

CENTRAL GEEELONG PUBLIC REALM FRAMEWORK

The Geelong Public Realm Framework provides direction for new capital works in Central Geelong including the materials palette and character and the hierarchy and application of streetscape design elements.

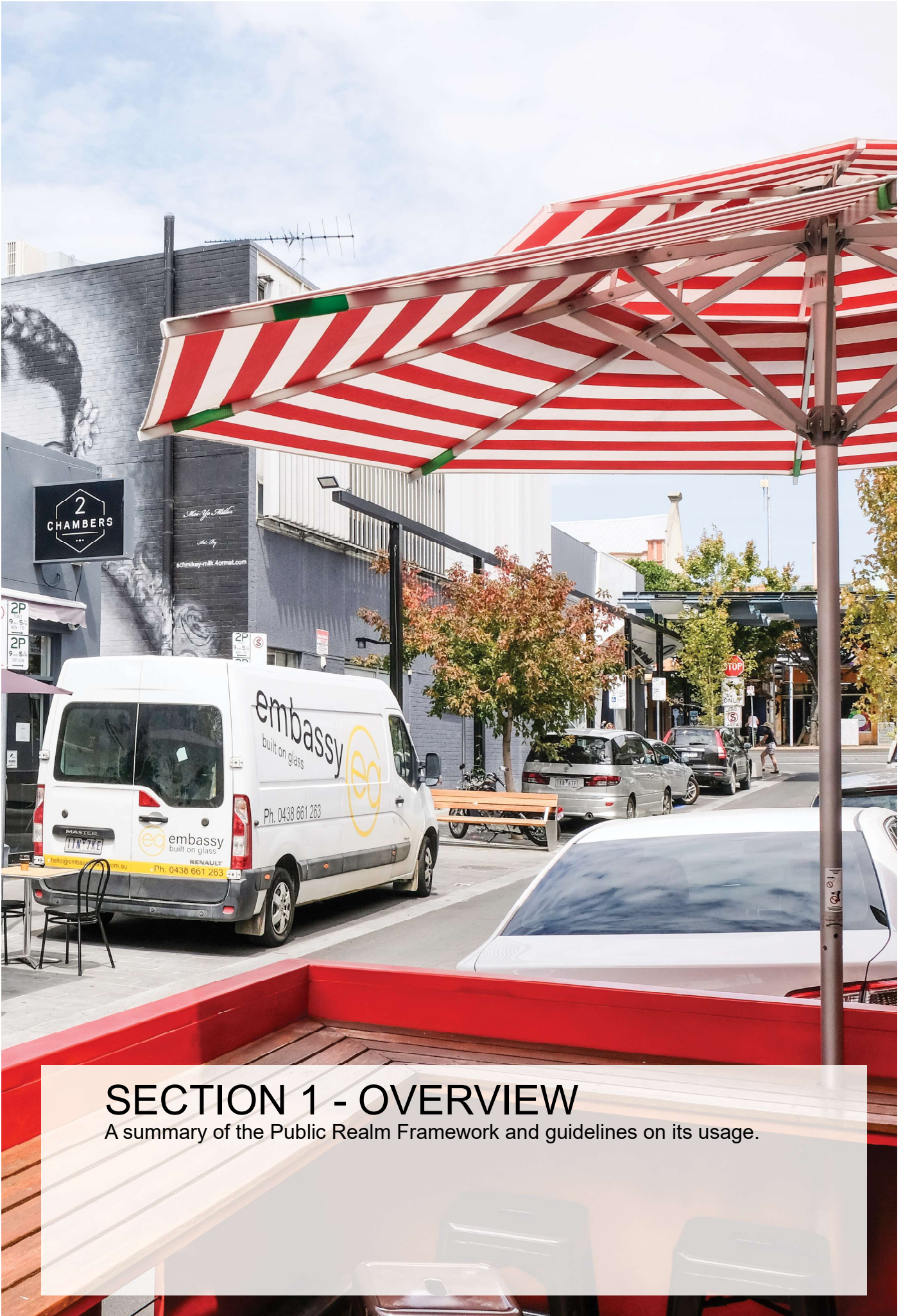
Endorsed by City of Greater Geelong Council
September 2017

Update - November 2019

CONTENTS

| | |
|--|----|
| 1.0 SECTION 1 - Overview | 03 |
| 1.1 Introduction | 04 |
| 1.2 Use of the Public Realm Framework | 05 |
| 1.3 Project Area | 06 |
| 1.4 Key Principles | 07 |
| 1.5 Overall Material Composition | 08 |
| 1.6 Inspiration and Benchmarks | 09 |
| 2.0 SECTION 2 - Standard Palette | 10 |
| 2.1 Paving | 11 |
| 2.2 Kerb and Channel | 18 |
| 2.3 Seating | 22 |
| 2.4 Tree Hardware | 26 |
| 2.5 Waste and Recycling | 29 |
| 2.6 Bollards and Barriers | 30 |
| 2.7 Bike Racks | 31 |
| 2.8 Alfresco Dining | 32 |
| 2.9 Water Drinking Fountain | 34 |
| 2.10 Skate Deterrent | 35 |
| 2.11 Drainage Hardware | 36 |
| 2.12 Street Lighting | 37 |
| 2.13 Banners and Flagpoles | 40 |
| 2.14 Street Trees | 41 |
| 2.15 Ground Level Planting | 51 |
| 3.0 SECTION 3 - Unique Elements | 54 |
| 3.1 Unique Spaces and Public Art Opportunities | 55 |
| 4.0 SECTION 4 - Accessibility Recommendations | 62 |
| 4.1 Ground Surface | 63 |
| 4.2 Tactile Surface Ground Indicators | 64 |
| 4.3 Pedestrian Paths/ Walkways | 65 |
| 4.4 Pedestrian Road Crossings | 66 |
| 4.5 Vehicle Crossover/ Loading Bays | 67 |
| 4.6 Parking | 68 |
| 4.7 Signage and Information | 69 |
| 4.8 Street Furniture | 70 |
| 4.9 Staircase | 71 |
| 4.10 Entrances | 72 |
| 4.11 Bus Stops | 73 |

Development of the PRF is an ongoing initiative of Central Geelong Revitalisation Partnership and the City of Greater Geelong and has been prepared by Outlines Landscape Architecture.



SECTION 1 - OVERVIEW

A summary of the Public Realm Framework and guidelines on its usage.

1.1

INTRODUCTION

Why have a public realm framework?

The Public Realm Framework (PRF) was adopted by the City of Greater Geelong Council in 2017. As part of the implementation of the Central Geelong Action Plan, it articulates Council and State Government aspirations to revitalise Central Geelong through the creation of a strong, high-quality and unique identity.

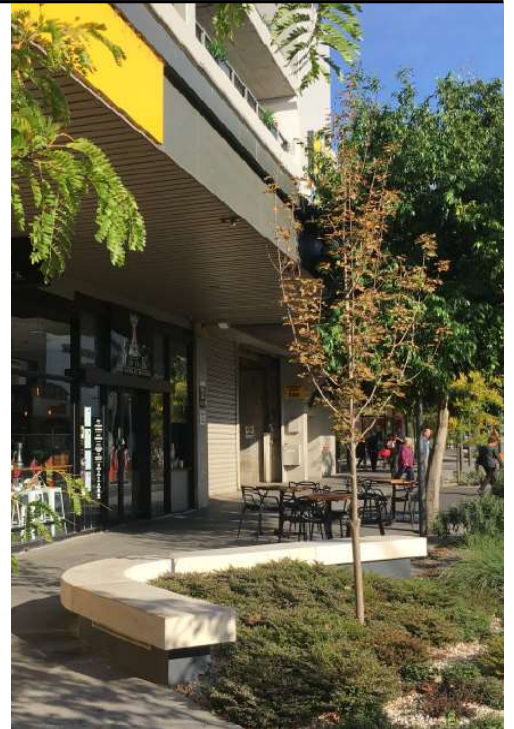
What will it achieve?

The framework outlines a cohesive palette of materials, designs, finishes and furniture for the public realm and provides a guide to using the palette throughout Central Geelong.

This framework has been developed to reinforce identity and to ensure accessibility for users of all ages and abilities. Its application ensures a consistency and clarity around the design and delivery of new and revision capital works within Central Geelong, particularly in relation to the interface between private developments and the public realm.

The framework provides a design benchmark that will result in a level of cohesion for Central Geelong, while still allowing for the manifestation of unique spaces.

The framework will be implemented over time as major projects are delivered or when routine replacement of assets or new private/public interfaces are required.



1.2

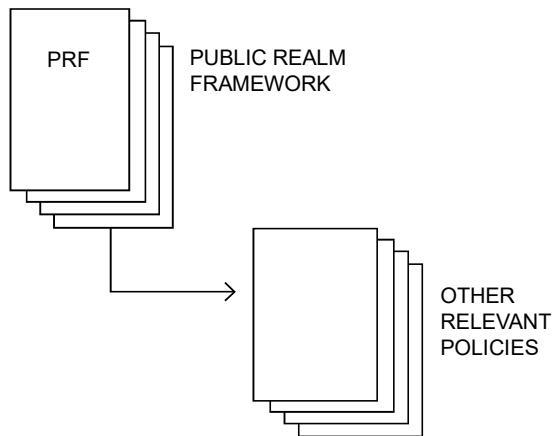
USE OF THE PUBLIC REALM FRAMEWORK

The Public Realm Framework is a set of guidelines that establishes standards for projects in Central Geelong. It provides a suite of furniture elements, material palettes and approaches to streetscape detailing, and references to other design policies.

In applying this document, users should make themselves aware of other relevant reports and strategies in place to achieve the overarching aims of the Central Geelong Acton Plan.

REFERENCE DOCUMENTS

Street and Public Place Lighting Policy, 2008



1.3

IMPLEMENTATION AREA

The study area includes Central Geelong as shown within the dashed boundary below. Generally the boundary extends from Latrobe Terrace to Swanston Street and from McKillop Street to Corio Bay.



1.4

KEY PRINCIPLES

The following key principles underpin and define the selection of materials, furniture and their application:

Manufacturing, industrial heritage, authentic to Geelong to be translated through materials palette through restrained abstract references

The palette reflects a world-class city, presenting a contemporary, refined and sophisticated aesthetic while respecting heritage and preserving character

The materials are to be resilient, sustainable, integrated and enduring and represent the distinct and unique authenticity and integrity of Geelong

The natural environment and green spaces are preserved and enhanced through site specific interventions

Form, textures, colours and materials works together with subtle variations to differentiate precinct characters

Central Geelong presents as a cohesive overall language with moments of 'surprise' along the way

Furniture is to be multi-use where appropriate and use custom elements to link

Art is facilitated through various platforms and provides a richness and interest to Central Geelong

The shape and form are to be seamless, clean, simple, timeless and uncluttered

1.5

MATERIAL COMPOSITION AND COMBINATION

'complementary materials that work together in any combination'



'a neutral and uncomplicated 'base' palette that allows expression and richness through art, vegetation, bespoke elements and splashes of colour'

MATERIALS

Above is an abstract representation of the character of the materials palette, reflecting the selected materials' texture, colour and contrast qualities. From bluestone, asphalt, refined timber, concrete and steel, the approach is of an overall cohesion with complementary and integrated materials punctuated by selective use of colour and decoration.



SECTION 2 - STANDARD PALETTE

Standard approaches for the design and delivery of streetscapes and public spaces in Central Geelong

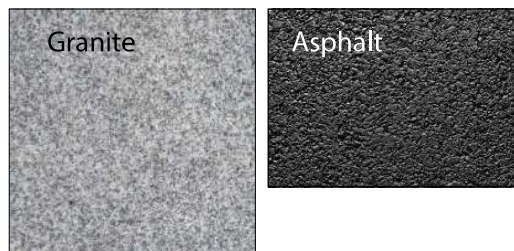
2.1 PAVING

PAVING SELECTION & SPECIFICATION

Pavement selections are focussed upon quality, hard wearing, versatile materials with an urban, refined character. Accessible and comfortable. Consistent across entire city centre to give a coherent identity and uniform character.

Subtle changes to occur across street typologies/precincts. The materials allow for variety of combinations that support more economical applications. Versatility in application of bluestone and asphalt combinations allowing for different levels of priority and investment. Granite is used in limited strategic areas for contrast and definition.

Consider use of permeable paving where tree watering or ground water recharge is required.



Standard Pavement Materials

The standard pavement materials palette has been selected with regard to:

- durability
- cost-effectiveness
- serviceability and maintenance
- visual integration
- expression of pedestrian hierarchy

Supply Requirements

Proposed products must be submitted for approval under the following conditions:

- Acceptable availability in regards to lead times and available volume
- Quality and density of stone, unit size and compressive strength
- A local contact point
- Certified slip rating
- Colour variation with the product, or colour consistency in product
- Intensity and size of grain in stone
- Product substitutions or equivalent products may be submitted for approval.

Requirements for Surface Finish

Paving shall be shaped to match the level of existing fixtures, (e.g. pit covers, kerb, edgings, existing building line) to within 3 mm.

Typical Requirements of Service Pits Unit Pavement Areas

- Typically, stormwater junction, sewer, services and Telstra pits should be neatly integrated with infill covers.
- All pit lids and surrounds to be engineered and installed to meet vehicle rating requirements.
- Align all rectilinear pit lids to the direction of unit pavement
- Grated stormwater pits or trench grates should always be anti-slip heel guard finish with low profile stainless steel frame.
- Other pits such as water valves, gas valves and electrical pits should be neatly integrated into unit pavement with a max 10mm gap with colour matched caulking.

2.1

PAVING

STONE UNIT PAVERS

FORMAT & SIZE

Material:

Standard

Large Format

Material: Bluestone Paver

Size: 495 x 800mm

Finish: Sawcut with 50um finish

Pattern: Stretcherbond

Joints: Align with base slab joints below

Grout: 5mm grout flush joint

Small Format

Material: Bluestone Paver

Size: 245 x 400mm

Finish: Sawcut with 50um finish

Pattern: Stretcherbond

Joints: Align with base slab joints below

Grout: 5mm grout flush joint

Secondary

Square Format

Material: Bluestone Paver

Size: 245 x 245mm

Finish: Sawcut with 50um finish

Pattern: Stack

Joints: Align with base slab joints below

Grout: 5mm grout flush joint

Use: Square format pavers are only for use in vehicle crossovers to secondary streets and laneways, e.g. Little Malop Street crossovers.

Thicknesses dependant on loads, pavement design and civil engineer specification.

Stone performance specification

(a) The bluestone materials shall be free from any injurious defect relating to strength, durability and appearance.

(b) All bluestone materials shall be the product of machining of sound basaltic stone. Stone shall be considered sound only if it has less than 2% secondary minerals as determined by methods of microscopic examination and quarry sampling.

(c) The bluestone materials shall not be supplied from a quarry used for aggregate and shall be quarried only with black powder or other approved soft blasting technique and governed by current Australian Extractive Industry laws, Work Authorities and Mining licences. Current Work Authority number for the Dimension stone quarry must be provided.

(d) Cut bluestone materials shall be clear of all clay, overburden, soft, friable or weathered material and other foreign matter. Its wearing qualities shall be determined by the Los Angeles Abrasion Test and the percentage loss permitted shall not exceed 30. With a ramp slip resistance factor of R13.

(e) Bluestone materials with vesiculations, veining or fracture lines considered injurious to strength will be rejected.

(f) Colour variation, vesiculation and veining shall be of the equivalent standard to works associated with the Malop Street pedestrian paved area.

(g) Flint or other discolourations are to be avoided. The total area of top surface perforation "catspaws" must not exceed 40 percent of the total slab area.

(h) Exact individual paver unit sizes must be confirmed prior to ordering / cutting. Dimensions are required to factor in grout joint dimensions where an overall critical dimension is required such as for spoon drain width.

(i) The stone must be able to withstand a test for acid resistance and a sample tested to prove as much.

Surface Finish

(a) The surface finish of all bluestone materials shall be diamond sawn and must be free from saw cut markings.

(b) The face edge of the top surface of the kerbing (straights and radials) shall be finished with a 20mm radius.

(c) Unless otherwise specified, edges of all bluestone materials shall be finished with a 1mm chamfer/arris.

2.1

PAVING

STONE UNIT PAVERS

LAYING & USE

Use:

Bluestone pavers are to be used in Central Geelong by locations shown on plan, page 17.

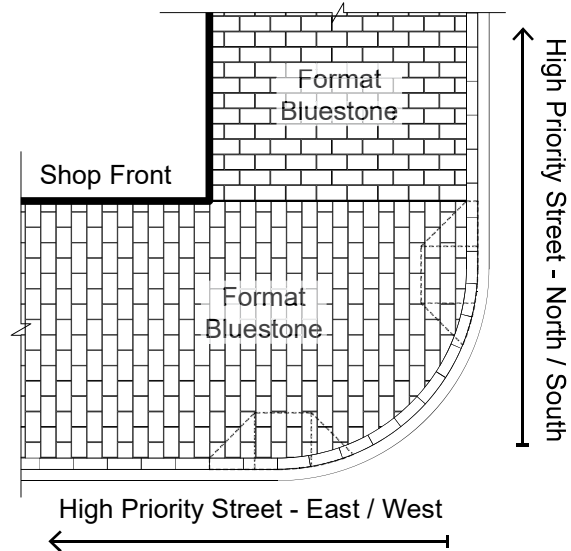
Installation:

Large format pavers are to be laid in stretcherbond pattern. Align paver courses perpendicular to direction of travel. Carry pattern through east/west streets with straight joint to delineate north/south streets.

Where circumstances warrant secondary smaller unit pavers (eg invert line in pavement) alternative size may be used, e.g. Malop Street between Moorabool and Yarra Streets.

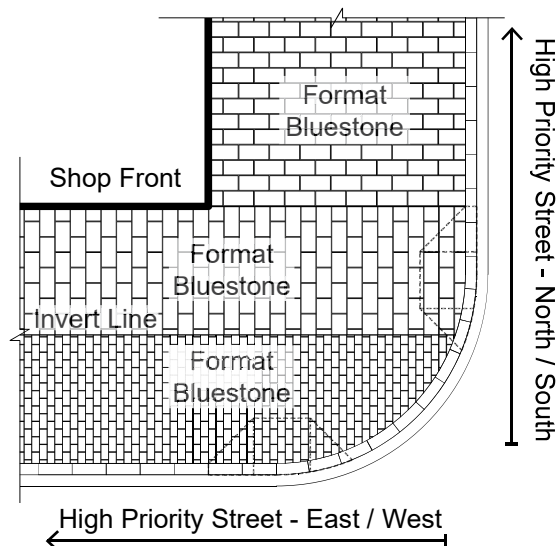
Use: High Priority Corner

Typical paver direction with transition at corner



Use: High Priority Corner

Typical paver direction with small format pavers to invert line.



2.1 PAVING

STONE UNIT PAVERS LAYING & USE

Use:

Highlight bluestone bands are to be used at corners with contrasting asphalt pavements to low priority streets in Central Geelong. Refer to locations on page 17.

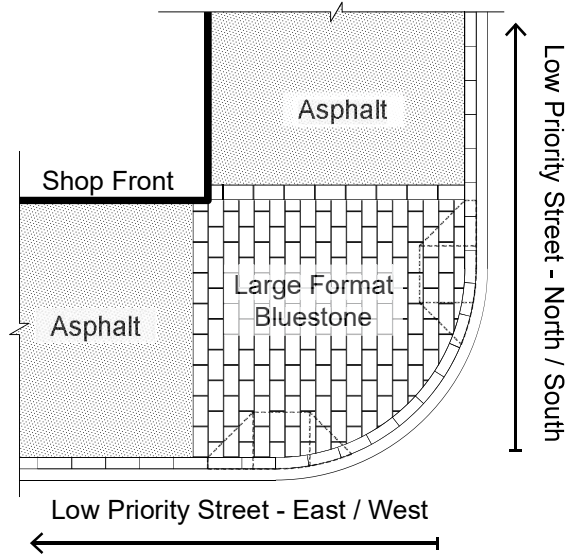
Installation:

Large format pavers are to be laid in stack bond as a single course where adjacent asphalt - Residential Fringe. Large format pavers are to be laid in stretcher bond pattern to extent of low priority corners.

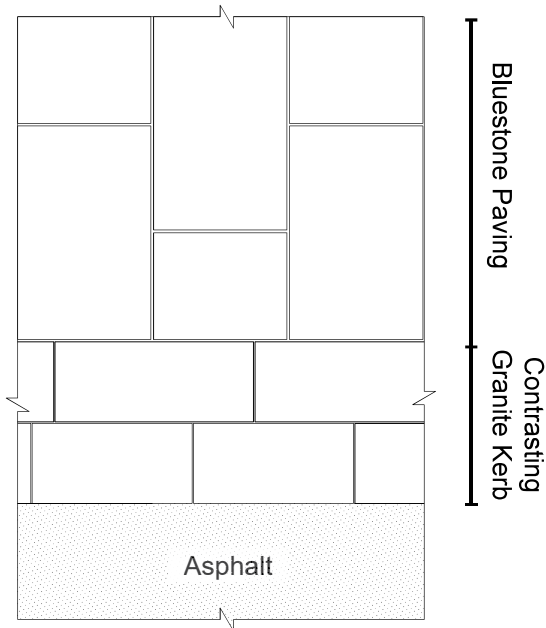
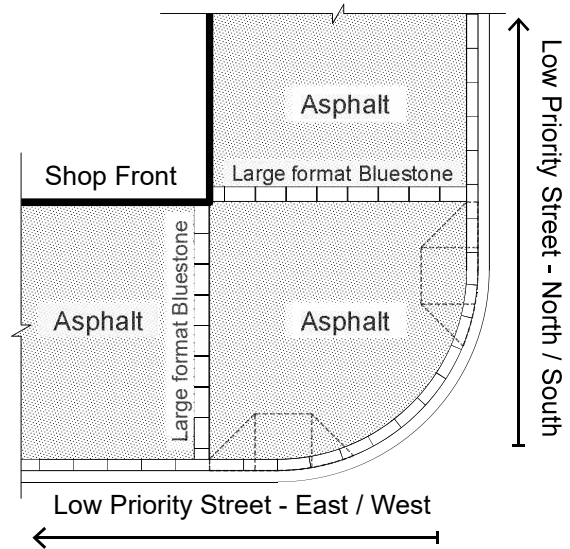
Granite Paving:

Granite unit pavers can be used in limited locations requiring a contrasting material for demarcation of road/footpath users. Size and format is to be developed by function and location. Example; Little Malop Street is a 300mm wide at-grade kerb. Colour: 'Salt & Pepper'

Use: Low Priority Corner



Use: Residential Fringe Interface
Typical paver direction and transition at corner



2.1 PAVING

INFILL PIT LIDS

FORMAT & SIZE

Use:

Pit lids are to be infilled with surrounding pavement materials to create a seamless, trafficable pavement surface. To be used on stormwater junction pits, services pits, circular sewer pits, Telstra pits.

Note: All products to be approved by relevant service authority as early as possible during design phase.

Installation:

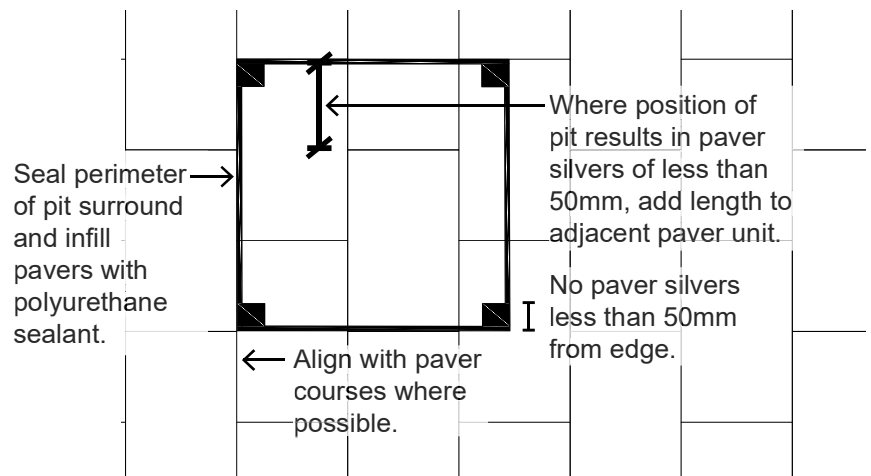
Match lid infill to surrounding pavements, trim pavers to fit within infill frame.

Pit lid class to Engineers site specific load requirements. Size lid and surround to suit paver depth.

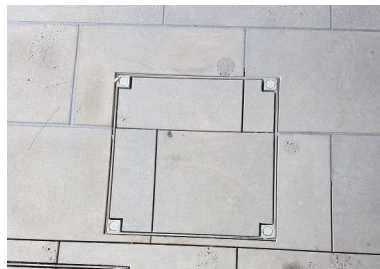
Material:

316 Stainless Steel or galvanised steel surround. Infill material to match adjacent surface.

Standard Infill Pit Lid



INSTALLED EXAMPLES



Size & format may differ in these examples from Central Geelong formats.

Supplier
ACO Australia
www.acodrain.com.au
Product: Urban Infill or approved equivalent

ORCA Civil
www.orcacivil.com.au
Product: ORCA Flexfill cover

2.1 PAVING

TACTILE GROUND SURFACE INDICATORS

FORMAT & SIZE

Use:

Granite inlay TGSIs are to be used in areas with bluestone unit pavers to Central Geelong. Stainless steel TGSIs are to be used in asphalt and concrete pavements to Central Geelong.

Installation:

All locations as required by AS1428.1(2009). Not to be installed in vehicle zones without confirmation of loading. All designs to be reviewed and approved by a Disability Discrimination Act (DDA) Consultant.

Material:

Hazard TGSIs

Material: Granite button inlay to custom bluestone paver

Size: 300x300mm

Finish: Exfoliated granite, honed bluestone

Pattern: Stack bond, grid

Grout: 5mm grout flush joint

Directional TGSIs

Material: Granite strip inlay to custom bluestone paver

Size: 300x300mm

Finish: Exfoliated granite, honed bluestone

Pattern: Stack bond, grid

Grout: 5mm grout flush joint

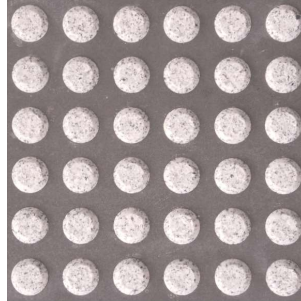
Note:

Where TGSIs are to be required for asphalt surfaces, use 316 Stainless steel button inserts.

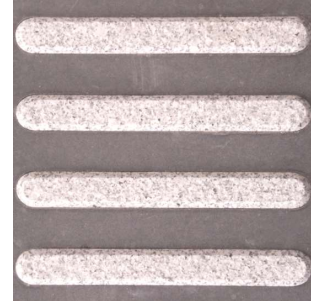
Refer to Section 4.0 for further information relating to TGSIs.

Granite inlay TGSIs to be used in areas with bluestone paving

Hazard



Directional



Stainless Steel TGSIs to be used in areas with asphalt or coloured concrete pavements

Hazard



Directional



All TGSIs / pavement combinations are to meet luminance contrast requirements of AS 1428.1 (2009).

2.1 PAVING

DISTRIBUTION



- Central Geelong Paving Distribution
- Residential Fringe
- High Priority Streets
- - Low Priority Streets

Note: Laneways and small streets not indicated on the map are generally low priority unless marked as a unique space (refer 3.1 and Section 5 - Implementation Framework)

2.2 KERBS

KERB & CHANNEL FORMAT & SIZE

Use:

Sawn bluestone kerb units are designated for Central Geelong as a robust and urban pavement material. Kerb and tray units are to adhere to the performance requirements set out on pages 11 & 12 of this document.

Installation:

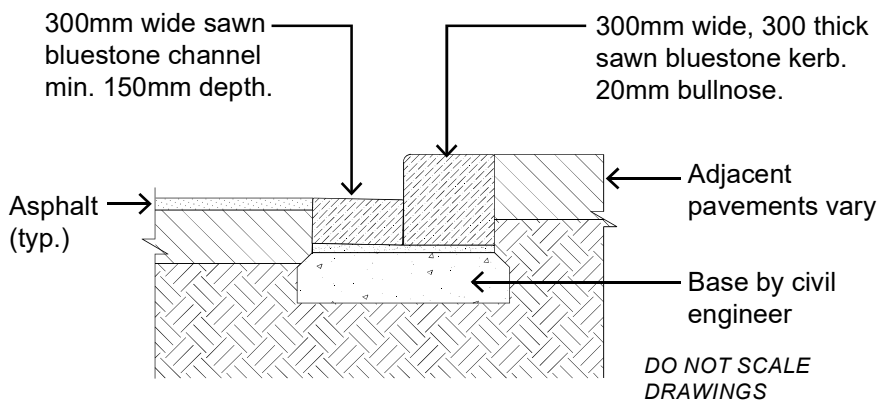
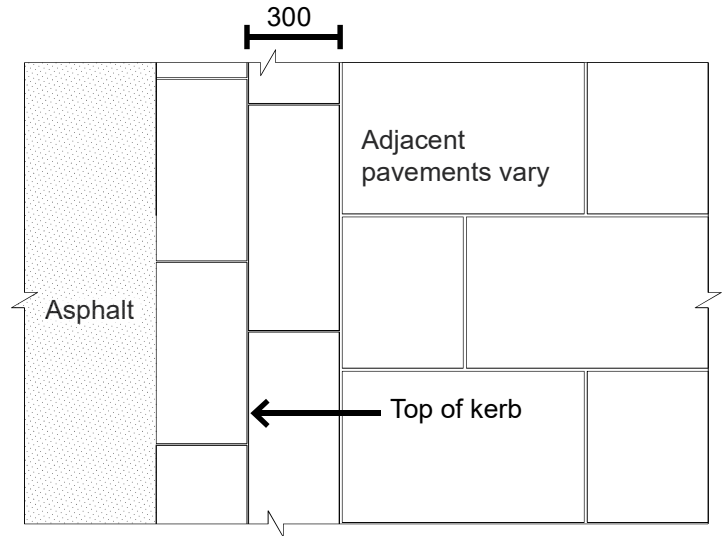
Installation of type 1 & 2 kerbs is to be in line with all City of Greater Geelong Infrastructure Design Manual specifications.

Material:

Type 1
300mm wide, 300mm high kerb stone on engineered base. Kerb stone lengths vary.
Grout: 5mm grout flush joint
Bullnose edge facing carriageway.

Asphalt may be laid up gainst raised kerb as a channel where specified and detailed by Civil engineer.

Type 1 Kerb



2.2 KERBS

KERB & CHANNEL

FORMAT & SIZE

Type 2

Recycled or refinished bluestone pitchers may be used as a channel.

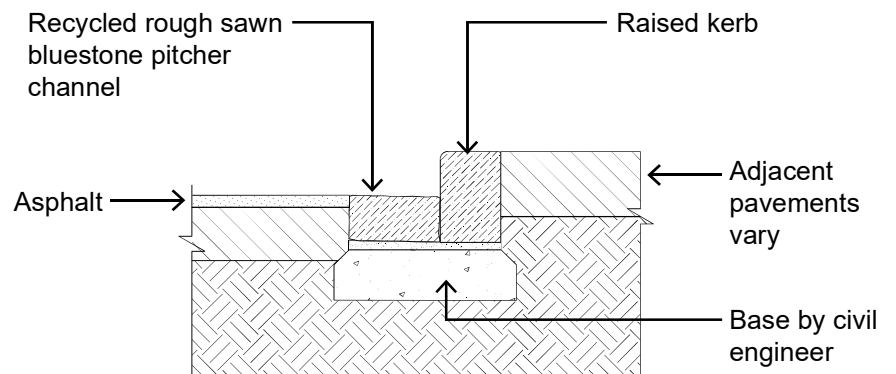
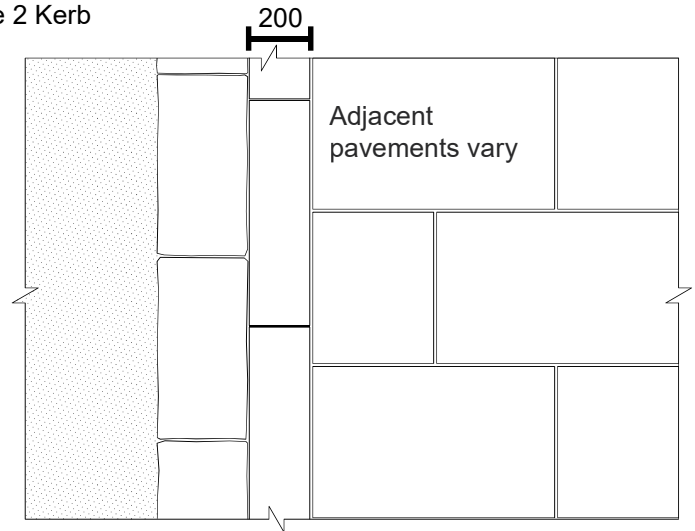
E.g. 200x300mm nom. pitchers set flush adjacent road to achieve civil design.

Option:

Recycled and refurbished bluestone pitchers may be used in channel, e.g. 200x300mm nom. pitchers set flush to achieve civil design detail.

An asphalt tray may be used as an appropriate option where deemed suitable by civil engineer.

Type 2 Kerb



DO NOT SCALE
DRAWINGS

2.2 KERBS

PRAM CROSSING

FORMAT & SIZE

Format

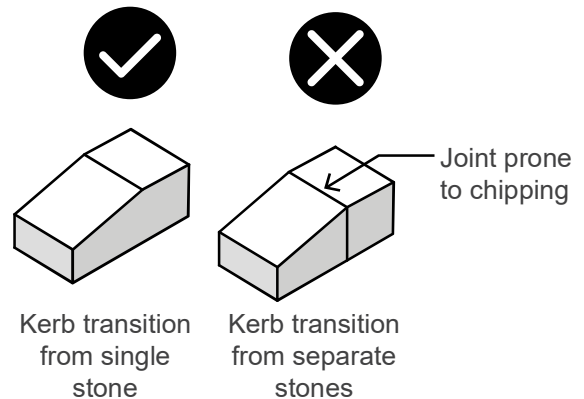
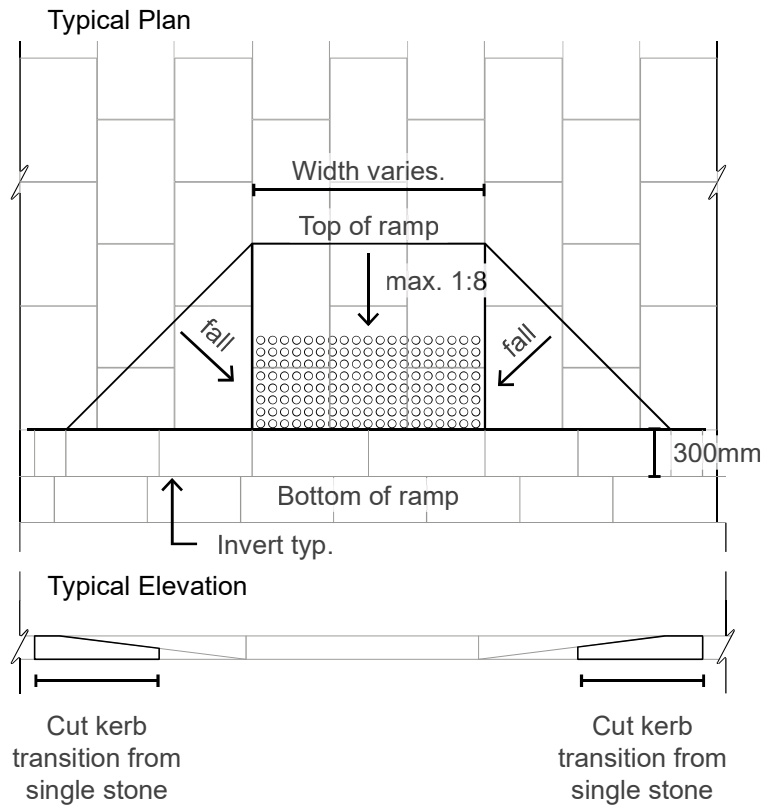
Typically stone unit pavers per section 2.1

Use:

Pram crossings to be located where at-grade and DDA compliant access is required from a footpath to a lower street level at a crossing point, in line with AS1428.1&2 (2009). Size is particular to situation and must be designed by suitably qualified professional.

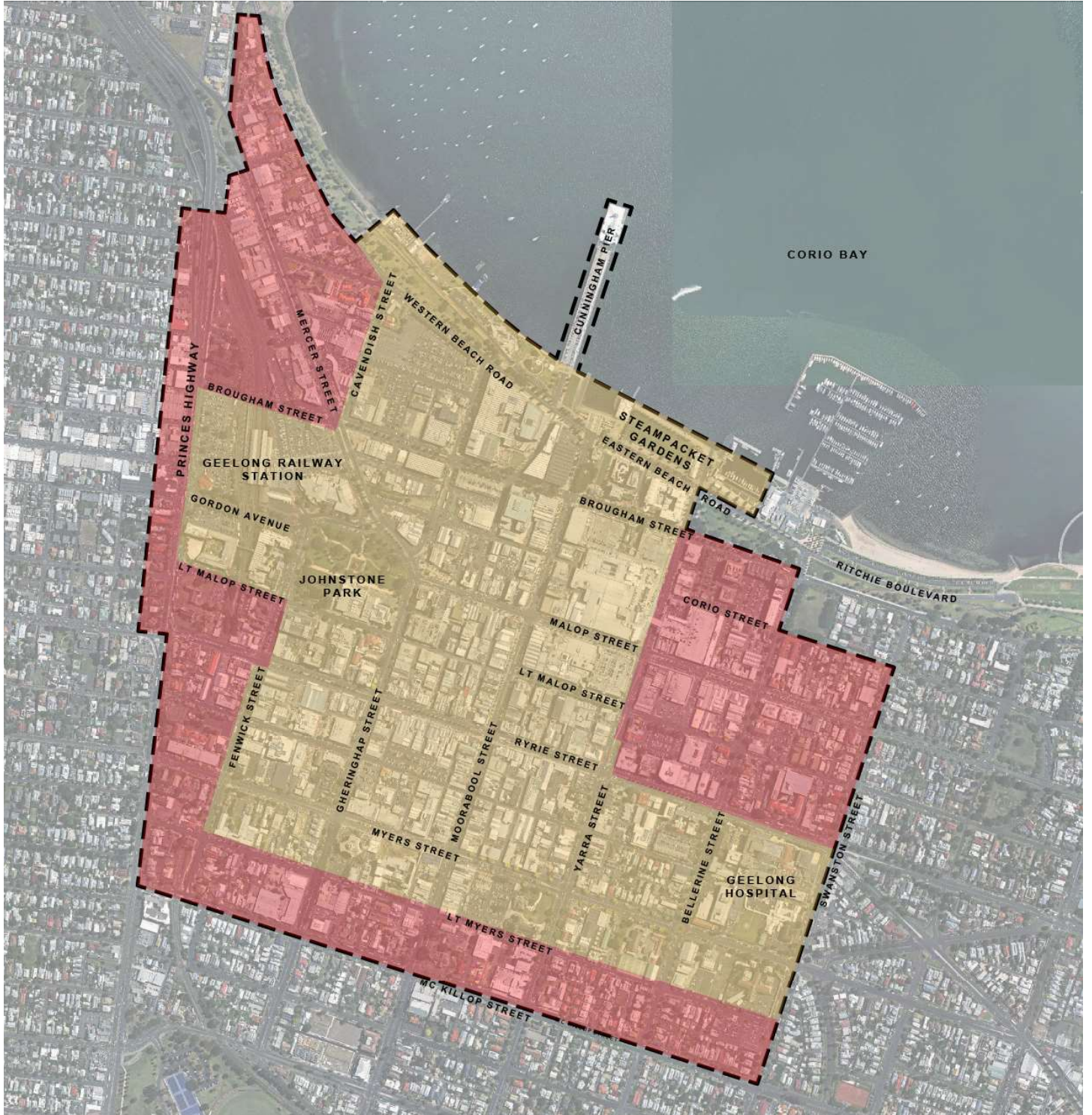
Installation:

Installation of type 1 & 2 kerbs is to be in line with all City of Greater Geelong Infrastructure Design Manual specifications.



2.2 KERBS

DISTRIBUTION



- Type 1 Kerb and Channel
- Type 2 Kerb and Channel

Note: All laneways to be applied with type 2 kerb & channel.

2.3

SEATING

SEAT

CODE - TBC

Design

Contemporary, angled profile seat with subtle 'pencil' edge rounds to all materials. Stainless steel and timber with flush fixings and interface with pavements.

Use:

Seat types by location on page 25. Plate stainless steel to ends for type 1 seat and open sided, stainless steel bar frame for type 2. Both have identical profile, scale and proportions. Armrests as standard.

Installation:

- Locate at intervals to suit streetscape layout
- Face seats away from carriageway and towards pedestrian zones - typ.
- Minimum offsets apply to shop fronts, carriageways and other furniture
- Fix to below ground footing, not paver units
- Ensure pavement finish is continuous below furniture and that footing is not visible

Material:

316 Stainless steel, no.4 finish
KDHW timber. eg. Blackbutt

Type 1 Seat



Type 2 Seat



INSTALLED EXAMPLES



Designer
Outlines Landscape Architecture
(03) 9326 5692

Supplier
Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

2.3 SEATING

BENCH CODE - TBC

Design

Contemporary, angled profile seat with subtle 'pencil' edge rounds to all materials. Stainless steel and timber with flush fixings and interface with pavements.

Use:

Bench types by location on page 25. Plate stainless steel to ends for type 1 seat and open sided, stainless steel bar frame for type 2. Both have identical profile, scale and proportions. Armrests as standard.

Installation:

- Locate at intervals to suit streetscape layout
- Face seats away from carriageway and towards pedestrian zones - typ.
- Minimum offsets apply to shop fronts, carriageways and other furniture
- Fix to below ground footing, not paver units
- Ensure pavement finish is continuous below furniture and that footing is not visible

Material:

316 Stainless steel, no.4 finish
KDHW timber. eg. Blackbutt

Type 1 Bench



Type 2 Bench



INSTALLED EXAMPLES



Designer
Outlines Landscape Architecture
(03) 9326 5692

Supplier
Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

2.3 SEATING

CUSTOM SEATING

CODE - TBC

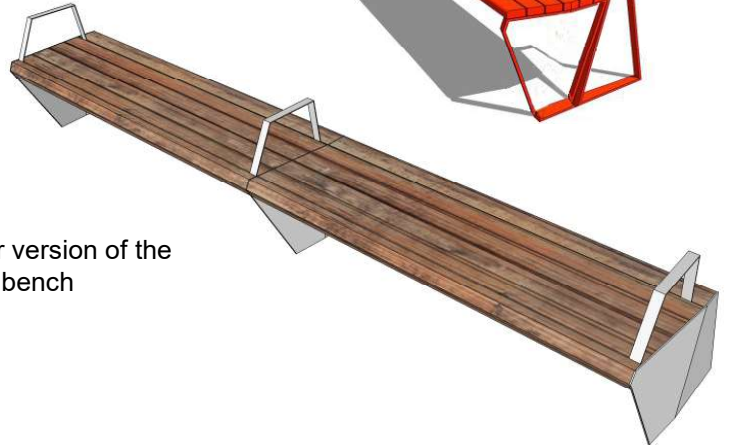
Variation:

Variations on the standard seat and bench should be explored and adapted to appropriate situations. Design should always adhere to the form, style and detailing of the standard suite for consistency throughout Central Geelong. Custom variations are to be approved by City of Greater Geelong project officers prior to installation.

Custom colour treatment of type 2 seat



Longer version of the type 1 bench



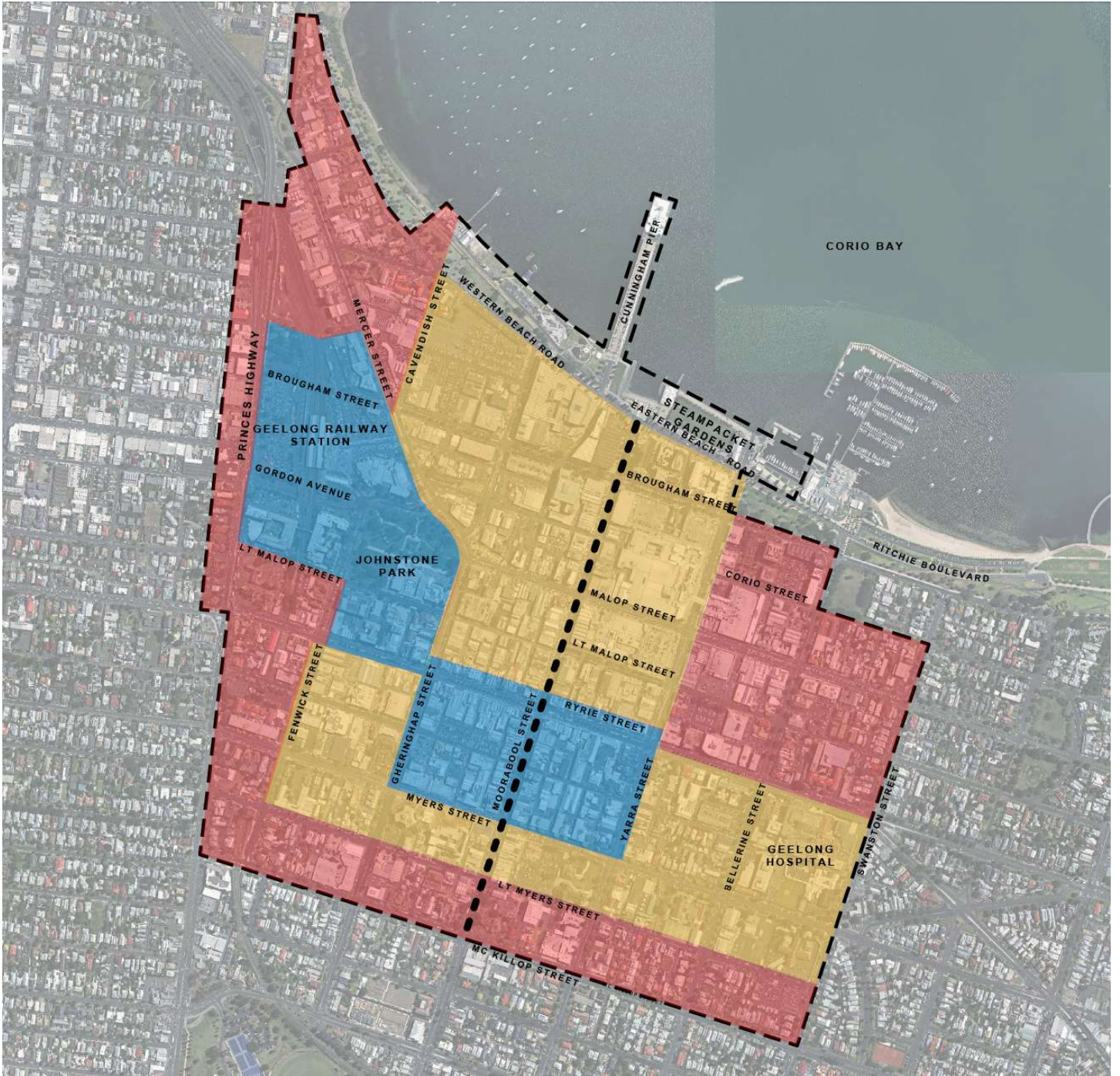
INSTALLED EXAMPLES



Custom variation of back rest installed on pre-cast concrete seat.

2.3 SEATING

DISTRIBUTION



- Type 1
- Type 2
- Residential Fringe
- Moorabool Street

2.4 TREE HARDWARE

TREE GRATE

CODE - TBC

Design

Stainless steel frame, 316 stainless steel plate with laser cut slots, flush fixings to achieve flush finish with adjacent pavements. Fabricate grate in 2-parts with locking points to achieve flush finish between parts.

Use:

Install to new and existing trees where in pedestrian areas requiring trafficable surface.

Installation:

Below ground footings to support base frame. Recess base frame to achieve flush finish of top grate with adjacent pavement.

Custom installation:

Run slots in top grate perpendicular to dominant pedestrian travel direction where uprights installed, provide cut-out for specified light and breaking grate slots.

Material:

8mm thick 316 Stainless steel, no.4 finish
1500x1500m - typ.

Variation:

Where format and size of grate varies from standard, the same detailing of slots etc. should be used.

All grates and grated pit covers are to be P4 slip resistance rated. Provide evidence of slip resistance by manufacturer or have grates tested under AS 4586-2013.

Designer

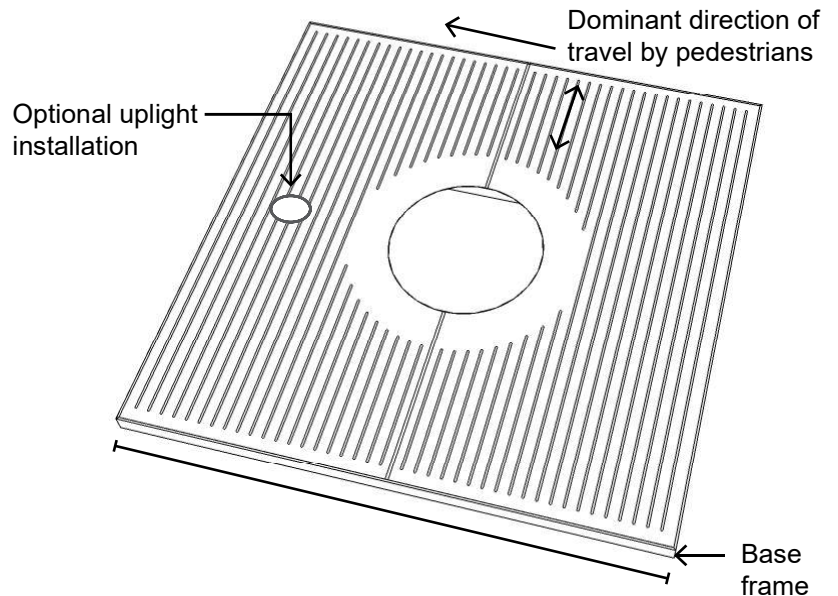
Outlines Landscape Architecture
(03) 9326 5692

Supplier

Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

Typical



INSTALLED EXAMPLES



Typical grate to existing tree



Variation installed to Malop Street Green Spine with bead blast finish

Inset upright

2.4 TREE HARDWARE

TREE GUARD

CODE - TBC

Design

Circular form, stainless steel tree guard to be used and integrated with tree grate.

Use:

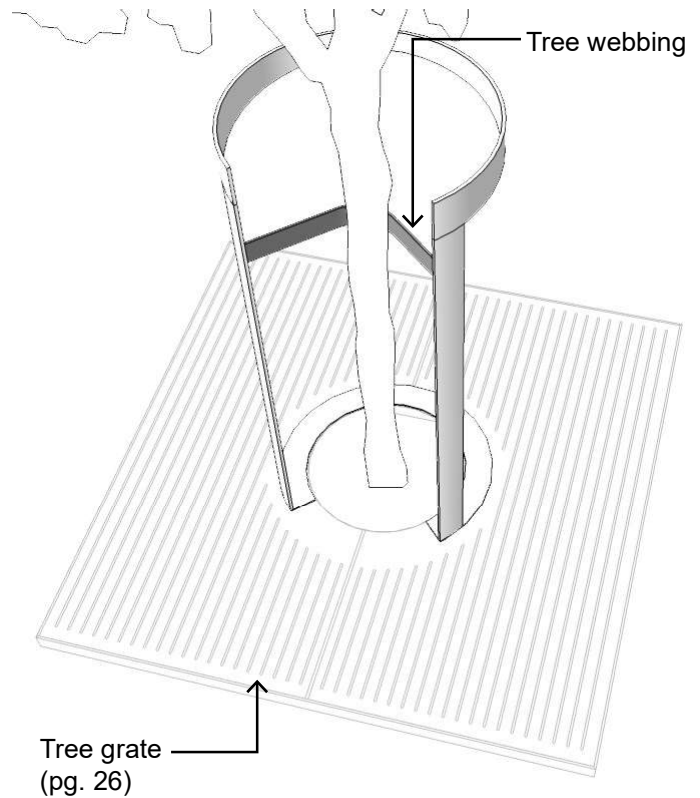
To be used in conjunction with tree grate (pg.26) for all new trees.

Installation:

Fix tree guard down to tree grate with countersunk fixings to achieve flush finish.

Material:

8mm thick 316 Stainless steel, no.4 finish
50mm polyester webbing. Colour: Red



INSTALLED EXAMPLES



Designer

Outlines Landscape Architecture
(03) 9326 5692

Supplier

Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

2.4 TREE HARDWARE

PERMEABLE PAVEMENT

CODE - TBC

Use:

Use a poured permeable pavement to locations within existing street trees in pedestrian zones where a tree grate is not viable. Tree grates (pg. 26) should be used to new tree installations where possible.

Installation:

Install a 2-part galvanised collar around the trunk. Install perimeter galvanised surround to extent of paving. Ensure pavement is installed on base course to manufacturers specifications and local site conditions.

Material:

Pebble pave on approved equivalent. Colour: ½ Silver Ash, ¼ Dove, ¼ Black

INSTALLED EXAMPLES

2.5 WASTE

RUBBISH & RECYCLING BIN SURROUND

CODE - TBC

Design

Matching external profiles to suit a standard 120L bin.

Use:

Recycle and rubbish bins are to be installed as a pair throughout Central Geelong.

Installation:

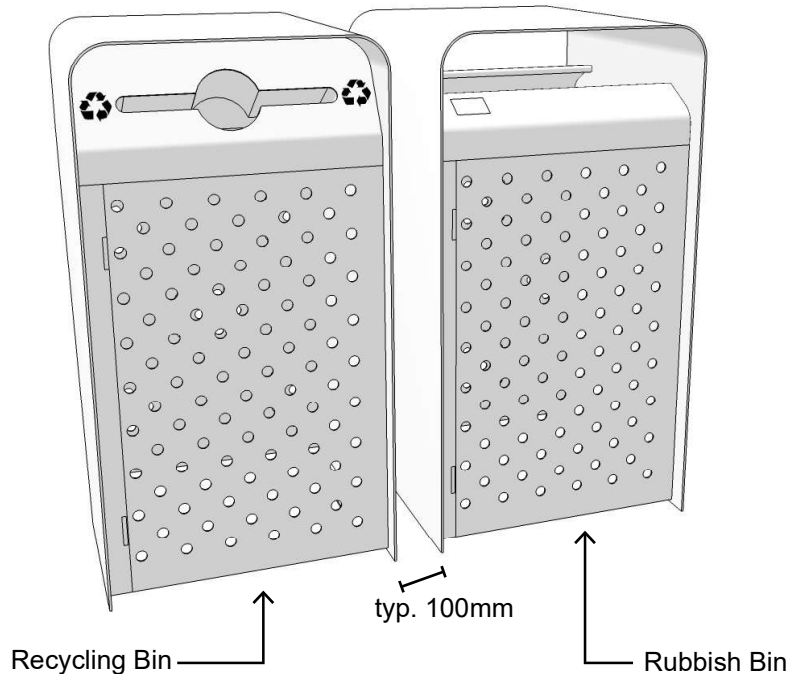
Adjustable feet allow for level installation on uneven surfaces. Fixings are to be installed to structural slab or footings.

Material:

Mild steel surround, with 3-part protective paint finish. 316 stainless steel internal frame and perforated front and rear faces.

Option:

Externally mounted cigarette receptical



INSTALLED EXAMPLES



Designer
Outlines Landscape Architecture
(03) 9326 5692

Supplier
Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

2.6

BOLLARDS AND BARRIERS

BOLLARD

CODE - TBC

Use:

Bollards to be installed where pedestrian and vehicle users require temporarily or permanent separation. 316 SS bollards to Central Geelong

Material:

316 Stainless Steel with no.4 finish
125 OD x 1000 (h) RHS with custom top

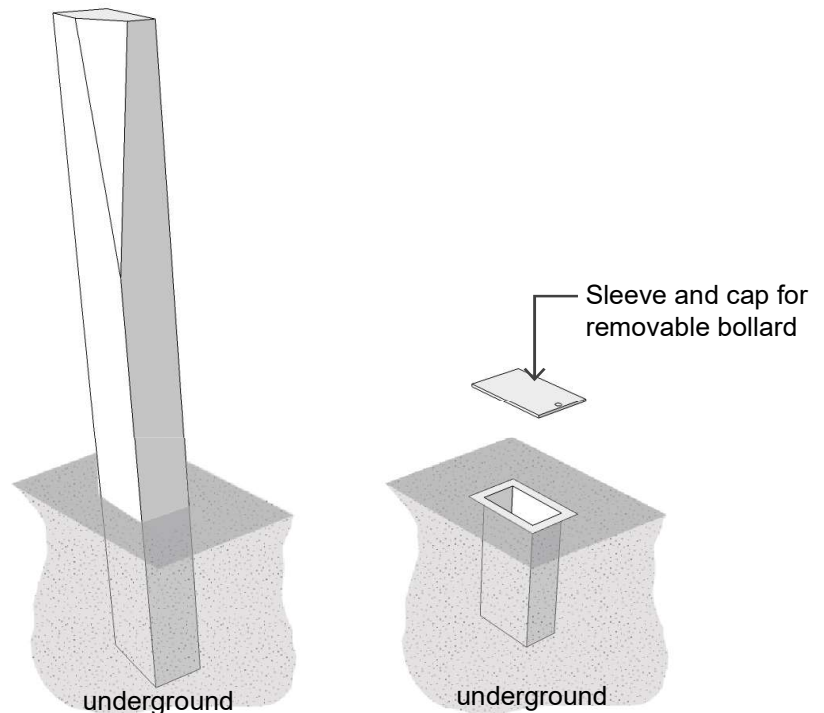
Installation:

- Install fixed bollard in concrete pad footing. Install sleeve in concrete pad footing for removable bollards
- Ground fixing method to suit application and as approved by City of Greater Geelong
- Minimise use and maximise spacing where ever possible
- Consider use in conjunction with other fixed elements such as trees and furniture to provide a collective barrier to vehicles.
- Where installed parallel to traffic flow place at 2.5m centres to act as a deterrent to vehicle access or encroachment into pedestrian areas during parking and protection against errant vehicles
- Where installed perpendicular to vehicle travel closer placement may be required
- Install a minimum 600mm from traffic lanes or parking bays
- Can lock to removable bollard and cap

Galvanised steel finish may be considered and confirm with City of Greater Geelong for perimeter areas and residential interface.

Designer
Outlines Landscape Architecture
(03) 9326 5692

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.



INSTALLED EXAMPLES



2.7

BIKE RACK

BIKE RACK

CODE - TBC

Use:

Install throughout Central Geelong

Installation:

- Install bike rack in groups at 1m centres. Align to each other.
- Minimum offsets apply to shop fronts, carriageways and other furniture
- Ensure bike rack is installed vertical (independent of fall of pavement)
- Below ground footing to Engineers requirements.
- Fix with stainless steel gib key
- Where core into pavement is required, patch with same colour and mix of pavement to base

Material:

42 OD 316 Stainless Steel Pipe

Dimension:

810 (W) x 885 (H) x 42 OD Pipe

Typical



INSTALLED EXAMPLES



Designer
Outlines Landscape Architecture
(03) 9326 5692

Supplier
Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

2.8

ALFRESCO DINING

CAFE SCREEN

CODE - TBC

Outdoor Cafe Screen - Fixed alfresco areas will be assessed on an individual basis as to how they address and enhance the streetscape, maintenance, aesthetics and context.

2.8

ALFRESCO DINING

TRADING MARKER

CODE - TBC

Use:

Markers are to be used to delineate footpath trading zones for traders who utilize footpaths within Central Geelong.

Installation:

- Prepare rebate in pavement by routing to achieve flush finish when marker is installed
- Epoxy fixing of spigot and disc
- Install in stone, concrete or asphalt pavement
- Install at approx. 1m spacing. Confirm with City of Greater Geelong officer prior to installation

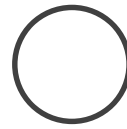
Material:

10mm thick, 316 Grade Stainless Steel disc and spigot

Option:

City of Greater Geelong logo or other approved graphic etched into disc 0.5mm deep etching.

35mm dia.



INSTALLED EXAMPLES



2.9

DRINKING FOUNTAIN

DRINKING FOUNTAIN

CODE - TBC

Use:

Drinking fountains are to be located in high use streets and focussed around key public spaces and facilities including; parks, transport nodes and civic buildings throughout Central Geelong.

Installation:

- Install fountain in location with adequate water supply and proximity to drainage point. Always connect to plumbed drainage point
- Separate base plate fixed down to slab or footing with valve and armature as detailed in City of Greater Geelong Furniture Suite drawings
- Inbuilt drainage grate and sump connected to plumbed drainage point
- Minimum 600mm offset to all carriageways and other furniture
- Ensure wheelchair access clearance is achieved to all sides to AS1428.1 (2009)
- Install out of main thoroughfares and not abutting into dominant travel paths
- Install with shut-off valve inside fountain as-detailed
- Install external shut-off valve in nearby pit
- Include footing for fountain and drainage sump

Material:

Body 316 stainless steel no.4 finish
Stainless steel fasteners and all internal hoses and other accessories
2 part bubbler & button

Dimension (nom.):

450(L) x 175(W) x 800 (H)

Designer
Outlines Landscape Architecture
(03) 9326 5692

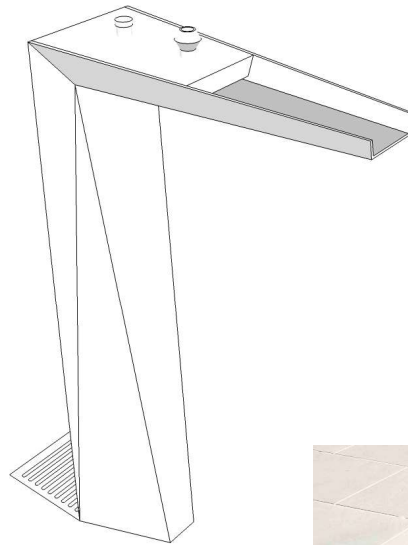
Supplier
Previously supplied by J.C.Brown
(03) 5221 3177

Refer to City of Greater Geelong furniture suite drawings for full sizes, finishes & specifications.

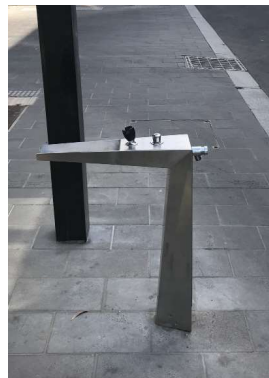
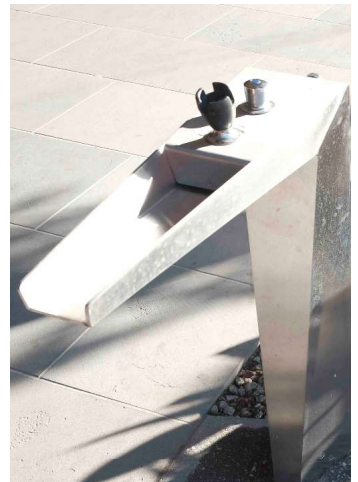
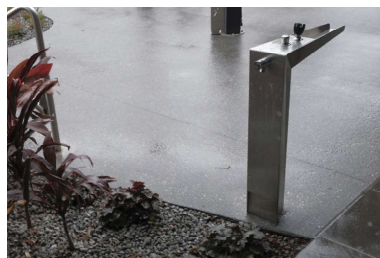
Option:

Where adjacent garden bed and with falls to bed, fountain may be installed without sump and grate. Face rear of drinking fountain to garden bed.

Typical



INSTALLED EXAMPLES



2.10

SKATE DETERRENT

Skate deterrents will be assessed on an individual needs basis.

2.11

DRAINAGE

DRAINAGE GRATES

CODE - TBC

Use:

Drainage pit grates and trench grates to be 316 stainless steel grid and edge surround. Heel guard protection and non-slip finish in pedestrian areas.

Installation:

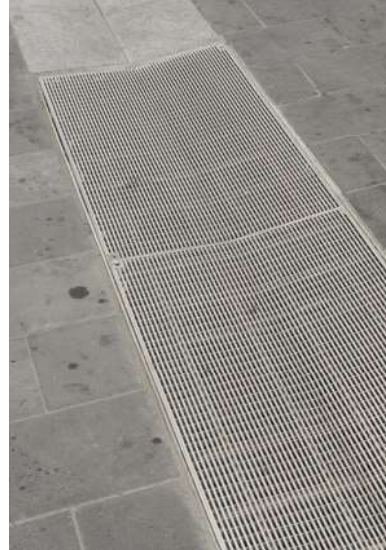
Pit and grate class is to be nominated by Civil Engineer and specific to location
All installations to pedestrian areas should be tested for slip resistance where product data is not available
Seal perimeter of pit surround with polyurethane sealant colour matched to adjacent pavement finish.

Option:

Galvanised steel may be appropriate in specific areas or for economical applications, e.g. roads, garden beds.

Ductile iron, grates may be used in vehicle areas in asphalt pavements.

INSTALLED EXAMPLES



Custom stainless steel
Heelguard grate with
central invert.
Vehicle grade.
Little Malop Steet




All grates and grated pit covers are to be P4 slip resistance rated. Provide evidence of slip resistance by manufacturer or have grates tested under AS 4586-2013.

2.12

BANNERS AND FLAGPOLES

Banners and Flagpoles will be assessed on a needs basis.

 *Banner locations*

2.13

STREET LIGHTING

DESIGN PRINCIPLES

A consistent approach to lighting within the Central Geelong Area is an important part of realising the objectives of the P.R.F.

An approach that focusses on well-lit public roads and spaces to facilitate activity and public safety is the goal of this guide. Importantly this should not result in an overly-lit environment but rather a nuanced and holistic lighting strategy ultimately providing users with an enjoyable and safe night-time experience.

Express 'spill' from lighting in any direction should be avoided as should glare as well as excessive contrast between lit and unlit areas. A lighting philosophy focusses on the beneficial effects of lighting rather than light fittings should be pursued in all public realm installations.

A three tier hierarchy of lighting is proposed to cover the general range of lighting types;

- (A) Street Lighting
- (B) Pedestrian Lighting
- (C) Custom Lighting Application

(A) Street Lighting

Street lighting should be determined by the application, location and road lighting category required. Relevant authorities should be consulted where responsible for lighting and pole assets prior to any installations. Continuation of preferred asset ownership should be sought as CoGG have recently taken an ownership of some lighting infrastructure in the central Geelong Area.

(B) Pedestrian Lighting

Pedestrian level lighting has the function of providing illumination to higher intensity activity areas where after hours use is being actively promoted. Pedestrian safety including sufficient lighting for effective CCTV operation is equally important and design for this tier of lighting should support this function.

(C) Custom Lighting Application

Custom lighting applications depend largely on the broader project aspirations and the location.

Examples include:

- Architectural feature lighting
- Artwork / sculptural illumination
- Interactive lighting
- Tree uplighting
- Illumination of landscape / streetscape features

These three levels of lighting should be explored and coordinated holistically in a project's lighting design to achieve an efficient and site responsive illumination of the public realm.

Design Principles

The following guiding principles from the basis of the basis of P.R.F. recommendations:

- This P.R.F. proposes the use of White Light only and recommends the ultimate removal of all orange HPS and pale blue MV light sources in the project scope area.
- The required lighting technical performance criteria for each space in terms of compliance with AS1158 are outlined; all are based on the V Category (Vehicular traffic) recommendations within AS:1158.1.1, AS1158:1.2 and P Category (pedestrian) recommendations within AS1158.3.1.
- The variation of lighting levels commensurate with the above and also public safety, visual guidance and night-time focus is outlined.
- Luminaires to be NEM 7PIN compatible
- The lighting of vertical surfaces (building facades) in a systematic and consistent manner coordinated with the requirements for City of Greater Geelong.
- A plan for the considered use of light colour temperature as a means of adding variety to the night-time vista is presented.
- The placement of 'one-off' lighting features as visual drawcards and place-makers is supported.
- A set of benchmark luminaire types and mounting heights is proposed.
- A hierarchy plan for luminaire mounting heights is proposed.

V Category Lighting

The principal design objectives within AS1158.1 for Category V lighting are to provide the following:

Luminance and luminance uniformity of the carriageway surface to a specified level.

- Glare control to a specified level.
- Illuminance on intersections, carriageway verges and other nominated locations to a specified level.
- Limitation of upward light from luminaires to a specified level.
- A maintenance regime such that the lighting scheme complies at all times during each maintenance cycle over the life of an installation.
- Minimising energy consumption.

The differences between V Category and P Category lighting are fundamentally the following:

- V Category is primarily concerned with the carriageway luminance (essentially surface brightness) which is a different concept than illuminance (lux), and is also position dependent (i.e. taken from the driver's point of view)

2.12

STREET LIGHTING

- V Category only takes illuminance into account at intersections, verges and the like – in other words, places where pedestrians might exist.

Lighting Standard

Poles

Height: To be confirmed by lighting designer for given project

Format: Tapered round pole with minimal cross-section to meet structural requirements. Frangible where deemed necessary by traffic engineer but otherwise non-frangible construction.

Footings: Structural engineer by location. All structural connections (e.g. gusset plate) to be set below finished pavements.

Access: Secure, flush finish access match at base of pole. Service pit \leq 1m from base of pole with connections to pole.

Colour: To be confirmed

Colour temperature: To Australian standards generally close to daylight. All lighting selections to be made as part of custom lighting design by qualified electrical engineer or lighting designer.

Luminaire: Model to be confirmed with council officer by application and location.

Street level

High performance efficiency, LED, IP65 rated fixtures. All street lights to have integrated NEMA sockets, e.g. Aldridge Aero V-led or Bega 99599 pole top luminaire. Colour to be confirmed, generally to match poles.

Pedestrian level

High performance efficiency, LED, IP65 rated fixtures, e.g. Bega 99446 pole top luminaire or WE-EF FLC 141 pole mounted luminaire.

Colour temperature: typ. 3000K

Note: Models listed are generic only and do not provide specific output or model details.

Custom applications: Type, format and arrangement will differ by project and location. Tree uplights luminaires should be specified with all housing and controls required to install as per manufacturer's specifications. Lights should have internal angle adjustment for fine tuning of illuminated area, e.g. Bega 77133 or WE-EF ETC320-FS LED. Uplight luminaires should have colour change (RGBW) capability and data cabling run back to the switchboard.

2.12 STREET LIGHTING

Street Lighting



Aldridge Aero V-led street light
(Powercor compliant)



Bega 99599 pole top luminaire.

INSTALLED EXAMPLES



Back to back arrangement installed in Myer Street

Pedestrian Lighting



WE-EF
ETC320-FS LED



Bega 99446 pole/wall mount luminaire



Bega 99446 pole top luminaire fixed to existing light pole as part of lighting upgrade



We-ef ETC320-FS LED pole mounted in back to back arrangement

Custom Lighting Applications

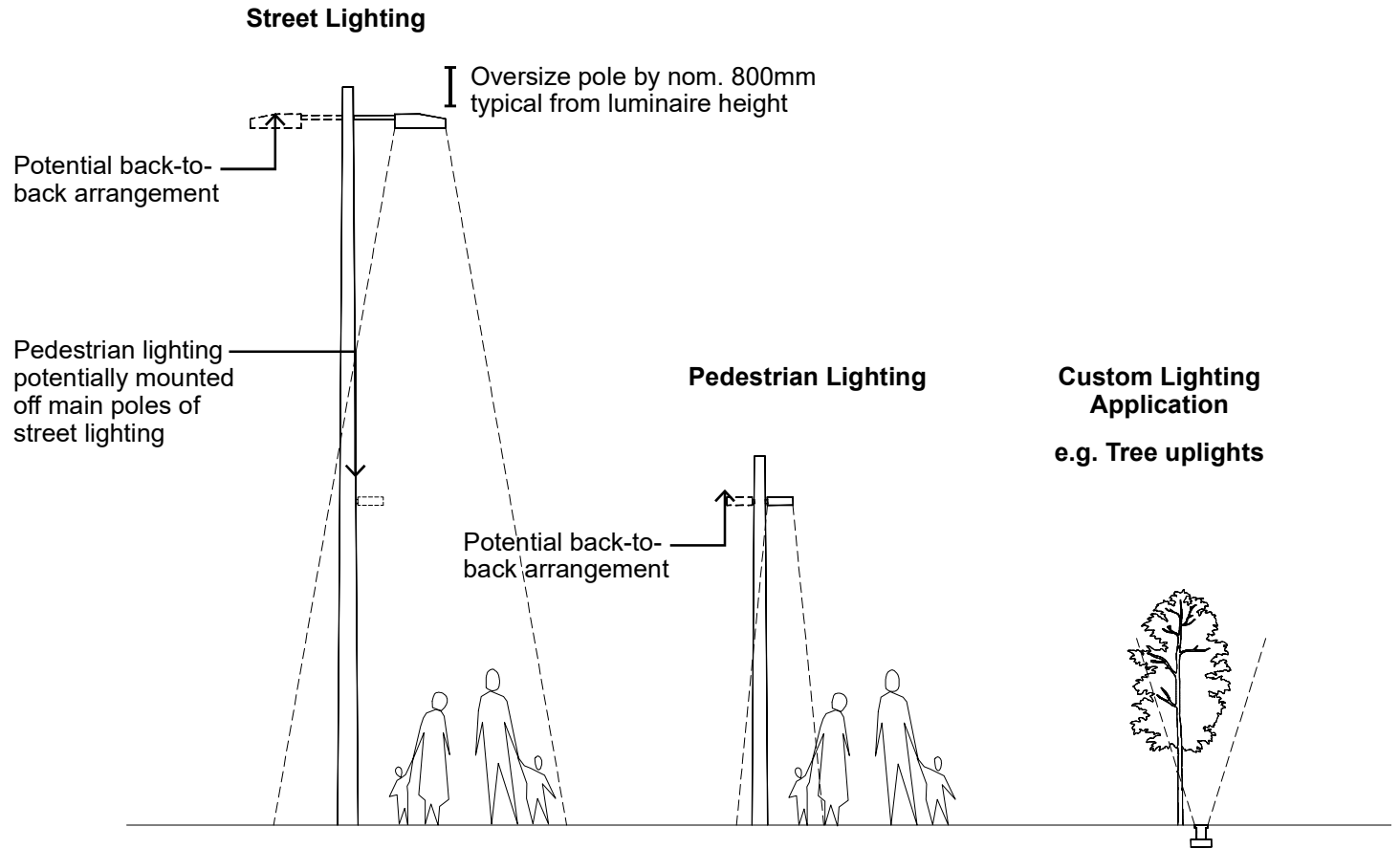
Deck mounted tree uplight in Malop Street



Custom pedestrian level installations by precinct



2.12 STREET LIGHTING



INSTALLED EXAMPLES



StreetLighting - typical



Pedestrian Lighting



Tree uplighting

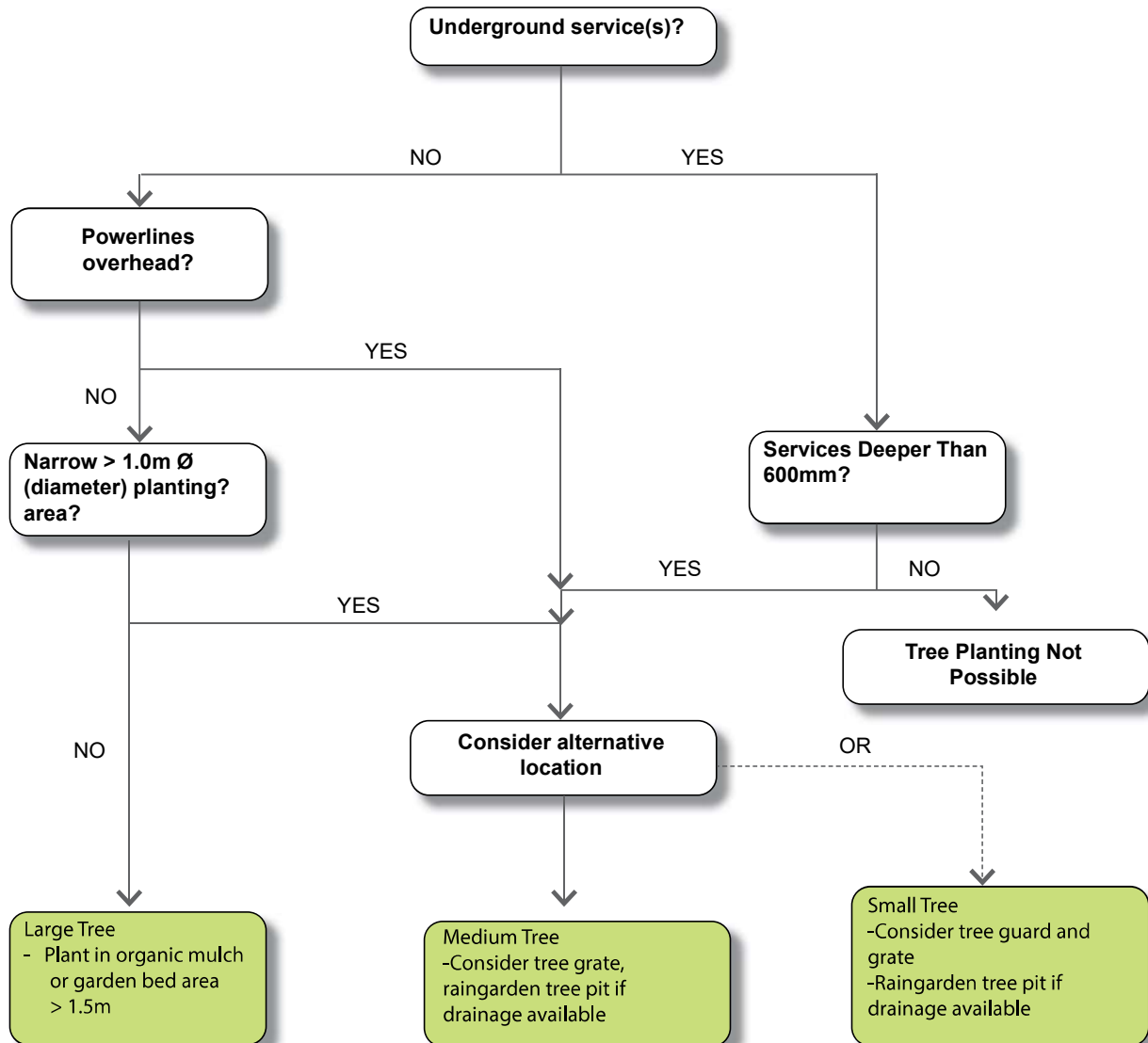
2.13

TREES

Tree selection location and size decision matrix (below)

Decisions around species selection and placement should be informed by the below diagram and by CoGG standards relating to urban tree selection. Where trees cannot be installed in the proposed location an alternative location shall be determined. Where the proposed tree species cannot be installed in the nominated location, an alternative species from the Standard List must be determined for approval by Council.

Note: Street trees selected for bespoke design areas must also consider this selection criteria.



2.13

TREES

Aim

An increase in tree canopy cover across Central Geelong to align with City of Greater Geelong urban forest strategy, 2015-2025. Tree planting should aim to provide a large canopy and wide form wherever possible. Passive watering should be explored in all situations in line with the City in a Park strategy.

Large evergreen trees should be planted in median strips where possible, to take full advantage of the breadth of space. A mixture of medium sized evergreen and deciduous trees should be planted in the footpath and preferably in-road kerbside, to allow for additional circulation in the footpath pedestrian areas. Smaller deciduous and evergreen trees with a splash of colour should be planted in laneways where little space is available for tree planting.

Major Streets

In order of preference :

Where:

Median planting opportunity exists

Application:

Typology of one planting to median

Typology two planted in footpath or in-road kerbside.

Where:

Median planting is not achievable or no median exists

Outcome:

Typology one planting in footpath or in-road kerbside.

Note: the same tree species and application of typologies should apply to the entire length of any one street from one end of the Central Geelong area to the other.

Considerations

- Design conscientiously and holistically for tree planting by ensuring sufficient above and below ground space and conditions to thrive. Well planned trees are one of the best long term investments a city can have.
- Make the most of areas with no overhead obstruction or powerlines and plant large trees.
- Plant appropriately scaled species below powerlines.
- Avoid trees with a low canopy which obscures site lines and clutter streetscapes.
- Consider passive irrigation of trees with stormwater wherever practicable.
- Plant appropriate trees for the situation to minimise maintenance, pruning and damage to infrastructure
- All tree pits must include sub-surface drainage connected to the stormwater system

Secondary streets

In order of preference :

Where:

Opportunity for planting to both sides of the street

Application:

Typology two or three planting to footpath or in-road kerbside

Where:

Opportunity for planting to one side of the street

Application:

Typology two or three planting to footpath or in-road kerbside

Note: the same tree species and application of typologies should apply to the entire length of any one street from one end of the Geelong Action Plan area to the other.

Laneways

Where:

Planting opportunity exists

Application:

Typology four planting to one or both sides of the laneway

Note: the same tree species and application of typologies should apply to the entire length of the laneway.

2.13

TREES

Typology 1

Large evergreen 12-15m height

A - *Angophora costata*

Smooth Barked Apple Myrtle



B - *Lophostemon confertus*

Queensland Box



2.13

TREES

Typology 2

Medium deciduous 6m-8m height

A - *Ulmus glabra lutescens*
Golden Elm



B - *Pyrus calleryana* 'Capital'
Aristocrat Capital Pear



2.13

TREES

Typology 2

Medium deciduous 6m-8m height

C - *Fraxinus pennsylvanica*
Urbanite Ash



D - *Acer freemanii*
Autumn Blaze



2.13

TREES

Typology 3

Medium evergreen 6m-8m height

A - *Fraxinus griffithii*
Evergreen Ash



B - *Angophora hispida*
Dwarf Apple



2.13

TREES

Typology 3

Medium evergreen 6m-8m height

C - Corymbia citriodora
Lemon Scented Gum



D - Waterhousia floribunda
Weeping Lilyilly



2.13

TREES

Typology 4

Medium 6m height

A - Magnolia grandiflora 'Greenback'
Evergreen Magnolia



B - Lagerstroemia indica
Crepe Myrtle



2.13

TREES

Typology 4
Medium 6m height

C - Pyrus calleryana 'Capital'
Capital Pear



2.13 TREES



- 1 Eastern Beach/Western Beach Road - *Araucaria cunninghamii* (Hoop Pine)
- 2 Gheringhap Street - *Quercus palustris* (Pin Oak)
- 3 Brougham Street - *Corymbia citriodora* (Lemon Scented Gum)
- 4 Little Malop Street - *Platanus orientalis* var. *insularis* (Cyprian Plane)
- 5 Ryrie Street - *Ficus rubiginosa* (Port Jackson Fig)
- 6 Myers Street - *Angophora costata* (Smooth-barked Apple Myrtle)

- Big Streets
- Little Streets
- Laneways
- - - Existing Trees - to be maintained and continued along the entire length of the street where applicable

2.14

GROUND LEVEL PLANTING

Palette

Hardy, drought tolerant and low maintenance. Generally simple, mass planting, at low sight line heights within streetscapes.

Opportunity for some unique, special and interesting species and combinations, colour and variety in textures and heights.

Use of colour in plantings is to highlight focal points within Central Geelong and at key gateway locations.

The following suggested species are recommended but not limited to what could be used.

Central Geelong

General Planting

More greening to larger pedestrian zones



Rhoeo spathacea 'Nana'
Brachyscome multifida
Argyranthemum sp.
Atriplex cinerea
Correa glabra
Lomandra 'Lime tuff'

Central Geelong

Summer Annuals

Greater use of annuals in raised planters



Salvia sp.
Marigold sp.
Celosia sp.
Petunias sp.

Central Geelong

Winter Annuals

Greater use of annuals in raised planters



Polyanthus sp.
Cineraria sp.
Pansies sp.
Impatiens sp.

2.14

GROUND LEVEL PLANTING

Surrounding Areas

Smaller areas of varied species



- Chrysocephalum apiculatum*
- Coreopsis* sp.
- Correa* 'Dusky Bells'
- Poa morrisii*
- Carex appressa*
- Leucophyta brownii*

Surrounding Areas

Larger areas of mass planting



- Myoporum parvifolium*
- Dianella* 'Little Jess'
- Lomandra filiformis*
- Lomandra* 'Tanika'

Surrounding Areas

Colour and vibrancy



- Aster* sp.
- Dianella* 'Little Jess'
- Chrysocephalum apiculatum*
- Salvia* sp.
- Osteospermum* sp.

2.14

GROUND LEVEL PLANTING

Surrounding Areas

Coastal species



Leucophyta brownii
Carpobrotus rossii
Erigeron karvinskianus

Surrounding Areas

Larger areas of mass planting



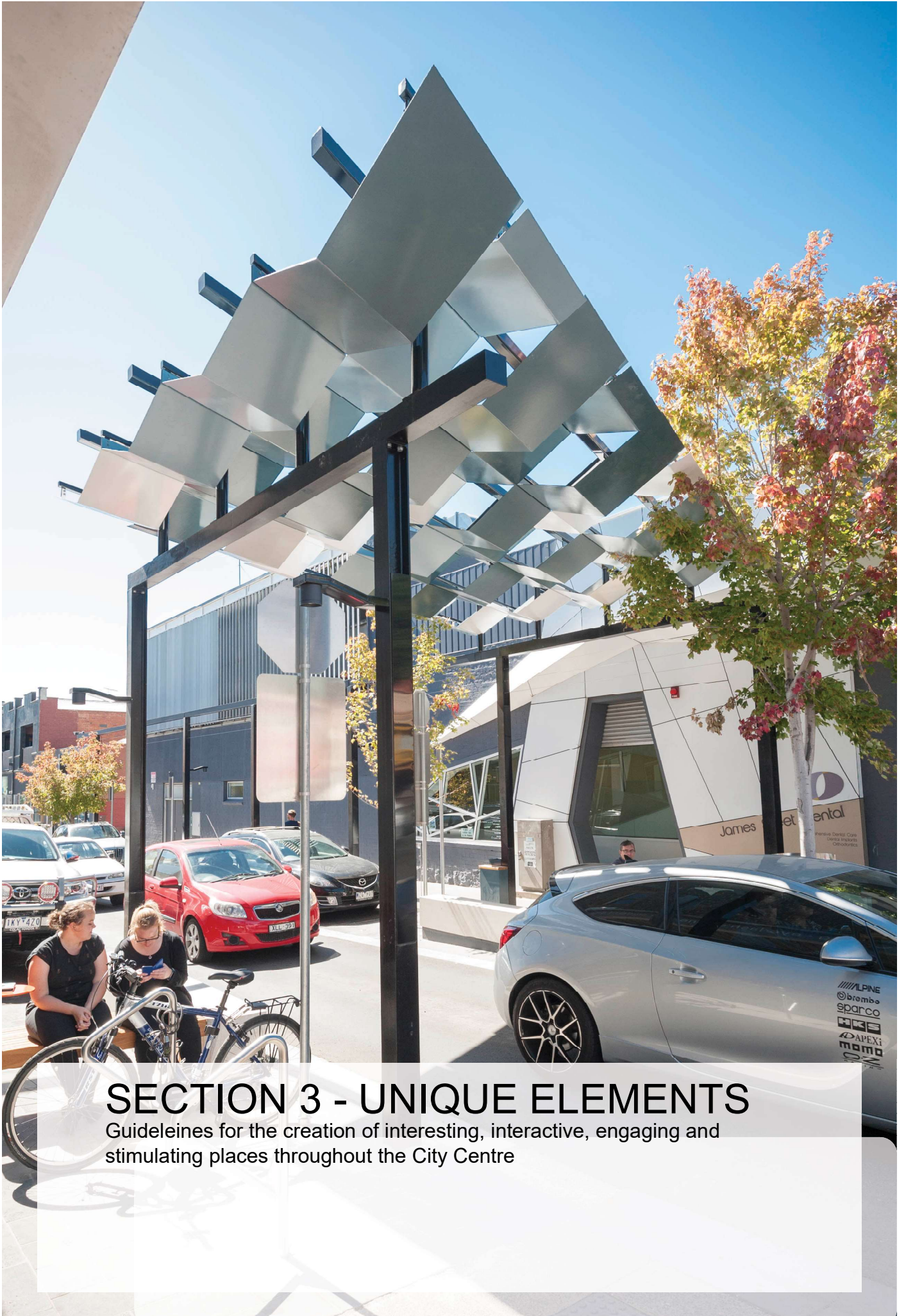
Lomandra filiformis
Dianella 'Little Jess'
Lomandra 'Tanika'
Myoporum parvifolium

Surrounding Areas

Pocket areas of planting



Poa labillardieri
Themeda triandra
Dianella revoluta



SECTION 3 - UNIQUE ELEMENTS

Guidelines for the creation of interesting, interactive, engaging and stimulating places throughout the City Centre

3.1

UNIQUE SPACES AND PUBLIC ART OPPORTUNITIES

The public realm framework recognises the need for an element of surprise to be used sparingly to allow for some amount of individuality for unique or special projects.

Unique spaces will provide an opportunity to design a 'twist' on the standard palette within a section of streetscape or public space.

Unique spaces may develop quite distinctively from the standard palette and are anticipated to be more comprehensive designs than just the installation of a unique piece of furniture or art. It is anticipated that these unique spaces would build on the use of standard materials (e.g. 800mm x 500mm standard paver) perhaps utilising them in a different way as well as designing in integrated and/or unique furniture.

Public art opportunities are directed by Council's Public Art Strategy: Connecting people, place & environment : a public art strategy for the City of Greater Geelong, adopted 11 September 2012, and four platforms for delivery including:

- Permanent Elements
- Lighting/ Projection/ Interactive
- Street Art
- Flexible/Temporary

In addition, the following opportunities have been identified.

- Allow for a range of different forms and interpretations of art
- Experimental art should be encouraged as well as monumental
- Ephemeral, performative or temporary as well as permanent.
- Works with local reference to history, and the built environment narratives, to articulate identity as well as references back to the Geelong Art Gallery and other permanent collections.
- Interactive works provide connection and interest.
- Children should be considered and viewed/ experienced at a lower eye level.
- The collection will be diverse, challenging, beautiful, thought provoking, site responsive and dynamic
- Some works should respond specifically to a youth sensibility

3.2 PUBLIC ART OPPORTUNITIES



A sample of commissions n Central Geelong



SECTION 4 - ACCESSIBILITY RECOMMENDATIONS

Guidelines for realising better streetscape amenity outcomes and raising the level of access compliancy within Central Geelong.

4.1

GROUND SURFACES

The emphasis on this section is surfaces. Grates and utility covers are commonly integrated within the surface finish affecting surface tolerances. Types of surfacing affects textures and tolerances. Service access covers take many forms depending on the utility provider.

Key Design Features

Ground surfaces

- Slip resistant
- Texture for use by wheelchair user, person with ambulant or visual impairment
- Surface abutments
- +/-3mm square edged
- +/- 5mm bevel/round edge
- Paving joints 1-12mm
- Paving texture <2mm

Grates

- ≤13mm diameter, long dimension perpendicular to path of travel
- Slot ≤150mm long

Summary of Recommendations

- The aesthetic impact of utility access points/trenches can be significant. With substantial proposed investment in infrastructure upgrade and streetscape renewal, this represents a significant risk to the aesthetic and entire new streetscapes can be reduced to patchwork. This is a matter for high level policy making to work with the utilities to develop innovative specifications and protocols for make good, trenching, stylised covers etc.
- Renewal of surfaces, such as overpaving asphalt, to consider interface with service covers to maintain required surface tolerances.
- Heritage is an important part of our culture, but where conflicts occur, alternative access ways to be provided.
- Maintenance of pavings is crucial to avoid slip/trip risk
- Specification of asphalt mix to ensure appropriate texture is achieved
- Specification of paving joints can achieve a 'heritage' look and still be accessible.

4.2

TACTILE GROUND SURFACE INDICATORS

Tactile surface ground indicators (TGSIs) are used to assist people with a vision impairment navigate the environment. There are 2 basic types of TGSIs; hazard and directional. TGSIs are required to be used in stairways, ramps, escalators, moving walkways, carriageways, and to warn of hazards. In a transport setting, TGSIs are also deployed at bus/tram stops, stations, wharves and so on. AS1428.4.1 states "...in the absence of any indication or warning to the contrary, there will be a clear, safe continuous path of travel in front of them 2000mm high, a minimum of 1200mm in width and a depth of 900mm before the hazardous situation."

One of the most important features of the use of TGSIs, is that they should be predictable. For this reason, it is important to conform to the relevant Australian Standard. The relevant standard can be confusing as the Australian Standard appendices have multiple scenarios and this often leads to variable implementation. This is especially so at road crossings.

Further confusion can arise as in transport settings, the prescribed standard is AS1428.4, whereas in all other settings, it is AS1428.4.1. Finally, to add another layer of compliance, there are 3 main styles of construction of TGSIs and each has a different requirement for achieving a minimum standard of luminance contrast.

Key Design Features

Hazard TGSIs required for:

- Stairways
- Ramps
- Escalators
- Moving walkways
- Required top and bottom, 300mm from hazard
- At landings if >3000mm, depth of 600-800mm
- At landings if < 3000mm, depth of 300-400mm
- If handrails provided both sides AND continuous, NO TGSIs
- Overhead hazard
- Depth of 600-800mm, allows 300mm splay
- Carriageways
- Depth of 600-800mm

TGSIs style and luminance contrast:

- Integrated: 30%
- Discrete: 45%;
- Composite: 60%

Hazard TGSIs

- 300-400mm = 6no studs/600-800mm = 12no discrete studs
- 25mm dia top, 35mm max base/ 4-5 mm height
- Placement = perpendicular to direction travel
- Set back 300mm +/-10mm edge hazard
- If angled approach 600-800mm required
- Directional TGSIs
- Parallel with and along centreline path of travel
- 300-400mm wide if in line path of travel
- 600-800mm if across path of travel

Summary of Recommendations

- Discrete and composite type TGSIs require maintenance if damaged, missing or dirty.
- For areas where directional TGSIs are considered important, adequate lighting should also be provided.
- Planning policy should provide building owners guidance on whether TGSIs can be provided on the footpath.
- Bus stops to provide TGSIs to meet DDA Transport Standards.
- Application of TGSIs requires careful planning to ensure safe wayfinding in the environment.
- For upgrade works to pedestrian crossings, hazard TGSIs should also be provided to adjoining (non-upgraded) areas to create a predictable environment.

4.3

PEDESTRIAN PATHS / WALKWAYS

In this section pedestrian paths / walkways are considered in terms of their dimensions and geometry. Key words are width, height, cross falls and obstructions, all of which can adversely affect accessibility.

Key Design Features

- Gradient shallower than 1:33, crossfall shallower than 1:40min (or 1:33 asphalt) walkways to have:
 - Kerb/Kerb rail min 65mm high or >150mm
 - Wall >450mm high
 - Or, different material 600mm horizontally (To assist shorelining)
- Height - min 2000mm
- Width - min 1000mm; 1200mm preferred
- Passing space 1800 x 2000mm
- If path of travel <1800mm wide every 6m
- Circulation space
 - 60 degrees – 90 degrees turn = 1500 x 1500mm
 - 90 degrees - 180 degrees turn = 2070 x 1540mm
 - 360 degrees turn = 2250mm diameter
- If width of path of travel < 1200mm, for 300- 600 turn, add 500 x 500mm splay

Summary of Recommendations

- Geelong benefits from wide footpaths which allows for minimum widths to be achieved on most streets. The exception is in the laneway precinct where challenges from poles, bins, etc may reduce the accessible path of travel.
- Add TGSIs/other protection such as a significant visual aid where reduce height hazard.
- Regular maintenance required to footpaths adjacent planted areas.
- Potential policy consideration regarding building owners planting and designs to avoid/minimise potential damage.

4.4

PEDESTRIAN ROAD CROSSINGS

Pedestrian road crossing points are a crucial part of the urban infrastructure. Pedestrian crossings may be controlled, e.g. at traffic lights, or non-controlled, with a suggested crossing point provided by a kerb ramp, median and so on.

Common forms of crossing are:

- kerb ramp with TGSIs at traffic light crossing; with push button assembly (PBA);
- kerb ramp at traffic light crossing with push button assembly, no TGSIs;
- kerb ramp with TGSIs;
- kerb ramp;
- footpath graded to carriageway with TGSIs at traffic light crossing and PBA; and
- footpath graded to carriageway.

Push button assemblies (PBAs) are either mounted to the side of the path of travel, i.e. the side of a pole with a horizontal arrow indicating direction of travel, or facing the path of travel and fitted to the front of the pole with a vertical arrow indicating direction of travel. Vic Roads guidelines indicate that a horizontal arrow should be used. Both arrow positions are clear, however future upgrades will adopt a consistent approach.

Key Design Features

- Types kerb ramp: Inserted/ Attached / Inline
- Aligned in direction travel
- Top and bottom of kerb ramp at 90° to direction travel
- Sharp transition gradient
- Rise 190mm, max grad 1:8, length 1520mm
- Slip resistant

Kerb ramp landings

- No change direction = 1200mm
- T junction = 1500 x 2000mm
- Single change direction = 1500 x 1500mm
- TGSIs required if >3m from top of ramp to building line, ie .4520m wide (3000mm + 1520mm), for single entry crossing

The geometry of kerb ramps requires achieving a level sharp transition to provide a gradient of 1:8 – 1:8.5, with splayed sides at an angle of 45°. The ramp itself needs to be in the direction of travel and must line up with the crossing point on the other side. A compliant kerb ramp of gradient 1:8 will have a length of 1.52m. If the distance from the top of the kerb ramp to the building line is >3m, TGSIs are also required, (ie TGSIs required if the footpath is >4.52m wide). Many footpaths are more than 4.52m wide and thus where kerb ramps are provided, compliant TGSIs are required too. For footpaths less than 4.52m wide, a compliant kerb ramp at a single crossing point, provides sufficient information and TGSIs are not required.

Crossings

- Single entry, single crossing point
- Dual entry, single crossing point
- Dual entry, separate crossing point
- Time delay not more than 0.4m/s

Push Button Assembly (PBA)

- Height 1000 +/-100mm
- Zone of common reach 300-400mm from APT
- Audio/tactile device
- >2m from another audio/tactile device
- Horizontal arrow direction travel

Summary of Recommendations

- It is recommended that a detailed audit is undertaken of pedestrian crossings within the Central Geelong area.
- Push button assemblies (PBAs) are mounted either on the face of the pole with a vertical arrow indicating direction, or are side mounted with a horizontal arrow mounted on the approaching face of the pole, ie facing accessible path of travel. Vic Roads guidance refers only to the side mounted PBA and horizontal arrow. Both styles may be acceptable, but this should be clarified with Vic Roads.
- Where a conflict arises with utility cover, a graded transition to the carriageway could be provided with appropriate TGSIs.
- A common conflict in TGSIs placement occurs from the width of the crossing and arc of the road. The road line markings the pedestrian crossing need to align with the footpath so that TGSIs can be placed correctly.

4.5

VEHICLE CROSSOVERS / LOADING BAYS

Vehicle crossovers to loading bays and car parks arise in various locations. The conflict here is to preserve the rights of the building owner to access their property (over the footpath) but protect the needs of pedestrians. In the context of accessibility, key issues are the width of the crossover, cross falls, visibility and luminance contrast, hazard warning. Vehicle users may also have reduced visibility, creating hazard for driver and pedestrian alike.

Key Design Features

- Gradient shallower than 1:33,
- Cross fall shallower than 1:40min (or 1:33 asphalt)
- Hazard warning TGSIs for path of travel crossing 'carriageway'
- Width - min 1000mm; 1200mm preferred
- Surface abutments
- +/-3mm square edged
- +/- 5mm bevel/round edge
- Paving joints 1-12mm
- Paving texture <2mm

Summary of Recommendations

- Wide crossovers at grade represent a significant hazard to pedestrians and adequate warning should be provided.
- Definition of carriageway usually considered to be public road between kerbs. Planning guidance to consider width of vehicle crossovers and the width at which they are deemed 'carriageways' to provide guidance on when TGSIs should be applied.
- Heritage - heritage and accessibility requirements are often in conflict. If a heritage feature, such as a cobbled driveway, cannot be suitably mitigated, then alternative accessible route will need to be provided.
- It is harder to provide 'accessible' crossovers across narrow footpaths.
- Planning policy to provide building owners guidance on acceptable outcomes.

4.6

PARKING

Key Design Features

Angled parking

- Between 45 and 90 degrees, comprising:
- Dedicated space 2400 x 5400mm, line marked,
- and
- Shared space to the side 2400 x 5400mm; line marked; and
- Shared space to the end of dedicated space, 2400 x 2400mm, not line marked.
- Kerb ramp provided at end corner (if required)
- Bollard in shared space 800mm +/- 50mm from front

Parallel parking

- Dedicated space 3200 x 7800mm long
- Shared space (to non-trafficked side) 1600 x 7800mm, may be at higher level, but kerb \leq 190mm high and include kerb ramp
- Kerb ramp provided at end corner

Parking meters

- Parking in designated bays is free with a displayed disability badge

Surface

- Dedicated and shared spaces to be at same level; max cross falls 1:40 (1:33 bitumen); slip resistant.

Space identification

- White symbol for access on blue background, centred and 500-600mm from entry point
- Dedicated parking – unbroken lines
- Shared walkways – unbroken longitudinal lines
- Vacant non-trafficked areas (capable of obstruction) unbroken diagonal stripes.

Headroom

- For vehicular path of travel 2200mm
- Above dedicated space AND shared area 2500mm (may reduce for angled space)

Summary of Recommendations

- The display screen on parking meters to have anti-glare properties, so the screen can be read in bright light conditions
- Consistent specification to be applied to on-street parking spaces, as far as practicable.
- On-street parking spaces at grade with the footpath may encourage 'shared space' thinking which is of benefit to pedestrians, but needs to be kept under review, as vehicle users may have a different expectation. It is recommended that these spaces are formally designated as shared spaces to ensure all users share the same expectation of mutual respect.

4.7

SIGNAGE AND INFORMATION

Signage and information are crucial to wayfinding and is beneficial to all users, especially visitors.

Key Design Features

- Use of International symbol disability/deafness
- Use of Braille
- Use of tactile
- Size of symbols/viewing distance
- Height of letters
- Illumination of signs
- Style, Consistency, Font
- Symbols
- Intuitive
- Talking maps
- Information points
- Avoid reflections,
- 30% luminance contrast letters/background

Summary of Recommendations

- Inset name strips set into footpath should not be a substitute for wall or pole mounted street names.
- Maintenance required to maintain good legibility of inset strips to and to emphasise the feature
- Specification considerations inset street names -
- Visibility and slip resistance of inset name strips compared to footpath material
- Specification considerations for signage and information -
- Anti-reflective covers, printing inks, maintenance, renewal of information sheet, ease of removal of graffiti; contrast of map features, avoid visual 'clutter'/too much information on maps
- A wayfinding audit is recommended to gather information to inform a wayfinding strategy. This is important to ensure good wayfinding outcomes when multiple infrastructure projects are planned and delivered separately.
- Provide audible information points
- Embrace new technology, including use of wayfinding apps.

4.8

STREET FURNITURE

Street furniture may include items such as seats, drinking fountains, bins, bicycle stands and repair.

Key Design Features

- Seats set back 500mm from APT
- Seats to be provided with arms and without
- Seat heights varied
- Spaces for wheelchairs or prams adjacent to seating
- Objects achieve 30% luminance contrast with background
- Prefer street furniture on one side path of travel
- only
- Locate on areas with minimal cross falls, ie shallower than 1:40
- Achieve minimum AS1428.1 circulation spaces
- Seating at max 60m intervals

Summary of Recommendations

- Street furniture requires careful siting to ensure it is accessible.
- Luminance contrast of new street furniture should be considered against the proposed surface finishes to ensure min 30% contrast is achieved.

4.9

STAIRCASES

The proximity of staircases to the building line and footpath can create unnecessary hazards.

Key Design Features

Stairs

- Set back 900mm from path of travel
- Opaque risers
- Nosing not project beyond riser
- Nosing profile 5mm radius/chamfered
- Nosing strip 50-75mm/ full width/max 15mm from edge/30% Luminance Contrast
- If nosing not set back, \leq 10mm down riser
- TGSIs
- Rise 150-165mm; going 275-300mm preferred

Stair handrails

- Continuous
- Both sides
- Follow angle of stairway
- Extend 1 tread depth parallel nosing line +300mm horizontally
- Extend 300mm past top riser
- Extension NOT required for continuous handrail at intermediate landing
- Not encroach
- 30-50mm cross section circular/elliptical
- Top of handrail 865 – 1000mm
- Handrail ends returned to wall, floor, post
- 50mm clearance between handrail and adjacent surface
- No obstruction to hand movement
- If handrail not continued, 'dome button' 150mm from end
- Handrail achieve 30% luminance contrast from wall

Summary of Recommendations

- Deterring anti-social use with handrail rings conflicts with accessibility. It can be addressed by providing handrails on each side of the staircase which are continuous. The handrail proximity to the side should prevent anti-social use as there is no room to slide.
- If buildings are refurbished, building owner may seek to place TGSIs on the footpath and project handrails over the footpath. If no policy exists, then a policy should be made with regards to placement of TGSIs on footpaths, for features such as stairs and ramps. TGSIs can pose a trip hazard and placement in trafficked areas, such as footpaths should be discouraged, with the onus placed onto the building owner to provide a compliant building.
- For public realm stairs and ramps, if TGSIs (and/or compliant handrails) cannot be provided, it is important to include as many accessible features as possible to mitigate risk. Contrasting handrails with a dome button and contrasting nosings can assist, as can good colour contrast of surfaces and lighting. Design decisions should be documented with justifications to support non-conforming design outcomes. This may be important in the event of a claim under the DDA.
- Shadows on steps can create visual confusion for users. Whilst shadows cannot be avoided, it is a reminder of the importance of luminance contrast for nosing strips, handrails etc, for safety in use.
- Mitigation strategies are also necessary where there are accessibility/ heritage conflicts.

4.10

ENTRANCES

Many buildings are entered from entrances built at, or close to, the building line. For many heritage buildings, this means there will be a step up from the footpath into the building. The following photographs show how footpaths have accommodated entrances to provide a 'level' entry. In larger (typically retail) buildings, there is more street frontage within which to provide an alternative accessible entrance. Smaller units on sloping footpaths and with narrow frontage have considerable constraints trying to provide 'level' access. Footpath upgrades offer potential to improve accessibility into individual buildings.

Key Design Features

- The principal pedestrian entrance to a building shall be accessible

Summary of Recommendations

- Footpath and streetscape upgrades offer potential to improve accessibility into individual buildings. This is especially important for narrow frontage (typically small) retail units. Activating laneways requires buildings to be accessible. Policy and streetscape design to include this.

4.11

BUS STOPS

Bus stops and features associated with bus stops, such as bus shelters, seating, bus timetable information etc, are covered by the Disability Standards for Accessible Public Transport (DSAPT or Transport Standards). Design features such as ground surfaces, circulation spaces are as covered in earlier sections. The design of TGSIs to comply with the Transport Standards is required to be to AS1428.4 (1992), which is slightly different to AS1428.4.1 (2009). Often, disability interest groups express a preference for the newer TGSIs standard to be utilised, however this is not strictly compliant with DSAPT, and should be a policy level decision, made with relevant stakeholder consultation, including disability groups.

Streetscape upgrade works adjacent bus stop works should be carried out in consultation with the Bus Operator.

Key Design Features

- Designs requirements are the same as for other design elements; the exception is TGSIs

Summary of Recommendations

- All streetscape works in and around bus stops to be carried out in conjunction with the travel operator
- DDA Transport Standards apply to bus stops.
- TGSIs design to be to AS1428.4:1992 unless policy level decisions made to use the