structures could be removed at a later date once adequate shade is provided by vegetation.
- All shade devices should be flexible structures which provides a design intent for future shade independent of use or program.

##### ***Number of elements likely to be required***

- In the initial stages of the Parklands development a number of short term and permanent structures would be located within the park.
- Temporary structures would be provided on an as needed basis either by hire or from park management storage facilities. The likely numbers are unknown.

##### ***Location/Setting***

- Short term and permanent structures may be located in the following areas subject to design development and program requirements:
  - > adjacent to minor car parks;
  - > as elements within activity nodes such as the Marjorie Jackson Parkway multi use area, Southern Haslams Creek multi use area, North Auburn recreation area, and the Hill Road car park picnic and multi use area.
- Temporary/movable shade structures would be located adjacent to venues for programmed events and in sensitive areas for specific events or seasonal displays.
- Structures should generally be located partly in open space areas and partly within the forested 'walls' so as to limit the visual impact of the structures of the setting.

##### ***Level of Use***

- Temporary, short term and permanent structures should cater for small groups. For large events a number of temporary structures could be grouped together to provide shade for larger numbers of people. In this way the visual impact of large single structures within the Parklands can be mitigated.

### **3. Specific Requirements for Specific Elements**

#### **Access**

- The shade structures should accommodate all age levels and the disabled. Permanent structures may require a hard pavement surface to comply with SOPA's Assess Strategies.

#### **Parklands Design Requirement**

- Pressure exists for shade structures to be located on the elevated landforms and Markers. Temporary structures in these areas for specific events should be considered. Permanent structures, which may compromise the experience of the setting, should be resisted.
- Permanent shade structures should be designed as part of the same family as picnic shelters, sharing a common structural and roofing system, which is flexible and able to be adapted to cater for a range of applications.
- The dimensions of footings will need to be verified by a structural engineer for each individual application within the Parklands. This will be required to take account of varying ground conditions, slope, wind loading and the sizing of the structures.
- Drainage options for rainwater collection on shelter roofs will also need to be addressed for each individual application within the Parklands. The three options are as follows:
  1. Pipe to nearest creek/ watercourse or storm water drainage system.
  2. Rainwater tanks to be used in remote areas where water supply may be difficult. The rainwater collection tank can be housed inside an enclosure unit (refer to Enclosure Wall detail)
  3. Absorption trench in non-remediated ground and where distance prevents option one.
- A timber floor system as an alternative to concrete pavers may be used where the slope of the land requires a raised platform or where a special floor finish is required. NB. This is generally not a preferred option and should only be considered when there is no alternative location for shelters.

#### **Program Requirements**

- Temporary structures required for programmed events and seasonal displays etc.
- Structure could be movable to suit activities taking place in various locations across the site.

### **3. Specific Requirements for Specific Elements**

#### ***Maintenance and Management Consideration***

- Structures ideally should provide both shade and shelter from the rain, especially in remote parts of the Parklands.
- Ability to be able to group temporary structures for large events.
- The hire of property shade/shelter structures may prove to be the most economically viable option for temporary structures. In this instance a standard specification and list of suppliers is required to ensure the consistent use of one type of structure across the site and that adequate numbers are available. Refer to Appendix A for the names of nominated suppliers and structure types.
- Box gutters will require gutter guards to prevent leaf litter build up. Gutters are to be stainless steel to ensure longevity. Regular maintenance will be required.

### **3.8 Barbecues**

**PLE9**

#### ***Intended Function/Purpose***

- To provide cooking facilities for small and large groups selected picnic areas within the parklands.

#### ***Number of elements likely to be required***

- Two to four barbecue hot plates maybe provide within one barbecue facility to reduce the need of a number of separate structures.
- One to two barbecue structures may be required at minor picnic areas.
- Two to five barbecue structures may be required at the large designated mass picnic area of North Auburn, Hill Road car park multi use recreation areas and the Marjorie Jackson Parkway Multi use area.

#### ***Location/Setting***

- Facility should be located in close proximity to other picnic facilities so that activity can be clustered on the edges of the multi use spaces so as not to alienate areas of open space.
- Locate within the forested 'walls' so as to provide shade and reduce the visual impact of the elements in the setting.

#### ***Level of Use***

- Barbecues are likely to be used by couples, small groups, larges parties and corporate events.



### **3. Specific Requirements for Specific Elements**

- Facilities should be designed in a manner which will facilitate their use by larger groups requiring several hot plates and which can also provide a level of comfort and separation for smaller groups.

#### **Access**

- Selected facilities should be designed to accommodate the disabled as well as able-bodied people.
- Appropriate hard surface paving should be provided adjoining barbecue facilities to provide access for the disabled and elderly so they can participate in the social interaction which usually occurs around these elements.

#### **Parklands Design Requirements**

- Materials and furnishes selected should form part of the simple and robust material pallet for Parklands.

#### **Program Requirements**

- Power, water and lighting should be provided to enhance the potential for programmed events and commercial use.

#### **Maintenance and Management Coordination**

- For large corporate or programmed events the hire of additional portable barbecues may prove to be more economically viable.
- Hard stand areas adjoining barbecues facilities should be considered to reduce the wear and tear on grass and planting areas.
- Planting areas that are likely to be trampled should be kept well away from barbecue facilities.
- Facilities should be designed for easy cleaning and removal of fat and grease deposits and grease traps.
- Opportunity may exist for corporate sponsorship of barbecues in the supply of gas or electricity.
- Wood-fire barbecues should not be provided due to potential bush fires and the likely environmental damage caused by people collecting fire wood.

### **3. Specific Requirements for Specific Elements**

#### **3.9 Enclosure Wall Unit / Drink Station**

**PLE10**

##### **Intended Function/Purpose**

- Multi-use enclosure wall units may be used to provide further functional extensions to the shelters with which they are associated, particularly in areas adjacent to car parks, activity nodes and in exposed or remote parts of the Parklands. The unit could be adapted to provide for an extensive range of amenities:
  - drink vending machines and bubblers
  - telephone
  - hot water unit
  - interpreter and directorial information
  - electrical switchboards
  - minor storage
  - rainwater storage

##### **Number of Elements Likely to be Required**

- The number of elements are unknown at this stage.

##### **Location/Setting**

- Potential locations include:
  - Minor car parks and public transport set down areas.
  - Foreshore walk
  - Silverwater and Mason Park
  - North Auburn multi use recreation area
  - Hill Road car park

##### **Level of Use**

- Permanent structure in areas of high use and activity, and in remote parks of the park where facilities are required.
- Short term and permanent structures are likely.

##### **Access**

- Structures should accommodate and facilitate access to all age levels and the disabled. Structures may require a hard pavement surface to comply with SOPA's Access Strategies, (refer Shade structures/ Picnic shelters).

### **3. Specific Requirements for Specific Elements**

#### **Parklands Design Requirements**

- The multi-use wall element should be designed to fit between the posts of shade structures and picnic shelters.

#### **Program Requirements**

- Short term structures required for programmed events and seasonal displays etc.

#### **Maintenance and Management Considerations**

- Fixtures and fittings such as telephones, drinking vending machines, seats, interpreting/directional information could be 'plugged in' as required.
- Provision of services makes shelters more likely to attract corporate sponsorship.
- Structures must be robust to with stand potential vandalism in remote parts of the Parklands.

### **3.10 Small Vehicular Gate and Barrier PLE11 and 12**

#### **Intended Function/Purpose**

- To control vehicular access and illegal parking adjacent to venues, facilities and pathways throughout the Parklands.

#### **Number of elements likely to be required**

- Unknown

#### **Location of Setting**

- Gates and vehicular barriers will be required at various locations to control vehicular access to venues and facilities such as-
  - Sydney International Archery Park.
  - Maintenance vehicle access paths.
  - adjacent to verges and planted areas in the Parklands

#### **Level of Use**

- by maintenance and management personnel.

### **3. Specific Requirements for Specific Elements**

#### **Access**

- provide access for maintenance vehicles and large trucks.

#### **Parklands Design Requirements**

- selected materials used should be consistent with the palette adopted for the Parklands.
- gates should not be visually obtrusive unless screening is specifically required.

#### **Program Requirements**

- gates should be able to accommodate large vehicles used to deliver hire equipment to venues.

#### **Maintenance Requirements**

- easy to lock and open
- flexibility to open in two directions to suit a range of applications.
- design that can be adopted to varying spans as may be required or function as double opening gate.

# ***Appendix C***

PERMANENT FROG FENCE  
CONSTRUCTION AND  
ASSOCIATED WORKS

Millennium Parkland  
Homebush Bay

prepared  
for  
Olympic Co-ordination Authority



Pittendrigh Shinkfield  
& Bruce Pty Limited

Environmental Management

22 July 2000  
PSB 00184

**FENCING WORKS SPECIFICATION**

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## FENCING WORKS SPECIFICATION

### SUBSECTION 1.00 GENERAL

#### 1.01 PREAMBLE

GENERAL: The Sydney Organising Committee for the Olympic Games (SOCOG) is a corporation constituted by the SOCOG Act whose primary responsibility is to organise and stage the Sydney 2000 Olympic Games. Sydney Para-Olympic Organising Committee Limited (SPOC) is a corporation whose primary function is to organise and stage the 2000 Para-Olympic Games.

The Olympic Co-ordination Authority (OCA) is an organisation constituted by the Olympic Co-ordination Authority Act (1995) to provide, amongst other things, the permanent venues for the staging of the Games.

#### 1.02 SCOPE

SPECIFIED IN THIS SECTION:

- Construction of new permanent frog fencing and associated vehicle and pedestrian gates;
- Repair of existing security fencing, and
- Addition of frog fencing to existing security fencing.

#### 1.03 ORDERING

REQUIREMENT: Within 7 days of the date of acceptance of tender, furnish proof of ordering the required materials, and advise immediately if any supply difficulties are encountered. No extension of time will be granted if any material or product is not available because of late ordering.

#### 1.04 INSPECTION

NOTICE: Give sufficient notice so that inspection may be made of the following:

Fencing Works:

- Set out of all fencing and gates;
- First strained section of permanent frog fence complete;
- First strained section of attached frog fence to existing security fence complete;
- Test panel for repair of existing security fence complete;
- Completion of first vehicle access gate;
- Completion of first pedestrian access gate;
- Permanent frog fence @ 25% complete;
- Repair of existing security fence @ 25% complete;
- Attachment of frog fence to existing security fence @ 25% complete;
- Permanent frog fence @ 100% complete;
- Repair of existing security fence @ 100% complete;
- Attachment of frog fence to existing security fence @ 100% complete;
- Prior to Practical Completion, and
- Prior to completion of Defects Liability Period.

Minimum notice required: Forty-eight (48) hours.

#### 1.05 EXAMPLE FENCING

Examples of existing frog fencing available for inspection as follows:

- Permanent Frog Fencing: Corner of Australia Avenue and Marjorie Jackson Parkway, and
- Attachment of Frog Fencing to Existing Security Fencing: Corner of Marjorie Jackson Parkway and Bennelong Road.

#### 1.06 PROGRAM

REQUIREMENT: Submit the following as a minimum two (2) weeks prior commencement of work for approval of Superintendent:

- A work program in the form of a bar chart.



## **SUBSECTION 2.00 SITE MANAGEMENT WORKS**

### **2.01 FROG CLEARANCE**

**BACKGROUND:** The Green and Golden Bell Frog (the Frog) is listed as an endangered species on Schedule 1 of the Threatened Species Conservation Act 1995. The areas where these works will be undertaken are key habitat areas for the Frog at Homebush Bay, the population comprising one of the most significant remnant populations of the species remaining. The site is considered important to the continued survival of the species.

The management of the areas where the works herein specified will be undertaken are governed by the *Threatened Species Conservation Act 1995*, *National Parks and Wildlife Act 1974* and *Protection of the Environment (Operations) Act 1997*. Consent for the undertaking of this project is conditional upon the implementation of management practices which will protect the Frog. Persons acting in breach of the legislation could be subject to prosecution.

**REQUIREMENT:** All areas in which fencing works are to take place are to be deemed clear of the Frog by Australian Museum Business Services (AMBS) during the contract. The Superintendent is responsible for engaging AMBS, and all liaison with AMBS is to be through the Superintendent. AMBS must be given 48 hours notice before they are required on site for any clearance works.

The extent of Frog clearance required is dependent upon a number of factors including the density of groundcover within the area of the works. Typically, Frog clearance for the works is likely to comprise:

- AMBS to check position of marked fence lines prior to construction;
- AMBS to undertake preliminary frog search after fence line is marked out, prior to erection of new fences, and
- Fencing may need to be removed / installed by hand to minimise potential impact upon frogs to critical areas specified by the Superintendent.

## SUBSECTION 3.00 FENCES

### 3.01 TREATMENT TYPES

#### SCHEDULE OF FENCING TREATMENT TYPES:

Type	Description	Location
Type 1	<u>Permanent Frog Fence</u> As specified in below PERMANENT FROG FENCE clause	As specified by Superintendent.
Type 2	<u>Attachment of Permanent Frog Fencing to Existing Security Fence</u> As specified ATTACHMENT OF PERMANENT FROG FENCING TO EXISTING SECURITY FENCE clause	As specified by Superintendent.
Type 3	<u>Repair of Existing Security Fence with Addition of New Frog Fence</u> Repair existing security fencing to match a marked sample. Where existing frog fencing is attached to this, remove it and replace with new material as described below in PERMANENT FROG FENCE clause	As specified by Superintendent.

Note: Any existing temporary frog fences are to be removed upon completion of the fencing works under this contract.

### 3.02 PERMANENT FROG FENCE

**REQUIREMENT:** Construct 1200mm high permanent frog fencing and gates as per this specification and the attached drawings, to locations directed by the Superintendent. Fence to be of taut, neat and tidy appearance.

**STRAINER POSTS:** To be 60mm OD galv. pipe set in concrete footing, braced by 42mm OD galv. pipe diagonal stays set into concrete footings. Post to be capped with galv. steel cap fitting. Stay pipes to be attached to strainer post with clamp fitting and diagonally span 3000mm to star picket post plus allow min. 500mm for concrete footing. Attach 42mm OD pipe strut with T-clamp fitting to top of strainer post and project perpendicular as shown on drawings. Attach purpose made galv. cap with welded 10mm gauge, 20mm OD galv. cable hook attachment. Drill caps to both ends of strut as shown on drawings to nominal 6mm dia., or sufficient to ensure no impedance to straining of wire. Place strainer posts at all changes in direction, and to any other locations required to achieve stable, durable fence, and provide for sufficient tensioning of the fencing wire to ensure taut, neat finish to all areas.

**STRAINER POST FOOTINGS:** Provide 20MPa concrete, 225mm diameter x min 800mm deep. Trowel the top to a smooth surface sloping away from the post and finishing 80mm below finished ground level. If preferred, alternative footing details may be offered to the Superintendent for approval.

**STAR PICKETS:** Space 1800mm long black steel star picket posts a maximum of 3000mm apart and drive them into the ground approximately 600mm to achieve 1200mm high fence. Steel star picket posts must have projections or openings for wire fastening, and be secure and vertical. Attach 34mm OD pipe strut with T-clamp fitting to top of post and project perpendicular as shown on drawings. Attach purpose made galv. cap with welded 7mm gauge, 20mm OD galv. cable hook attachment. Drill caps to both ends of strut as shown on drawings to nominal 6mm dia., or sufficient to ensure no impedance to straining of wire.

**FENCING WIRE:** Install 3 strands of 2.8mm galv. high tensile fencing wire to top, bottom and centre of fence, one strand to each end of the strut and one strand through the hook, as shown on the drawings. Strain wire to manufacturers recommended tensioning rate (Note: Tension wire off strut hook appropriately to suit strength of unit).

**PERMANENT WIRE STRAINERS:** Provide permanent wire strainers off strainer posts for all 6 wires. Strainer to be equal or similar to Hayes Permanent Wire Strainer (Catalogue No. 302). On short strains use one strainer on each wire and on long strains of say 300m to 500m, attach one strainer to each wire midway between strainer posts.

**RINGLOCK FENCING:** Attach Ringlock steel mesh fencing with openings approximately 300mm wide with increasing distances from top between strands as follows: 135mm, 150mm, 175mm, 225mm, 300mm, and wire fix to all 3 high tensile wires attached to the fence as shown on the drawings.

**SHADE CLOTH:** Excavate a trench 80mm wide and 180mm deep along line of posts. Fasten 75-80% density black shade cloth to the fencing wire using tie wire, and extend it 180mm into trench and 80mm across the base of the trench. Shade cloth to be equal or similar to Hortshade Heavy Knitted Shade Cloth. The height of the fence and attached fabric to be 1200mm. Stretch the shade cloth taut across the top fence fencing wire to the top strut wire and down to the bottom strut wire. Cut shade cloth from a continuous roll to avoid the use of joints. When joints are necessary, splice the filter cloth at a post, with a minimum 150mm overlap, and securely fasten both ends to post. Shade cloth is to present as a neat, taut finish with a strongly defined flat top with the exception of small neat protrusions where it drapes over the tops of the posts. Allow sufficient shade cloth to facilitate where it drapes over the posts.

**BACKFILLING:** Backfill trench over toe of fabric and compact soil.

### **3.03 ATTACHMENT OF FROG FENCE TO EXISTING SECURITY FENCE**

**REQUIREMENT:** Construct 1200mm high attached frog fencing to existing security fencing and gates as per this specification and the attached drawings, to locations directed by the Superintendent. Fence to be of taut, neat and tidy appearance.

**CLAMP / STRUT ATTACHMENTS:** Attach 34mm OD pipe strut with clamp fitting to post and project perpendicular as shown on drawings. Weld hex. head nut to strut and purpose made galv. cap with welded hex. head nut and 7mm gauge, 20mm OD galv. cable hook attachment as per the drawings. Hex. Head nuts to have large enough opening to facilitate unimpeded straining of wire through them.

**FENCING WIRE:** Install 3 strands of 2.8mm galv. high tensile fencing wire to hex. Head nuts and through hook as shown on the drawings. Strain wire to manufacturers recommended tensioning rate (Note: Tension wire off strut hook appropriately to suit strength of unit).

**PERMANENT WIRE STRAINERS:** Provide permanent wire strainers off strainer posts for all 3 wires. Strainer to be equal or similar to Hayes Permanent Wire Strainer (Catalogue No. 302). On short strains use one strainer on each wire and on long strains of say 300m to 500m, attach one strainer to each wire midway between strainer posts.

**SHADE CLOTH:** Excavate a trench 80mm wide and 180mm deep along line of posts. Fasten 75-80% density black shade cloth to the existing middle and bottom fencing wire and the chain mesh using tie wire, and extend it 180mm into trench and 80mm across the base of the trench. Shade cloth to be equal or similar to Hortshade Heavy Knitted Shade Cloth. The height of the fence and attached fabric to be 1200mm. Attach black heavy duty material gaffer tape to the shade cloth and pierce as shown on the drawings. Extend the shade cloth over the hex. Head closest to the post, and insert and strain a wire through the nut. Stretch the shade cloth so that it snugly passes through the hook and nut assembly and place and strain 2 wires through the nut and hook. Stretch the fabric down to the hook wire, double over and tie-off at 300mm centres. Cut shade cloth from a continuous roll to avoid the use of joints. When joints are necessary, splice the filter cloth at a post, with a minimum 150mm overlap, and securely fasten both ends to post. Shade cloth is to present as a neat, taut finish with a strongly defined flat top.

**BACKFILLING:** Backfill trench over toe of fabric and compact soil.

**GATES:** Where attached frog fencing is to be attached to existing gates, attach as per SECTION 3.04 - GATES.

### **3.04 GATES**

**REQUIREMENT:** To position nominated by Superintendent, provide hinged galv. pipe gates fitted with corrosion resistant hinges ensuring smooth operation and gate latch.

**HAND ACCESS:** Where required, provide hand holes to give access from outside to reach locking provision. Hand access holes must have sealing mechanism such as a flap and velcro strip to preclude Frog access.

**VEHICULAR GATES:** To be nominally 1200mm high x 3000mm wide galvanised steel pipe gate, equal or similar in form to 'Cyclone' Field Gate, attached to min. 60mm OD galv strainer posts either side as shown on the drawings. Gate to have projecting strut with wires off top rail, and have Ring-lock and shade cloth attached, all generally as per PERMANENT FROG FENCING. To prevent Frogs passing under gate, extend shade cloth 500mm beyond the bottom of the gate so that the overlap lies on the road surface. When gate is closed lie overlap flat on road and secure in position by sewing a heavy chain along the length of the

flap. Ensure flush finish between the gate and gate post such that frog access is not possible through this opening, when gate closed. To prevent Frog access through the hinged edge of the gate, run a continuous length of shade cloth from the fence onto the gate along the hinge edge with sufficient slack at the hinge line to enable full opening and closing of gate.

**PEDESTRIAN GATES:** To be a 1200mm high x 900mm wide galv. steel pipe gate, generally constructed as per vehicular gate above.

### **3.05 REPAIR OF EXISTING SECURITY FENCING**

**REQUIREMENT:** Repair existing security fencing to match a nominated sample, to be marked by the Superintendent, and as identified during the tender site inspection. All posts are to be straight and vertical. If existing fence has barbed wire top, replace to match, including provision for curved top to pole if required. Any existing attached frog fencing fabric is to be removed and replaced with new material. The repaired work is to exhibit a neat and tidy appearance.

**SUBSECTION 4.00 ESTABLISHMENT**

**4.01 SCOPE**

GENERALLY: Establishment of all works executed under this contract shall include the following items as a minimum. The contractor shall maintain the contract areas for a set period after the date of Practical Completion, with any maintenance of the works prior to the date of Practical Completion not to be included as part of this period.

PRACTICAL COMPLETION: Practical Completion of all works shall include, but not be limited to the installation and repair of all specified fencing.

DEFECTS LIABILITY PERIOD: The contractor shall be liable for defects for all works undertaken within this contract for a period of 52 weeks to run after the date of Practical Completion. Final inspection will include requirement for checking of tensioning to all fences, and adjustment as required to meet specified tensioning rate.

INSURANCE: The contractor is to ensure suitable insurance cover is in place for the theft and/or damage of all works executed under this Contract during the Defects Liability Periods.

**4.02 URGENT MAINTENANCE WORKS**

REQUIREMENT: Notwithstanding anything to the contrary of the Contract, the Superintendent may instruct the contractor to perform urgent maintenance works. Should the contractor fail to carry out the work within seven days of such notice, the Superintendent reserves the right to employ others to carry out such urgent and specified work and charge it to the contractor.

.....  
**Mark Blanche**

# ***Appendix D***

**Flag Specification**  
Flag-pole Banner  
Halyard fixing system with multiple fixing points

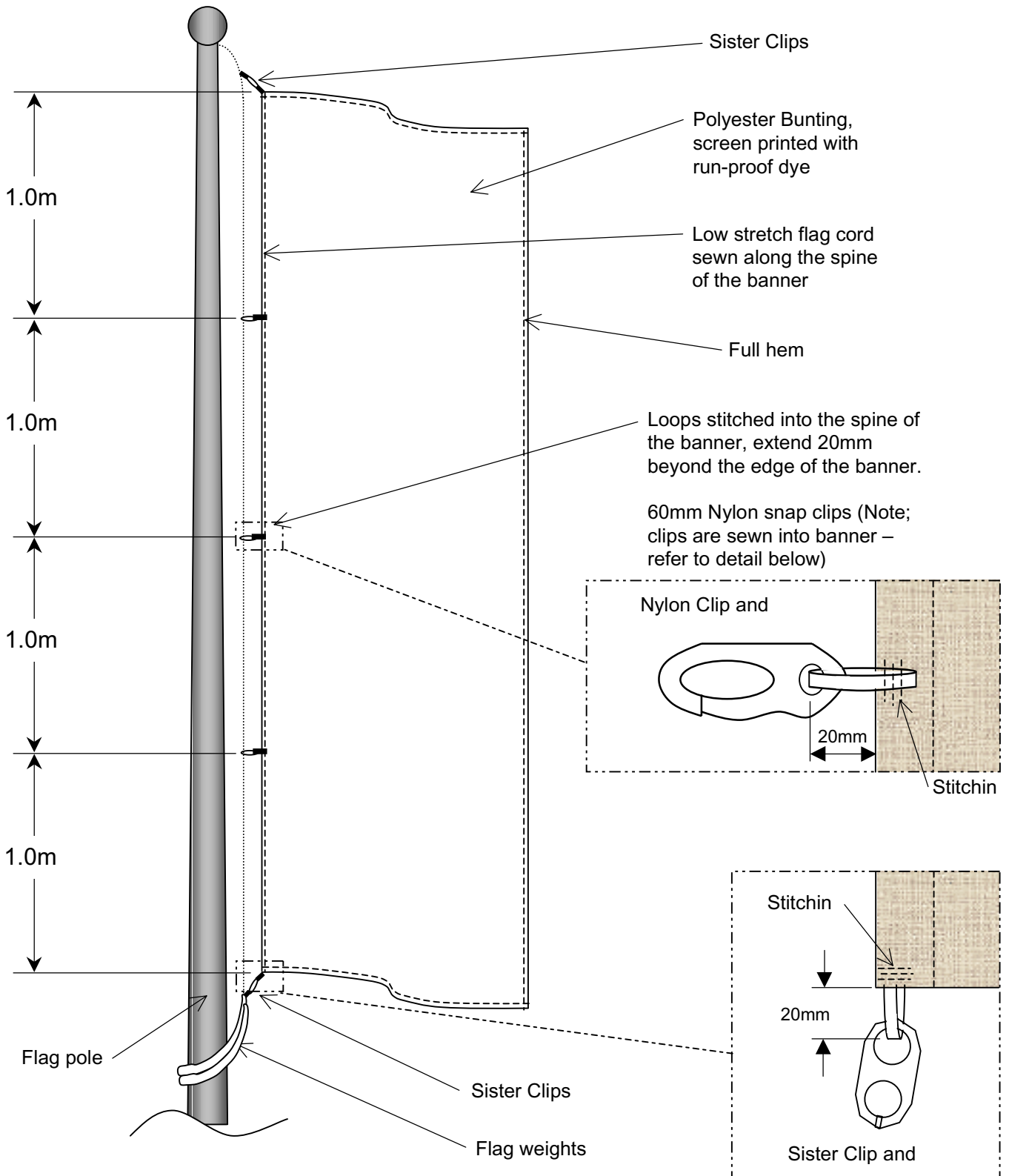
Refer to the attached sketch for a graphical representation of the flag specification.

1. Overall finished dimension of the banner is 4.0m x 1.2m.
  - 1.1 **NB:** The finished banner dimension does not allow for the additional material required for the hems along the edges of the banner.
2. The banner shall be made from woven polyester (bunting) unless otherwise stated.
3. Low stretch flag cord (or an approved equivalent material) shall be sewn down the entire length of the spine of the banner and encapsulated in the hem.
  - 3.1 At the top and bottom ends of the banner the low stretch flag cord shall be stitched back on itself to form a 20mm loop. A standard sister clip shall be sewn into this loop
4. Additional loops (3 off) shall be sewn into the spine of the banner at 1 metre intervals. A 60mm nylon clip shall be incorporated into each of these loops.
5. All graphical artwork or text shall be considered and approved by the Authority. Prior to manufacture the Authority shall be provided with a sample layout or mock-up of the intended design for approval.
6. All banners shall be manufactured to a finish acceptable to the Authority. Frayed edges, large dimensional discrepancies, substandard stitching or printing, are all unacceptable and will result in the banner being rejected

**Flag Specification**  
 Flag-pole Banner  
 Halyard fixing system with multiple fixing points

**For flag pole types; 9 metre and 15 metre**

**Overall banner dimensions: 4.0 metres x 1.2 metres**





**Flag Specification**  
Standard Flags  
Halyard fixing system

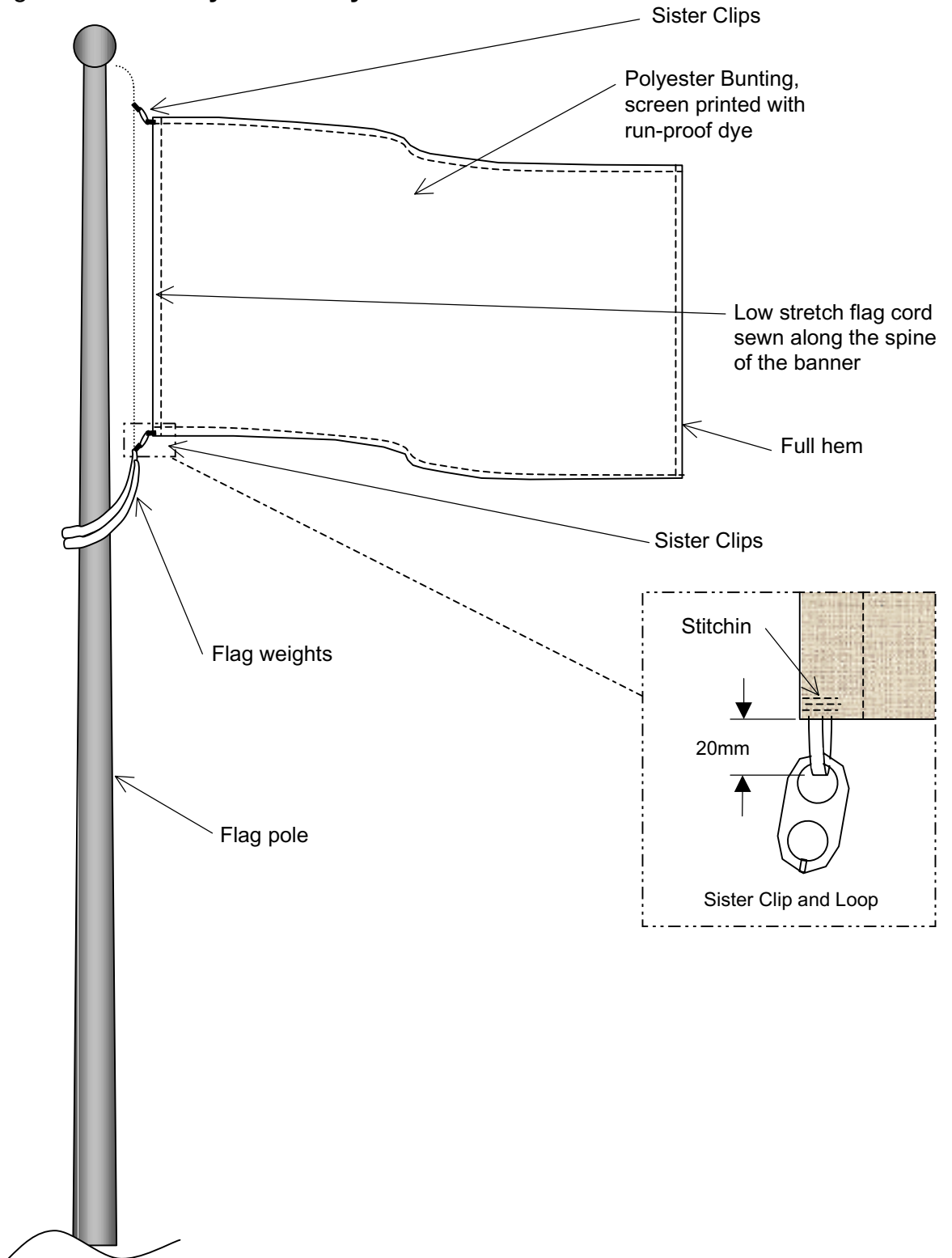
Refer to the attached sketch for a graphical representation of the flag specification.

1. Overall finished dimension of the flag is 3.0 yards x 1.5 yards.
  - 1.1 **NB:** The finished flag dimension does not allow for the additional material required for the hems along the edges of the banner.
2. The flag shall be made from woven polyester (bunting) unless otherwise stated.
3. Low stretch flag cord (or an approved equivalent material) shall be sewn down the entire length of the spine of the flag and encapsulated in the hem.
  - 3.1 At the top and bottom ends of the flag the low stretch flag cord shall be stitched back on itself to form a 20mm loop. A standard sister clip shall be sewn into this loop
4. All graphical artwork or text shall be considered and approved by the Authority
5. Prior to manufacture the Authority shall be provided with a sample layout or mock-up of the intended design for approval.
6. All flags shall be manufactured to a finish acceptable to the Authority. Frayed edges, large dimensional discrepancies, substandard stitching or printing, are all unacceptable and will result in the flag being rejected

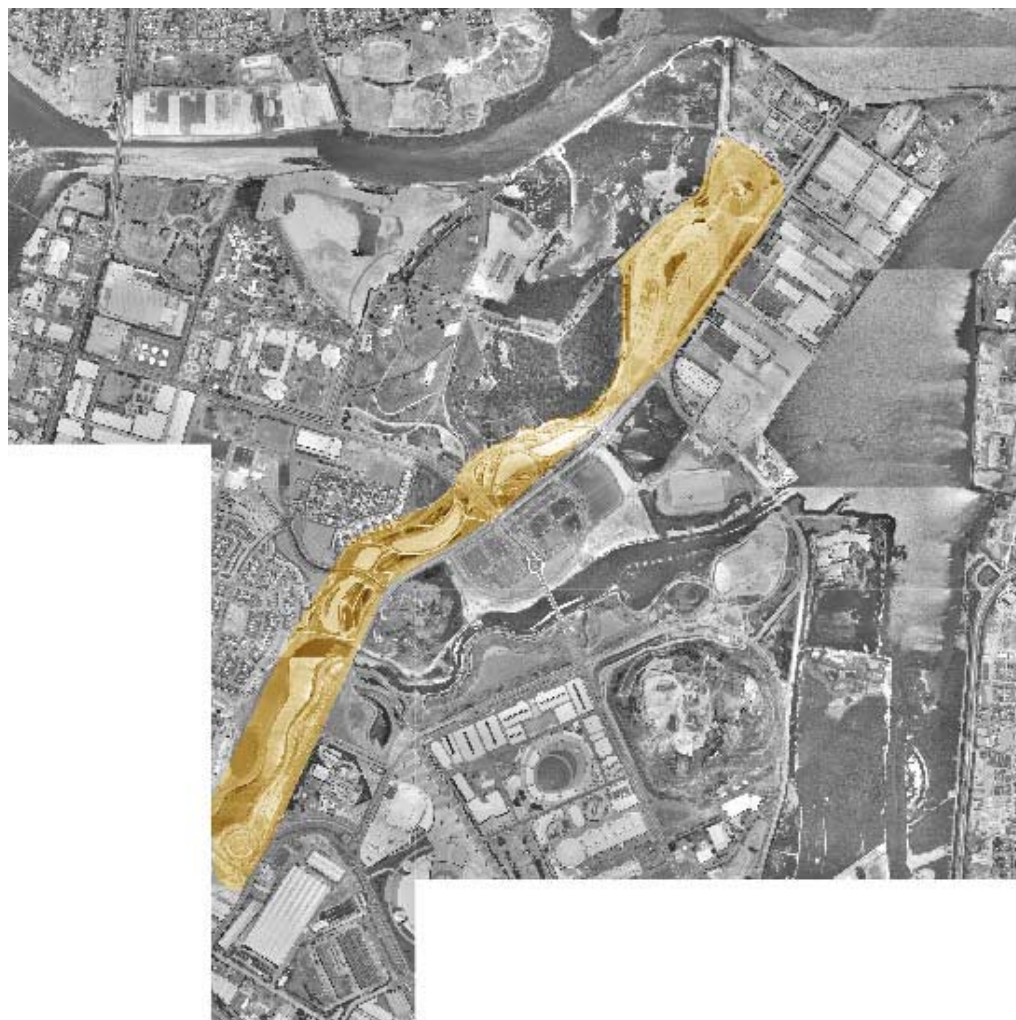
**Flag Specification**  
Standard Flags  
Halyard fixing system

For flag pole types; 9 metre and 15 metre

Overall flag dimensions: **3 yards x 1.5 yards**



# ***Appendix E***



#### Design Strategy Summary

- Combination of shared ways, footpaths and boardwalks
- Major mixed-traffic thoroughfares
- Nodes and lookouts along travel routes
- Items for highlight within buffer zones and along routes
- Mixed use areas and public facilities
- Protected nature reserve areas

The following elements are to be considered within this precinct:

- |                     |                     |                        |
|---------------------|---------------------|------------------------|
| ■ Shared Cycleways  | ■ Icons/Signage     | ■ Features of Interest |
| ■ Footpaths         | ■ Markers           | ■ Protected Areas      |
| ■ Boardwalks        | □ Leisure Amenities | □ AV Program           |
| ■ Nodes             | □ Sports Facilities | □ Special              |
| ■ Viewing Platforms | □ Site Services     | □                      |

**Example Palette**



**type #PL1**

**description**  
 POST-TOP LUMINAIRE WITH REAR CUT OFF PLATE AND INTERNAL GLARE CONTROL. CUSTOM SOLAR COLLECTOR POSSIBLE.

**employment**

MOUNTED TO ONE SIDE OF THE CYCLEWAY AT EQUAL INTERVALS.



**type #PL2**

**description**  
 600MM HIGH BOLLARD WITH RECESSED COMPACT FLUORESCENT LAMP.

**employment**

FOOTPATH MARKERS AND LOOK-OUT ILLUMINATION UNDER PIR CONTROL. LUMINAIRES SET TO STAND-BY MODE WHEN NO-ONE PRESENT.



**type #PL3**

**description**  
 SEALED LINEAR LIGHTING UNIT. EXTERNALLY TRANSFORMED

**employment**

RECESSED WITHIN BOARDWALK KERB AND ACTIVATED VIA PIR TRIGGER.



**type #PL8**

**description**  
LINEAR T5 ADJUSTABLE  
FLUORESCENT LUMINAIRE.  
WEATHERPROOF.

**employment**  
LINEAR DOWNLIGHTING ELEMENT  
FOR LOCAL SIGNAGE



**type #PL5**

**description**  
IN-GROUND LED LUMINAIRE WITH  
CUSTOM FROSTED GLASS  
DEPICTING EITHER N, S, E OR W.

**employment**  
LUMINAIRES ARRANGED SO AS  
TO REPRESENT 4 POINTS OF THE  
COMPASS IN THE GROUND AT A  
CENTRAL LOCATION WITHIN THE  
NODE OR LOOKOUT.



**type #PL4**

**description**  
POLE TYPE LUMINAIRE WITH SIDE-  
LIGHT PANELS

**employment**  
LUMINAIRE PLACED AT EDGE OF  
NODE PROVIDING DIFFUSE  
CIRCLE OF ILLUMINATION AND  
GUIDING POINT.



**type #PL10 + 11**

**description**  
POST-TOP LUMINAIRE WITH REAR  
CUT OFF PLATE AND INTERNAL  
GLARE CONTROL. FORWARD  
THROW FOR AREA LIGHTING.

**employment**  
MOUNTED TO PROVIDE SUITABLE  
ILLUMINATION FOR FACILITIES  
AND SERVICES AREAS.



#### Design Strategy Summary

- Fragile environment
- Absolute minimal use of light
- 600mm high concrete bollard luminaires for access pathways only (Type PL2).
- PIR activation to bollards
- Bollards dim to 20% in stand-by state
- compact fluorescent 3000K
- C-bus or time clock control to pathways

The following elements are to be considered within this precinct:

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Shared Cycleways             | <input checked="" type="checkbox"/> Icons/Signage | <input checked="" type="checkbox"/> Features of Interest |
| <input checked="" type="checkbox"/> Footpaths         | <input type="checkbox"/> Markers                  | <input checked="" type="checkbox"/> Protected Areas      |
| <input type="checkbox"/> Boardwalks                   | <input type="checkbox"/> Leisure Amenities        | <input type="checkbox"/> AV Program                      |
| <input type="checkbox"/> Nodes                        | <input type="checkbox"/> Sports Facilities        | <input type="checkbox"/> Special                         |
| <input checked="" type="checkbox"/> Viewing Platforms | <input type="checkbox"/> Site Services            | <input type="checkbox"/>                                 |

**Example Palette**



**type #PL2**

**description**  
 600MM HIGH BOLLARD WITH  
 RECESSED COMPACT  
 FLUORESCENT LAMP.

**employment**

FOOTPATH MARKERS AND LOOK-  
 OUT ILLUMINATION UNDER PIR  
 CONTROL. LUMINAIRES SET TO  
 STAND-BY MODE WHEN NO-ONE  
 PRESENT.



**type #PL7**

**description**  
 SELF-CONTAINED WEATHERPROOF  
 AND VANDAL-RESISTANT AV  
 CONTROL BOLLARD RESPONDING  
 TO TOUCH

**employment**

INTERACTIVE AUDIO-VISUAL  
 CONTROL FOR LOCAL LIGHTING  
 AND AUDIO PROGRAM.



**type #PL8**

**description**  
 LINEAR T5 ADJUSTABLE  
 FLUORESCENT LUMINAIRE.  
 WEATHERPROOF.

**employment**

LINEAR DOWNLIGHTING ELEMENT  
 FOR LOCAL SIGNAGE





#### Design Strategy Summary

- Combination of shared ways, footpaths and boardwalks
- Major mixed-traffic thoroughfares
- Nodes and lookouts along travel routes
- Items for highlight within buffer zones and along routes
- Sensitive environment to consider
- Mixed use areas and public facilities

The following elements are to be considered within this precinct:

- |                     |                     |                        |
|---------------------|---------------------|------------------------|
| ■ Shared Cycleways  | ■ Icons/Signage     | ■ Features of Interest |
| ■ Footpaths         | ■ Markers           | ■ Protected Areas      |
| ■ Boardwalks        | □ Leisure Amenities | □ AV Program           |
| ■ Nodes             | □ Sports Facilities | □ Special              |
| ■ Viewing Platforms | □ Site Services     | □                      |

**Example Palette**



**type #PL1**

**description**  
 POST-TOP LUMINAIRE WITH REAR CUT OFF PLATE AND INTERNAL GLARE CONTROL. CUSTOM SOLAR COLLECTOR POSSIBLE. SIDE THROW FOR PATHWAY LIGHTING

**employment**

MOUNTED TO ONE SIDE OF THE CYCLEWAY AT EQUAL INTERVALS.



**type #PL2**

**description**  
 600MM HIGH BOLLARD WITH RECESSED COMPACT FLUORESCENT LAMP.

**employment**

FOOTPATH MARKERS AND LOOK-OUT ILLUMINATION UNDER PIR CONTROL. LUMINAIRES SET TO STAND-BY MODE WHEN NO-ONE PRESENT.



**type #PL3**

**description**  
 SEALED LINEAR LIGHTING UNIT. EXTERNALLY TRANSFORMED

**employment**

RECESSED WITHIN BOARDWALK KERB AND ACTIVATED VIA PIR TRIGGER.



**type #PL5**

**description**  
IN-GROUND LED LUMINAIRE WITH  
CUSTOM FROSTED GLASS  
DEPICTING EITHER N, S, E OR W.

**employment**

LUMINAIRES ARRANGED SO AS  
TO REPRESENT 4 POINTS OF THE  
COMPASS IN THE GROUND AT A  
CENTRAL LOCATION WITHIN THE  
NODE OR LOOKOUT.



**type #PL8**

**description**  
LINEAR T5 ADJUSTABLE  
FLUORESCENT LUMINAIRE.  
WEATHERPROOF.

**employment**

LINEAR DOWNLIGHTING ELEMENT  
FOR LOCAL SIGNAGE



**type #PL14**

**description**  
YOKE MOUNTED HALOGEN  
FLOODLIGHT WITH INTEGRAL FILTER.  
BEAM SPREAD TBD.

**employment**

ILLUMINATION OF SPECIFIC  
LANDSCAPE FEATURES UNDER  
INTERACTIVE DIMMER CONTROL.



**type #PL14**

**description**  
YOKE MOUNTED HALOGEN  
FLOODLIGHT WITH INTEGRAL FILTER.  
BEAM SPREAD TBD.

**employment**

ILLUMINATION OF SPECIFIC  
LANDSCAPE FEATURES UNDER  
INTERACTIVE DIMMER CONTROL.



#### Design Strategy Summary

- Major mixed-traffic thoroughfares
- Primary recreational thoroughfare
- Nodes and lookouts within precinct
- Areas of interest to highlight along route and within buffer zones

The following elements are to be considered within this precinct:

- |                     |                     |                        |
|---------------------|---------------------|------------------------|
| ■ Shared Cycleways  | ■ Icons/Signage     | ■ Features of Interest |
| □ Footpaths         | □ Markers           | ■ Protected Areas      |
| □ Boardwalks        | □ Leisure Amenities | □ AV Program           |
| ■ Nodes             | □ Sports Facilities | □ Special              |
| ■ Viewing Platforms | □ Site Services     | □                      |

### Example Palette



**type #PL1**

**description**  
POST-TOP LUMINAIRE WITH REAR CUT OFF PLATE AND INTERNAL GLARE CONTROL. CUSTOM SOLAR COLLECTOR POSSIBLE.

**employment**

MOUNTED TO ONE SIDE OF THE CYCLEWAY AT EQUAL INTERVALS.



**type #PL2**

**description**  
600MM HIGH BOLLARD WITH RECESSED COMPACT FLUORESCENT LAMP.

**employment**

LOOK-OUT ILLUMINATION UNDER PIR CONTROL. LUMINAIRES SET TO STAND-BY MODE WHEN NO-ONE PRESENT.



**type #PL4**

**description**  
POLE TYPE LUMINAIRE WITH SIDE-LIGHT PANELS

**employment**

LUMINAIRE PLACED AT EDGE OF NODE PROVIDING DIFFUSE CIRCLE OF ILLUMINATION AND GUIDING POINT.



**type #PL5**

**description**  
IN-GROUND LED LUMINAIRE WITH  
CUSTOM FROSTED GLASS  
DEPICTING EITHER N, S, E OR W.

**employment**  
LUMINAIRES ARRANGED SO AS  
TO REPRESENT 4 POINTS OF THE  
COMPASS IN THE GROUND AT A  
CENTRAL LOCATION WITHIN THE  
NODE OR LOOKOUT.



**type #PL8**

**description**  
LINEAR T5 ADJUSTABLE  
FLUORESCENT LUMINAIRE.  
WEATHERPROOF.

**employment**  
LINEAR DOWNLIGHTING ELEMENT  
FOR LOCAL SIGNAGE



**type #PL14**

**description**  
YOKE MOUNTED HALOGEN  
FLOODLIGHT WITH INTEGRAL FILTER.  
BEAM SPREAD TBD.

**employment**  
LLUMINATION OF SPECIFIC  
LANDSCAPE FEATURES UNDER  
INTERACTIVE DIMMER CONTROL.



**type #PL14**

**description**  
YOKE MOUNTED HALOGEN  
FLOODLIGHT WITH INTEGRAL FILTER.  
BEAM SPREAD TBD.

**employment**  
LLUMINATION OF SPECIFIC  
LANDSCAPE FEATURES UNDER  
INTERACTIVE DIMMER CONTROL.





#### Design Strategy Summary

- Coloured light
- Halogen & Par lamps
- Wash light luminaires (Types PL14).
- Narrow spot lights (Types PL14)
- Interior Luminaires (Type PL6)
- Cranes to be permanently lit [Type PL15]
- Touch tell controlled [Type PL7]
- Choreographed sequences

The following elements are to be considered within this precinct:

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Shared Cycleways  | <input checked="" type="checkbox"/> Icons/Signage | <input checked="" type="checkbox"/> Features of Interest |
| <input type="checkbox"/> Footpaths         | <input type="checkbox"/> Markers                  | <input type="checkbox"/> Protected Areas                 |
| <input type="checkbox"/> Boardwalks        | <input type="checkbox"/> Leisure Amenities        | <input checked="" type="checkbox"/> AV Program           |
| <input type="checkbox"/> Nodes             | <input type="checkbox"/> Sports Facilities        | <input type="checkbox"/> Special                         |
| <input type="checkbox"/> Viewing Platforms | <input type="checkbox"/> Site Services            | <input type="checkbox"/>                                 |

**Example Palette**



**type #MP7**

**description**  
 SELF-CONTAINED WEATHERPROOF AND VANDAL-RESISTENT AV CONTROL BOLLARD RESPONDING TO TOUCH

**employment**

INTERACTIVE AUDIO-VISUAL CONTROL FOR LOCAL LIGHTING AND AUDIO PROGRAM.



**type #MP8**

**description**  
 LINEAR T5 ADJUSTABLE FLUORESCENT LUMINAIRE. WEATHERPROOF.

**employment**

LINEAR DOWNLIGHTING ELEMENT FOR LOCAL SIGNAGE



**type #MP14 + 15**

**description**  
 YOKE MOUNTED HALOGEN & HID FLOODLIGHT WITH INTEGRAL FILTER. BEAM SPREAD TBD.

**employment**

ILLUMINATION OF BUILDINGS [HALOGEN UNDER INTERACTIVE CONTROL] AND CRANES [HID PERMANENTLY ON.]





#### Design Strategy Summary

- low bollard luminaires for access pathways (Type PL13).
- 16m spacings between type PL13
- compact fluorescent 3000K
- C-bus or time clock control
- LED compass luminaires on summit
- orchestrated turning-on sequence

The following elements are to be considered within this precinct:

- |   |   |  |
|---|---|--|
| <input type="checkbox"/> Shared Cycleways     | <input type="checkbox"/> Icons/Signage      | <input type="checkbox"/> Features of Interest  |
| <input checked="" type="checkbox"/> Footpaths | <input checked="" type="checkbox"/> Markers | <input type="checkbox"/> Protected Areas       |
| <input type="checkbox"/> Boardwalks           | <input type="checkbox"/> Leisure Amenities  | <input checked="" type="checkbox"/> AV Program |
| <input type="checkbox"/> Nodes                | <input type="checkbox"/> Sports Facilities  | <input checked="" type="checkbox"/> Special    |
| <input type="checkbox"/> Viewing Platforms    | <input type="checkbox"/> Site Services      | <input type="checkbox"/>                       |

Lighting Fixture Palette



**type #PL13**

**description**  
 300MM SQUARE BOLLARD WITH  
 RECESSED COMPACT  
 FLUORESCENT LAMP.

**employment**

LUMINAIRES PLACED AT 16M  
 CENTRES ALONG OUTSIDE EDGE  
 OF ACCESS PATHWAY TO  
 ILLUMINATE ROUTE AND GABION  
 WALL.



**type #PL5**

**description**  
 GROUND LED LUMINAIRE WITH  
 CUSTOM FROSTED GLASS  
 DEPICTING EITHER N, S, E OR W.n

**employment**

LUMINAIRES ARRANGED SO AS  
 TO REPRESENT 4 POINTS OF THE  
 COMPASS IN THE GROUND AT A  
 CENTRAL LOCATION ON THE  
 SUMMIT.



**type #PL7**

**description**  
 SELF-CONTAINED WEATHERPROOF  
 AND VANDAL-RESISTENT AV  
 CONTROL BOLLARD RESPONDING  
 TO TOUCH

**employment**

INTERACTIVE AUDIO-VISUAL  
 CONTROL FOR LOCAL LIGHTING  
 AND AUDIO PROGRAM.



#### Design Strategy Summary

- Precise control over sports floodlighting
- Precise luminaire optics
- Mast mounted Sports Lights (Types PL16)
- Minimum lighting levels for sporting requirements
- Multi level switching (25%, 50%, 75%)
- Minimum fixture impact during daylight
- C-bus controlled

The following elements are to be considered within this precinct:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Shared Cycleways  | <input type="checkbox"/> Icons/Signage                | <input type="checkbox"/> Features of Interest |
| <input type="checkbox"/> Footpaths         | <input type="checkbox"/> Markers                      | <input type="checkbox"/> Protected Areas      |
| <input type="checkbox"/> Boardwalks        | <input checked="" type="checkbox"/> Leisure Amenities | <input type="checkbox"/> AV Program           |
| <input type="checkbox"/> Nodes             | <input checked="" type="checkbox"/> Sports Facilities | <input type="checkbox"/> Special              |
| <input type="checkbox"/> Viewing Platforms | <input checked="" type="checkbox"/> Site Services     | <input type="checkbox"/>                      |

### Example Palette



**type #MP10 + 11**

**description**  
POST-TOP LUMINAIRE WITH REAR CUT OFF PLATE AND INTERNAL GLARE CONTROL. FORWARD THROW DISTRIBUTION FOR AREA LIGHTING

**employment**

MOUNTED TO PROVIDE AREA FLOODLIGHTING FOR SERVICES AND AMENITY AREAS



**type #MP16**

**description**  
MAST MOUNTED SPORTS FLOODLIGHT WITH FULL GLARE CONTROL LOUVRES.

**employment**

MAST MOUNTED TO PROVIDE ADEQUATE ILLUMINATION TO SPORTS FIELDS WHILST STRICTLY CONTROLLING SPILL LIGHT.

# ***Appendix F***





PARRAMATTA RIVER

RIVER

WILSON PARK

SILVERWATER CORRECTIONAL CENTRE

NEWINGTON FOREST

OLYMPIC VILLAGE

MILL ROAD EMPARK

LEGEND

- 1 MILLENNIUM MARKER
- 2 RIVER FRONT WALK
- 3 NAVAL WHARF
- 4 BOARD WALKS
- 5 RIVER FRONT PARK
- 6 MANGROVES AND WETLANDS
- 7 SPORTS FIELDS AND PICNIC FACILITIES
- 8 SALTMARSH
- 9 CASUARINA FOREST
- 10 IRRIGATION STORAGE
- 11 BUNKER
- 12 ACCESS ROAD
- 13 WOODLAND BUFFER PLANTING
- 14 NORTH NEWINGTON GRASSLANDS
- 15 RE-ALIGNED JAMESON STREET
- 16 FRESHWATER WETLANDS
- 17 VILLAGE ENTRY ROAD
- 18 NEWINGTON HOUSE AND CHAPEL
- 19 MILLENNIUM INSTITUTE COMPLEX
- 20 INFORMATION AND AMENITIES NODE
- 21 FROG HABITAT
- 22 MAJOR PLAYGROUND
- 23 STAIR AND RAMP ACCESS
- PEDESTRIAN PATHWAY
- PEDESTRIAN / CYCLE PATHWAY
- HISTORIC RAIL
- P PARKING



scale 1:2000 at A0  
 job no. 2664  
 dwg no. MPLA0658  
 date 27.08.97

**HASSELL**

Bruce Mackenzie Design  
 Peter Walker and Partners

Newington West Precinct





- LEGEND**
- 1 MILLENNIUM MARKER
  - 2 RIVER FRONT WALK
  - 3 FERRY TERMINAL
  - 4 BOARD WALK
  - 5 RECREATION / COMMERCIAL
  - 6 MANGROVES
  - 7 COMMERCIAL / RESIDENTIAL
  - 8 SALT MARSH
  - 9 ELECTRICAL SUBSTATION
  - 10 GRASSLANDS
  - 11 WETLAND POND
  - 12 REMOVAL OF TRANSMISSION LINES
  - 13 WIDENED ROAD WITH MEDIAN
  - 14 FRESHWATER WETLANDS
  - 15 POINT PARK
  - 16 PLAYING FIELDS
  - 17 WATER QUALITY CONTROL POND
  - 18 WATER TREATMENT PLANT
  - 19 FROG HABITAT
  - 20 WATER BIRD REFUGE
  - 21 BUNKERS
  - 22 WOODLAND BUFFER PLANTING
  - 23 WATER FRONT PROMENADE
  - 24 TRAIN STATION
  - 25 VIEWING TOWER
  - 26 BIRD HIDE
  - 27 PARKVIEW CAFE
  - 28 MAJOR PLAYGROUND
  - PEDESTRIAN
  - PEDESTRIAN / CYCLE
  - HISTORIC RAIL
  - ||||| HORSE TRAIL
  - P PARKING

  
 scale 1:2000 @ A0  
 job no. 2054  
 divg no. MPLA095B  
 date 27.08.97

**HASSELL**  
 Bruce Mackenzie Design  
 Peter Walker and Partners



LEGEND

- 1 MILLENNIUM MARKER
- 2 SCREEN PLANTING
- 3 WATER QUALITY CONTROL POND
- 4 SCHOOL
- 5 FROG HABITAT
- 6 MANGROVES
- 7 SPORTS FIELD
- 8 SALT MARSH
- 9 TENNIS COURTS
- 10 IRRIGATION STORAGE
- 11 BUNKER
- 12 ACCESS ROAD
- 13 WOODLAND BUFFER PLANTING
- 14 NORTH NEWINGTON GRASSLANDS
- 15 REALIGNED JAMIESON STREET
- 16 FRESH WATER WETLANDS
- 17 VILLAGE ENTRY ROAD
- 18 NORTHERN WATER FEATURE
- 19 GRASSLANDS
- 20 KRONOS HILL REPROFILED
- 21 PEDESTRIAN BOARD WALK
- 22 GREEN FINGER
- 23 INFORMATION AND AMENITIES NODE
- 24 RAMP AND STAIR ACCESS
- PEDESTRIAN PATHWAY
- PEDESTRIAN / CYCLE PATHWAY
- HISTORIC RAIL
- P PARKING



  
 scale 1:2000 at A0  
 job no. 2664  
 dwg no. MPLA087B  
 date 27.08.97

**HASSELL**  
 Bruce Mackenzie Design  
 Peter Walker and Partners





LEGEND

- 1 MILLENNIUM MARKER
- 2 SPORTS FIELD
- 3 WATER QUALITY CONTROL POND
- 4 WATER TREATMENT PLANT
- 5 FROG HABITAT
- 6 MANGROVES
- 7 ELECTRICAL SUBSTATION
- 8 SALT MARSH
- 9 COMMERCIAL / RESIDENTIAL
- 10 IRRIGATION STORAGE
- 11 BUNKERS
- 12 ACCESS ROAD
- 13 WOODLAND BUFFER PLANTING
- 14 NORTH NEWINGTON GRASSLANDS
- 15 REALIGNED JAMIESON STREET
- 16 FRESH WATER WETLANDS
- 17 VILLAGE ENTRY ROAD
- 18 NORTHERN WATER FEATURE
- 19 GRASSLANDS
- 20 KRONOS HILL REPROFILED
- 21 SHADE STRUCTURES
- 22 TEMPORARY CARNIVAL
- 23 REFORESTED BRICK PIT RIM
- 24 ART PARK
- 25 AMPHITHEATRE
- 26 LOOKOUT
- 27 PROMENADE
- 28 POND
- 29 LIFT
- 30 TRAIN STATION
- 31 AMENITIES AND INFORMATION CENTRE
- 32 FOOT BRIDGE
- 33 PLAYGROUND
- PEDESTRIAN PATHWAY
- - - PEDESTRIAN / CYCLE PATHWAY
- ..... HISTORIC RAIL
- ..... HORSE TRAIL
- P PARKING

scale 1:2000 at AO  
 job no. 2664  
 dwg no. MPLA0266  
 date 27.08.97

**HASSELL**  
 Bruce Mackenzie Design  
 Peter Walker and Partners

Haslams Creek and Brick Pit Precinct





HOMEBUSH  
BAY

- LEGEND**
- 1 MILLENNIUM MARKER
  - 2 TRELLAGE
  - 3 ENLARGED FIELD STUDY CENTRE
  - 4 PLAYING FIELDS
  - 5 INFORMATION CENTRE
  - 6 LAKE BELVEDERE
  - 7 GOLF DRIVING RANGE
  - 8 MILLENNIUM PARK ENTRANCE MARKER
  - 9 TENNIS CENTRE
  - 10 STATE SPORTS CENTRE
  - 11 BOARD WALKS
  - 12 MANGROVES
  - 13 SALT MARSH
  - 14 WATER BIRD REFUGE
  - 15 CONCORD WEST PICNIC AREA
  - 16 PARKVIEW CAFE
  - 17 FROG HABITAT
  - 18 WATER QUALITY CONTROL POND
  - 19 LIFT
  - 20 POND
  - 21 SHADE STRUCTURES
  - 22 TEMPORARY CARNIVAL
  - 23 REFORESTED BRICK PIT RIM
  - 24 ART PARK
  - 25 AMPHITHEATRE
  - 26 LOOKOUT
  - 27 PROMENADE
  - 28 BICENTENNIAL PARK ADMINISTRATIVE CENTRE
  - 29 WATER TREATMENT PLANT
  - 30 SOUTHERN WATER FEATURE
  - 31 PEDESTRIAN BARRIER
  - 32 PARKLAND
  - 33 VIEWING TOWER
  - 34 GREEN FINGERS
  - 35 PLANTING ENHANCEMENT
  - 36 NEW ROAD CIRCULATION PATTERN
  - 37 BICENTENNIAL PARK ENTRY
  - 38 BICENTENNIAL PARK EXIT
  - 39 BIRD HIDE
  - 40 MAJOR PLAYGROUND
  - ..... HORSE / PEDESTRIAN PATHWAY
  - PEDESTRIAN PATHWAY
  - PEDESTRIAN / CYCLE PATHWAY
  - P PARKING

Scale 1:2000 at A0  
 Job no. 2694  
 Desig. no. MPLAD088  
 Date 27.08.97

**HASSELL**  
 Bruce Mackenzie Design  
 Peter Walker and Partners