

City of **Perth**

## Design and Construction Note

# Book 300

## Footpath Design and Installation Details

Version 2.5

### Book 300 - Amendments

*Issued For Use* **29/06/2018**

V1.0 BOOK 300 29/06/2018

*Book Issued For Use*

V1.1 BOOK 300 30/10/2018

*Backdrafted & Re-issued For Use*

*Issued For Use* **20/11/2018**

V2.0 BOOK 300 20/11/2018

*Backdrafted, Re-Numbered & Issued For Use*

V2.1 BOOK 300 22/01/2019

*300.03 Updated & Re-Issued For Use*

V2.2 BOOK 300 14/03/2019

*301.03, 301.04, 302.04 & 302.10 Updated & Re-Issued For Use*

V2.3 BOOK 300 07/05/2019

*302.00, 302.01 302.04, 302.08, 302.09 Notes Updated.*

V2.4 BOOK 300 12/08/2019

*303.00, 303.01, 303.02 & 303.03 Revised. 303.04 Removed.*

V2.5 BOOK 300 17/11/2021

*301.01-302.04 & 302.08-302.10 Suppliers amended. 303.00 & 303.02 Revised.*

Standard Footpath Design and Installation Details  
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Standard Footpath Design and Installation Details  
Foreword (Introduction)

These chapters set out the standard details for the treatment of footpaths, embayed parking and service pits; and advises the type of kerbs and furniture palette which are to compliment the street enhancements level of amenity.

For further information regarding the geometry and layout design for streetscape enhancements, refer:

*Book 100 - Street Layout and Pavement Design Guidelines*

For further information regarding kerb types and installation details refer:

*Book 400 - Standard Kerb Types and Installation Details*

For further information regarding furniture types and installation details refer:

*Book 500 - Standard Street Furniture and Installation Details*

For further information regarding Street Tree installation details refer:

*Book 700 - Street Trees and Reticulation Details*

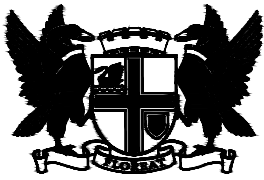
For further information regarding the maintenance and reinstatement of Feature Treatment areas, such as Northbridge Piazza, refer:

*Book 1000 - Feature Treatment Reinstatement Policies & Restrictions*

The City of Perth has adopted 2 levels of amenity for street enhancement projects:

- City Grey Paved Footpaths with Granite Kerbs.
- City Grey Paved Footpaths with Concrete Kerbs.

As indicated in the Central Perth Amenity Map.



City of Perth

## Design and Construction Note

# 300.03

Footpath Design and Installation Details



## Central Perth Amenity Map

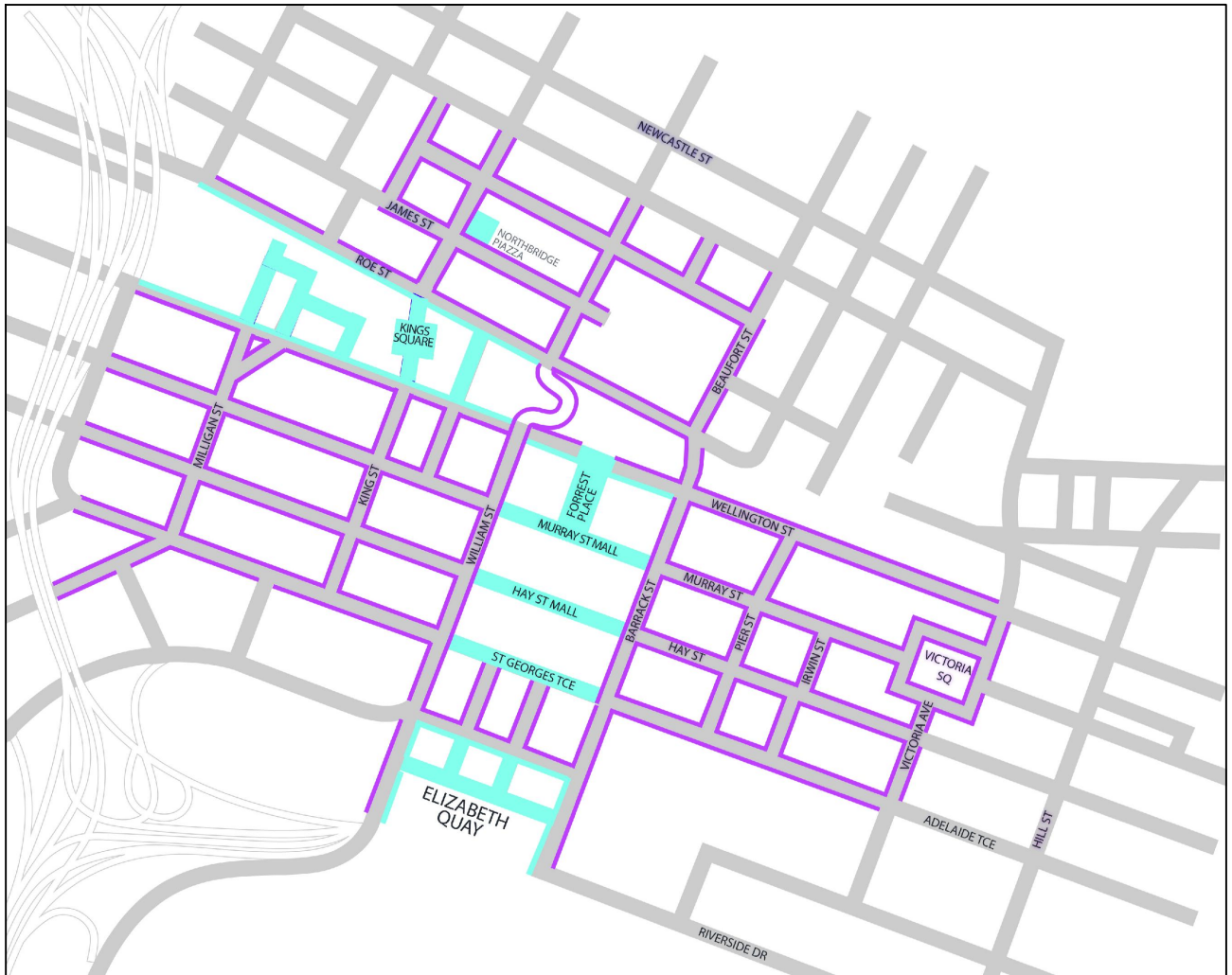
Reviewed: 12/08/2019

### Footpath Design and Installation Details Central Perth Amenity Map

The level of amenity proposed for street enhancement projects varies depending on the project location. This map shows the applicable level of amenity for different locations and streets within the central Perth area.

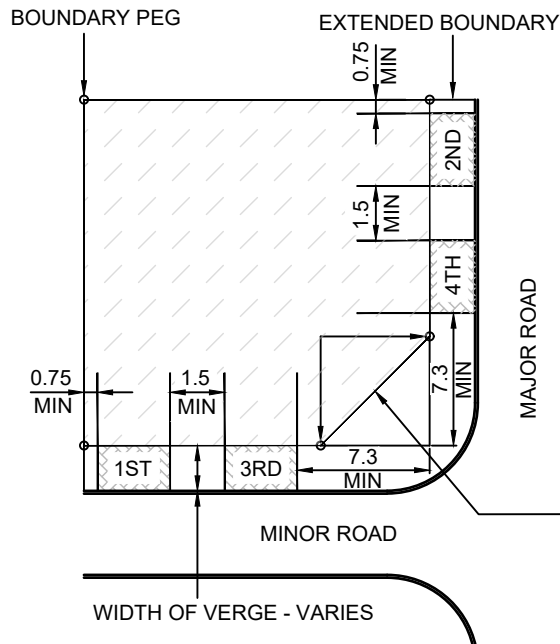
The levels of amenity have been broken down into the following general classifications and are shown on the map below.

-  *City Grey Paving with Granite Kerbs*
-  *City Grey Paving with Concrete Kerbs*



Feature Treatment areas, such as Northbridge Piazza, Forrest Place and Elizabeth Quay, are not outlined in this book. For the maintenance of locations which are not covered in this booklet please refer:

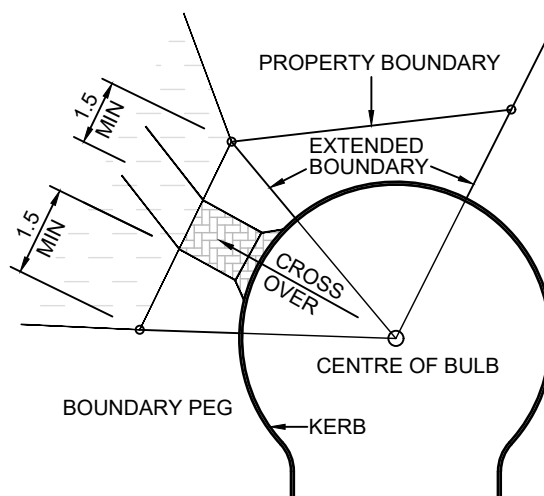
 ***Book 1000 - Feature Treatment Reinstatement Policies & Restrictions***



ORDER OF PREFERENCE FOR THE LOCATION OF CROSSOVERS FOR GUIDANCE. CROSSOVERS ARE PREFERRED TO BE AT MINOR ROADS RATHER THAN AT MAJOR ROADS & BE FURTHEREST FROM THE INTERSECTION. ORDER OF PREFERENCE SHOWN.

TRUNCATION TO BE 4.25m OR 8.5m OR AS DETERMINED BY THE ENGINEER  
REFER WAPC POLICY DC 1.7

A 0.75M MIN OFFSET MUST BE MAINTAINED FROM SIDE PROPERTY BOUNDARIES TO EDGE OF CROSSOVER.



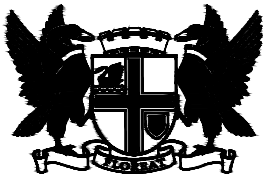
### CROSSOVERS IN CUL-DE-SACS

CROSSOVERS ARE TO BE LOCATED WITHIN THE AREA CREATED BY JOINING THE BOUNDARY PEGS TO THE CENTRE OF THE CUL-DE-SAC BULB.

A 1.5M MIN OFFSET MUST BE MAINTAINED FROM SIDE PROPERTY BOUNDARIES TO EDGE OF CROSSOVER.

### General Notes

1. Standard width of crossover for a single crossover = 3m. Standard double crossover = 6m.
2. Corner lots: preferred location for vehicle crossover is on minor street farthest from intersection.
3. Within the City of Perth, cross-overs are generally considered a part of the footpath.
4. Crossover width is defined by 1. A min of 3.0m for all development. 2. Where paired crossovers are required between neighbouring developments, the minimum boundary offsets still apply. City of Perth is to be contacted if a requirement is outside of these parameters.



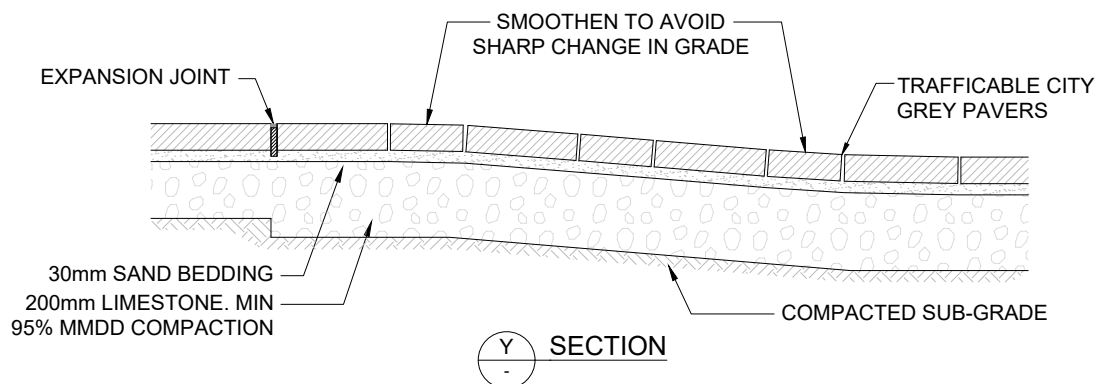
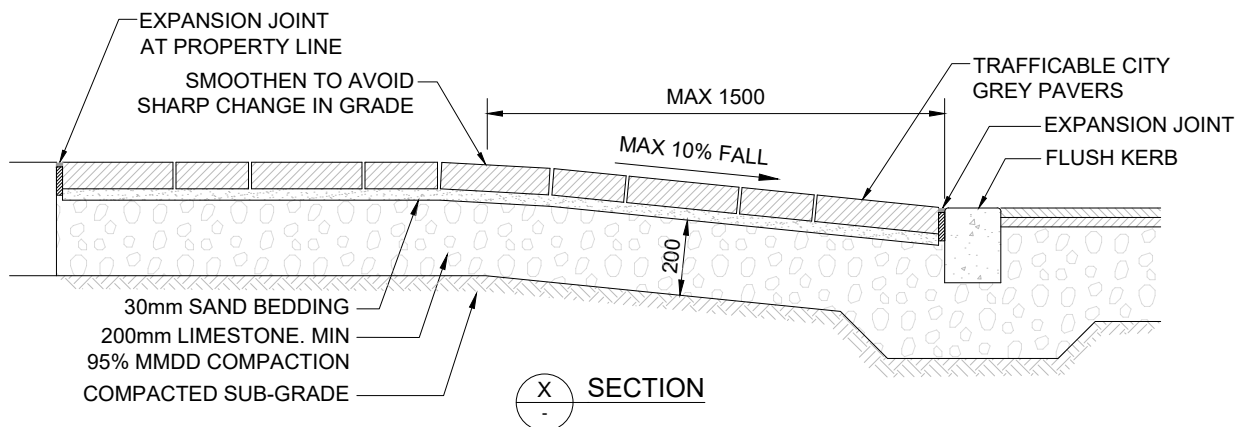
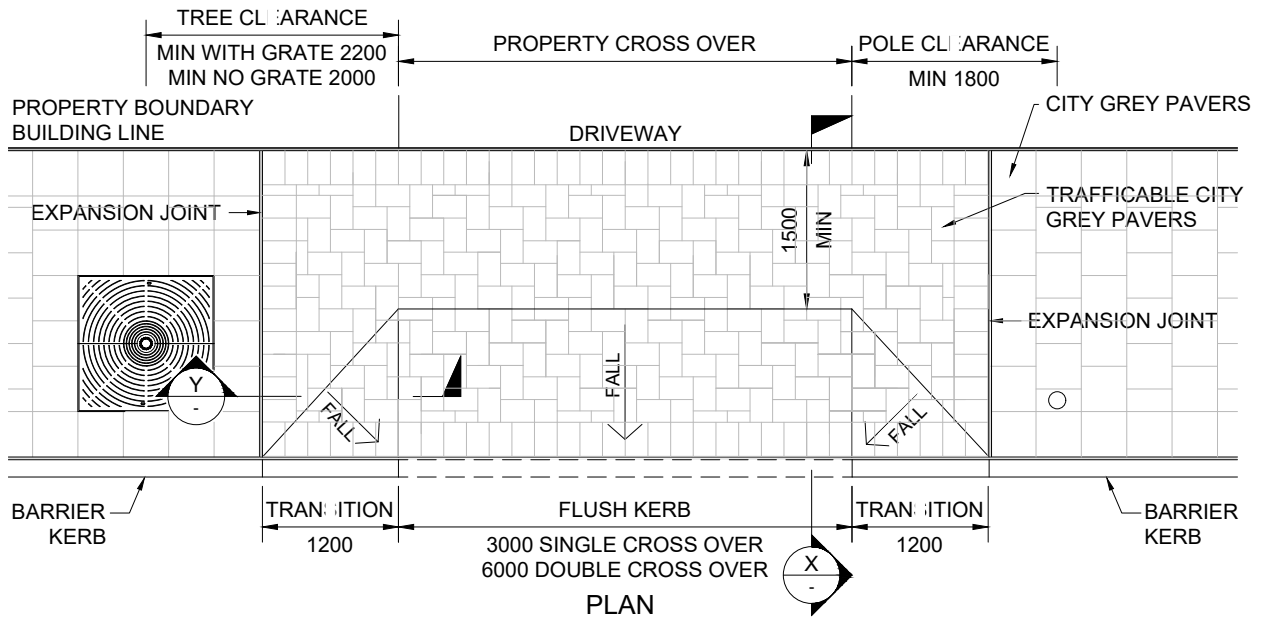
City of Perth

# Design and Construction Note

# 301.01

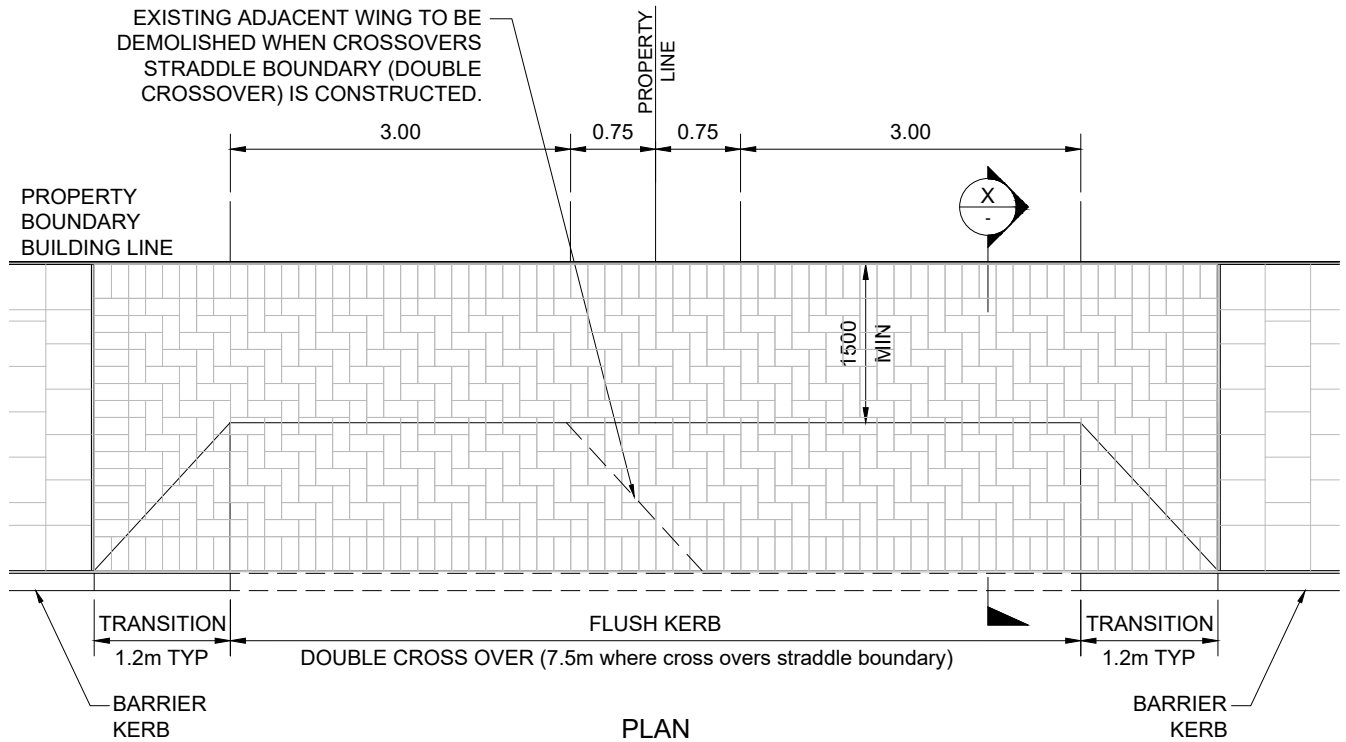
City Grey Paved Footpaths  
Vehicle Cross-Over

Reviewed: 17/11/2021

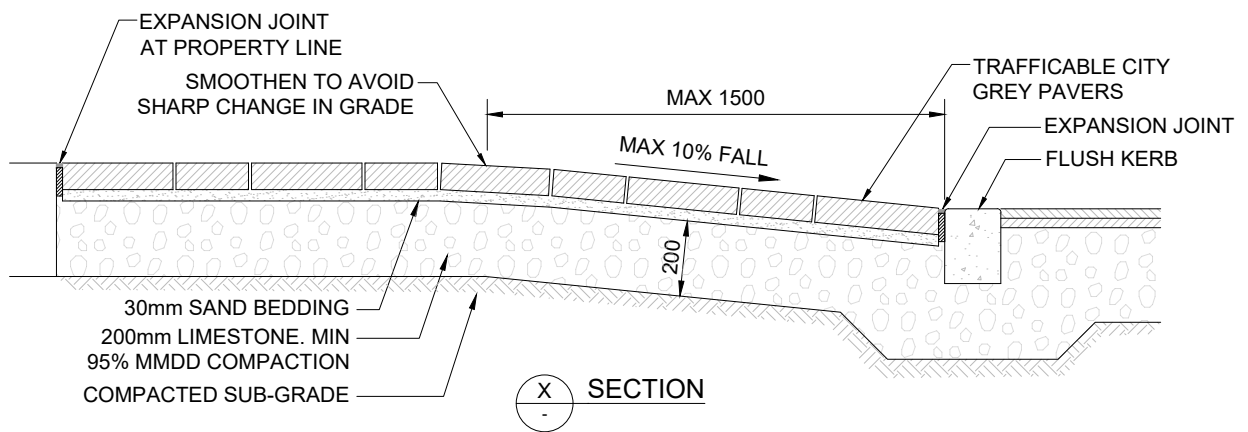


## General Notes:

1. City Grey footpath pavers in trafficable areas are 'Bonita Stone' (or approved similar) 300x200x70mm.
2. Pavers are to be laid in herringbone pattern, at a 90° angle to the kerb.
3. Leave joints of 3-4mm between the slabs and fill with 'Westbuild PaveN'lock' sand or similar approved.
4. All expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved with 'Westbuild PaveN'lock' sand or similar approved.
5. Concrete pavers should be a minimum of 28 days old, prior to laying.

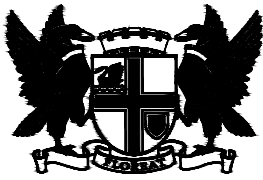


NOTE WHERE DIMENSIONS BETWEEN TWO EXISTING DRIVEWAYS LESS THAN 2.4m PROVIDE ONE CROSS-OVER FOR BOTH.



General Notes:

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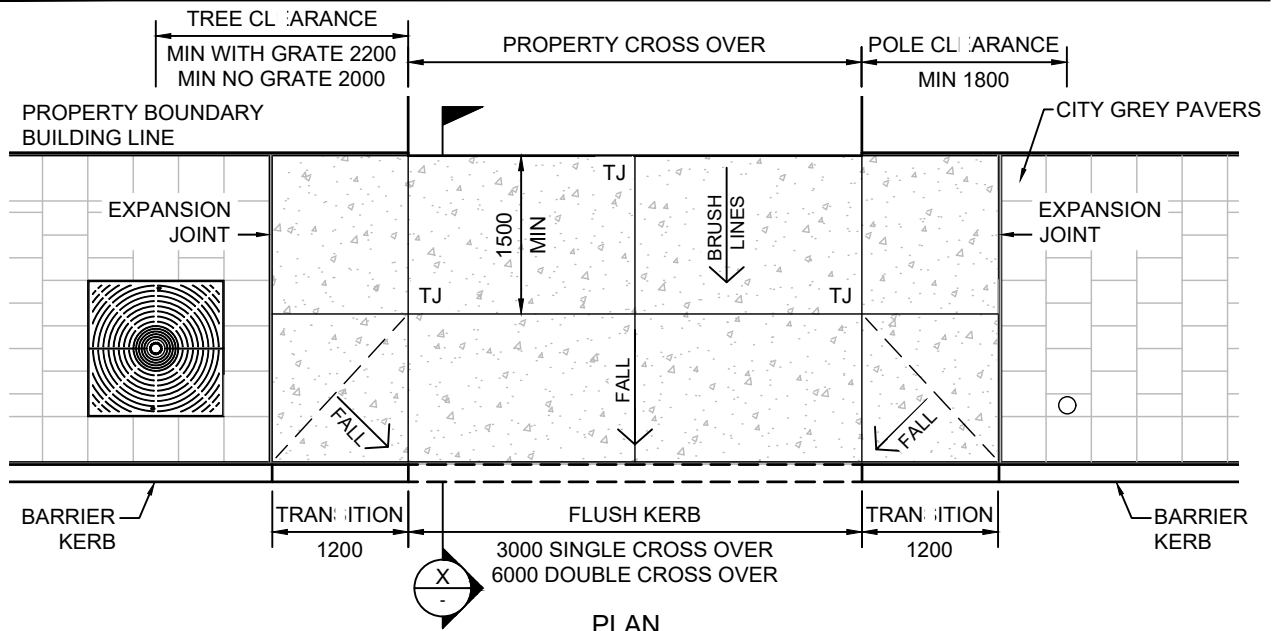
# Design and Construction Note

## 301.03

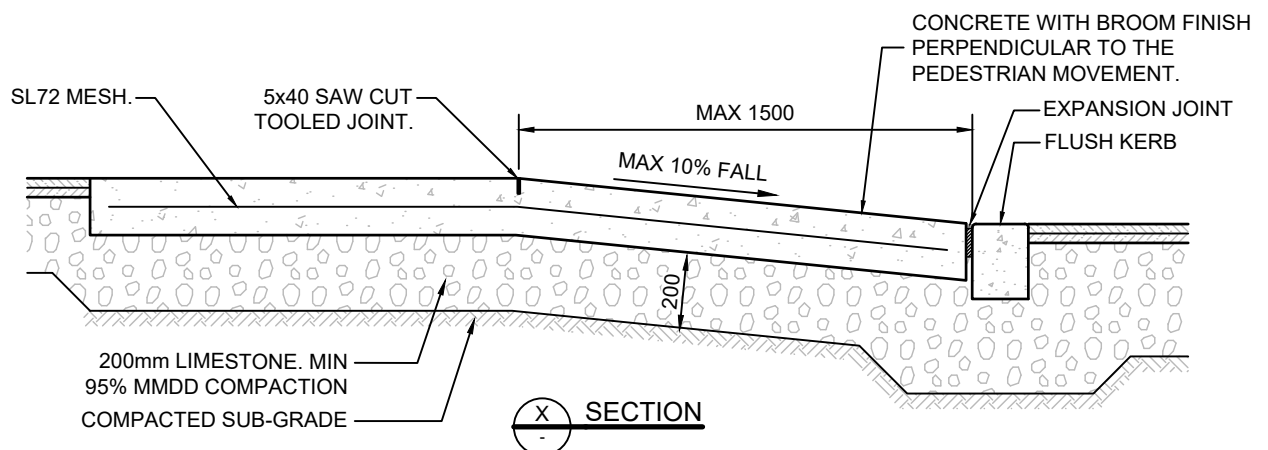
City Grey Paved Footpaths

### Concrete Vehicle Cross-Over

Reviewed: 17/11/2021



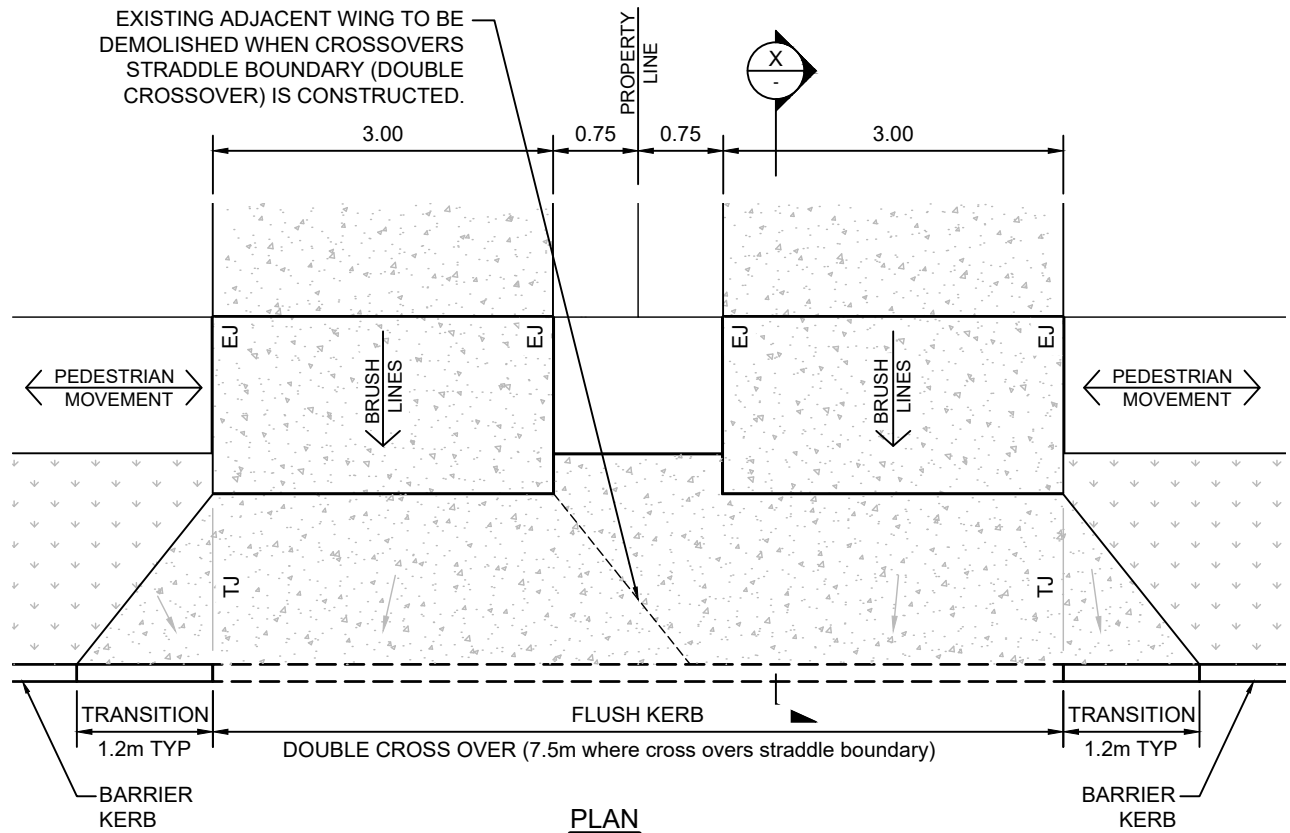
CONCRETE CROSSOVER IS ONLY FOR USE IN RESIDENTIAL AREAS IN CRAWLEY & UWA. USE IN THE CITY FOR SITE CONSTRUCTION PURPOSES IS TEMPORARY ONLY.



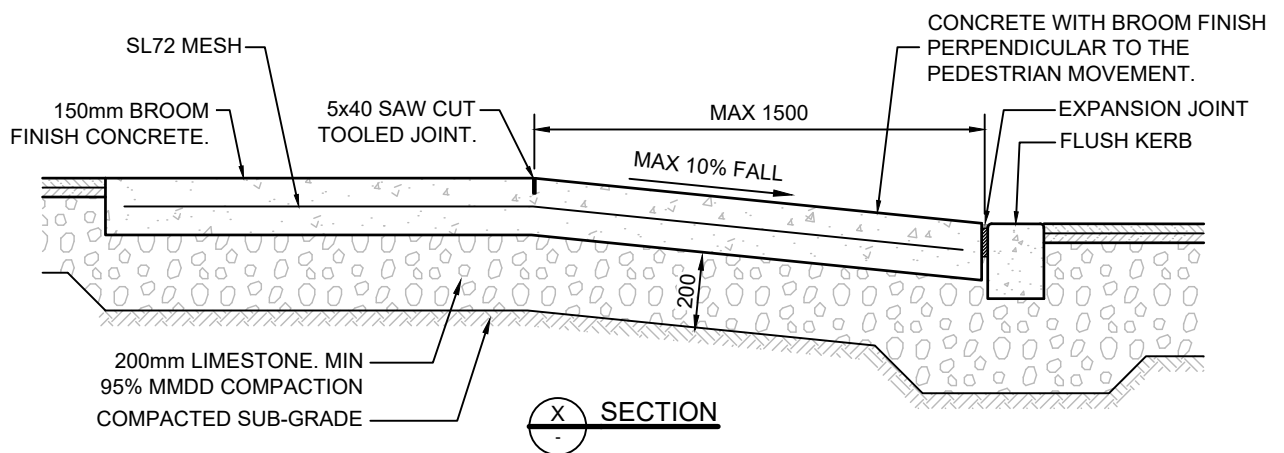
#### General Notes:

1. Contraction joints 5x40mm saw cuts fill with 'Westbuild PaveN'lock' sand or similar approved.
2. All expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved with 'Westbuild PaveN'lock' sand or similar approved.
3. 150mm concrete to achieve a minimum 32 characteristic MPa compressive strength at 28 days. A minimum nominal aggregate of 14mm and slump of 80mm Max. Slip resistance to comply with AS4586 & AS3661.



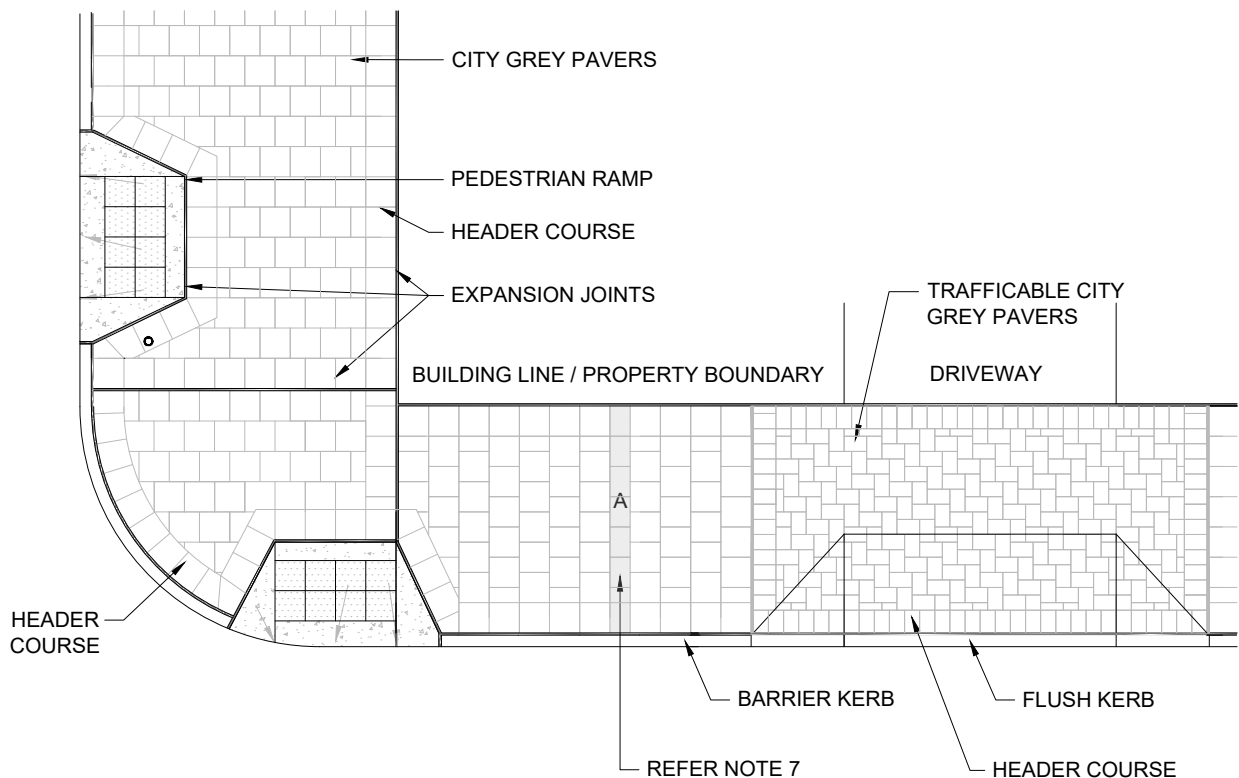


NOTE WHERE DIMENSIONS BETWEEN TWO EXISTING DRIVEWAYS LESS THAN 2.4m PROVIDE ONE CROSS-OVER FOR BOTH.



**General Notes:**

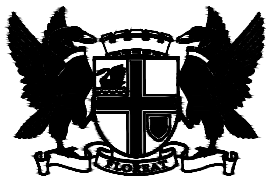
1. 150mm thick concrete to achieve a minimum 25 characteristic MPa compressive strength at 28 days. A minimum nominal aggregate of 14mm and slump of 80mm Max. Slip resistance to comply with AS4586 & AS3661. Broom finish perpendicular to the direction of pedestrian flow.
2. Saw Cut joints 5x40mm saw cuts fill with approved sealant to match surround colour.
3. All transverse expansion joints shall be "All-in One Lock" & Expansion Joint or equivalent at max spacing of 6m.
4. All longitudinal expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved with 'Westbuild PaveN'lock' sand or similar approved.



PLAN

General Notes:

1. The city grey paving used in footpaths, squares, medians and cross-overs etc. is an exposed aggregate concrete paving slab. Standard sizes supplied by 'Bonita Stone' (or approved similar) are:
  - 1.1. 400x400x60mm, used for footpaths and pedestrian areas.
  - 1.2. 300x200x70mm, used for cross-overs and trafficable areas.
2. Leave joints of 3-4mm between the slabs and fill with 'Westbuild PaveN'lock' sand or similar approved.
3. Provide expansion joints at the back of kerbs and at every 6 metres.
4. All expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved.
5. Concrete pavers should be a minimum of 28 days old, prior to laying.
6. 150mm minimum of compacted limestone, waterbound and placed on a compacted sub-grade, should be provided as base to all footpaths.
7. The first two rows of paving along setout points or other obstacles (Expansion joints, Furniture, etc.) must maintain their full width, 400mm. To avoid thin cuts along setout points or obstacles the central row of paving 'A' may be cut thinner. Minimum width of cut pavers to be 300mm.
8. All tactile ground surface indicators (pavers) shall comply with AS1428.4.1 2009 Clause 2.2 & 2.3.



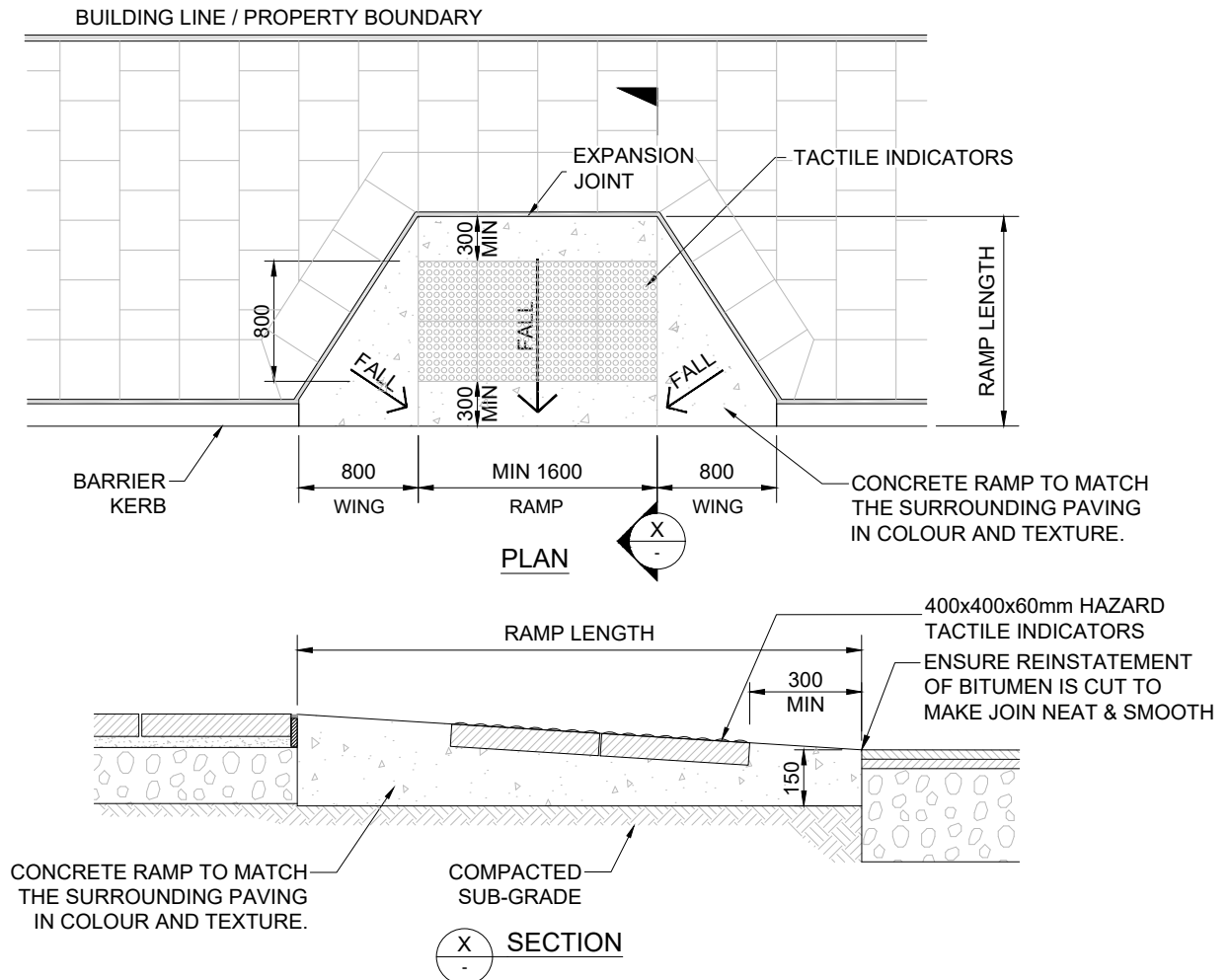
City of Perth

# Design and Construction Note

# 302.01

City Grey Paved Footpaths  
Pedestrian Ramp

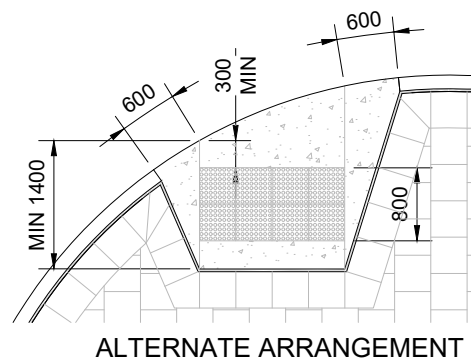
Reviewed: 17/11/2021



KERB HEIGHT	RAMP LENGTH
150mm	1800mm
130mm	1600mm
100mm	1400mm

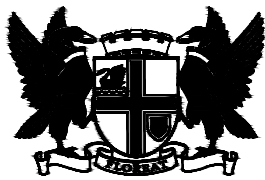
Measurements based on 2% fall of footpath, towards kerb. Where the fall of the footpath is greater, ensure that the slope of the ramp does not exceed 10%.

## RAMP LENGTH



### General Notes:

1. Typical Pedestrian Pram Ramp width 1600mm.
2. Transition kerbs along curve radius should be approx. 800mm length, to be sized & cut specially. Ramp wings adjusted to suit.
3. At signalised intersections pram ramp position to conform with Australian Standards 1428.1 (2009).
4. Tactiles to be laid the width of the ramp and 800mm deep for pedestrian ramps.
5. Tactiles to be laid minimum 300mm from edge of road.
6. Where ramps are to be situated in City Grey paved footpaths, tactiles are to be 'Bonita - Shadow'. All tactile ground surface indicators (pavers) shall comply with AS1428.4.1 2009 Clause 2.2 & 2.3.
7. Ramps are to match the surrounding paving in colour and texture. To match the City Grey paving the concrete mix is: 7-10mm Black Butt Concrete Mix 25MPa. Mix needs to be washed to produce a washed aggregate finish.
8. Expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved with 'Westbuild PaveN'lock' sand or similar approved.



City of Perth

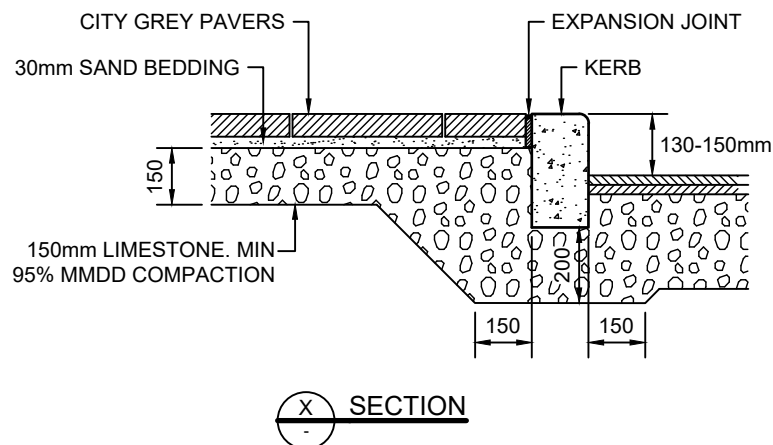
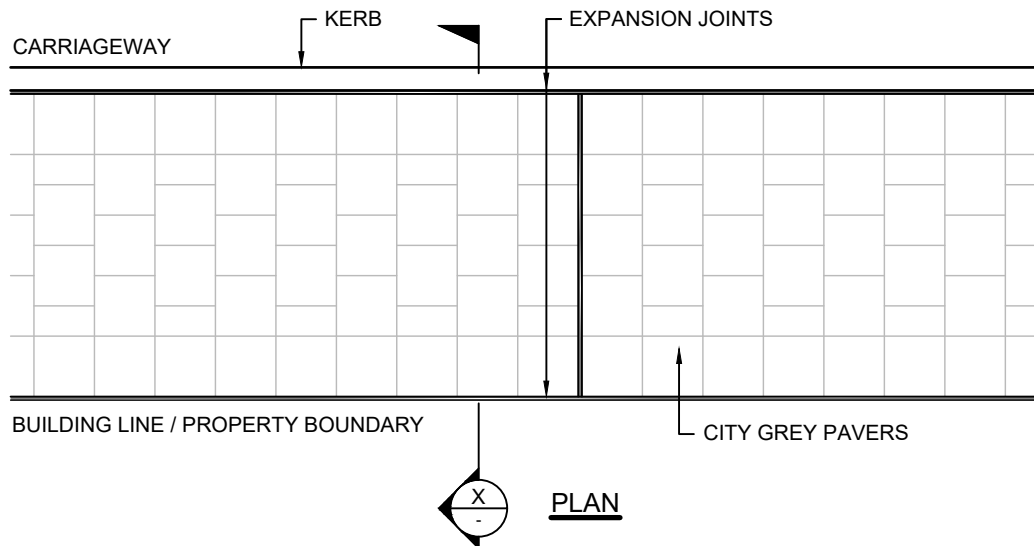
## Design and Construction Note

# 302.02

City Grey Paved Footpaths

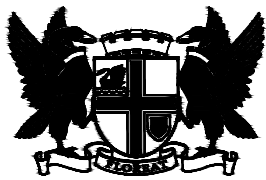
## Footpath and Kerb Cross-Section

Reviewed: 17/11/2021



### General Notes:

1. The city grey paving used in footpaths, squares, medians and cross-overs etc. is an exposed aggregate concrete paving slab.  
Standard sizes supplied by 'Bonita Stone' (or approved similar) are:
  - 1.1. 400x400x60mm, used for footpaths and pedestrian areas.
  - 1.2. 300x200x70mm, used for cross-overs and trafficable areas.
2. Leave joints of 3-4mm between the slabs and fill with 'Westbuild PaveN'lock' sand or similar approved.
3. Provide expansion joints at the back of kerbs and at every 6 metres.
4. All expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved.
5. Concrete pavers should be a minimum of 28 days old, prior to laying.
6. 150mm minimum of compacted limestone, waterbound and placed on a compacted sub-grade, should be provided as base to all footpaths.



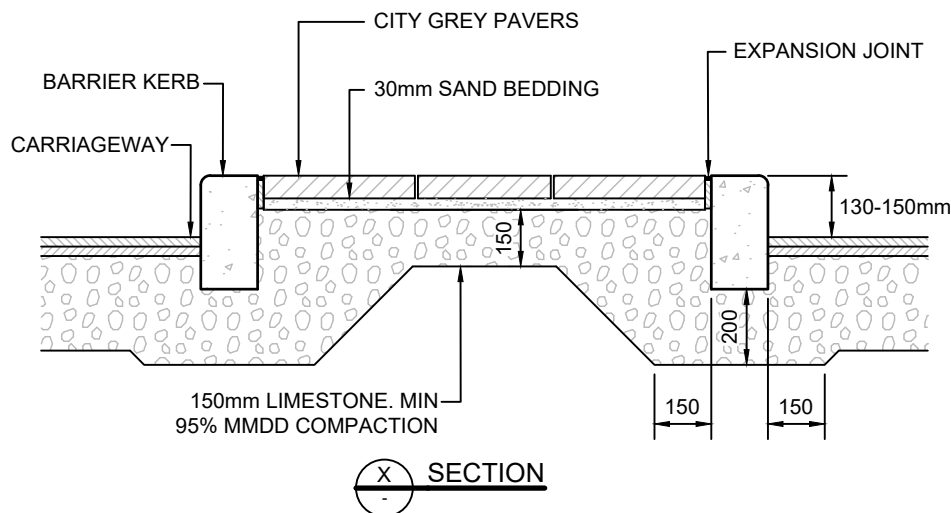
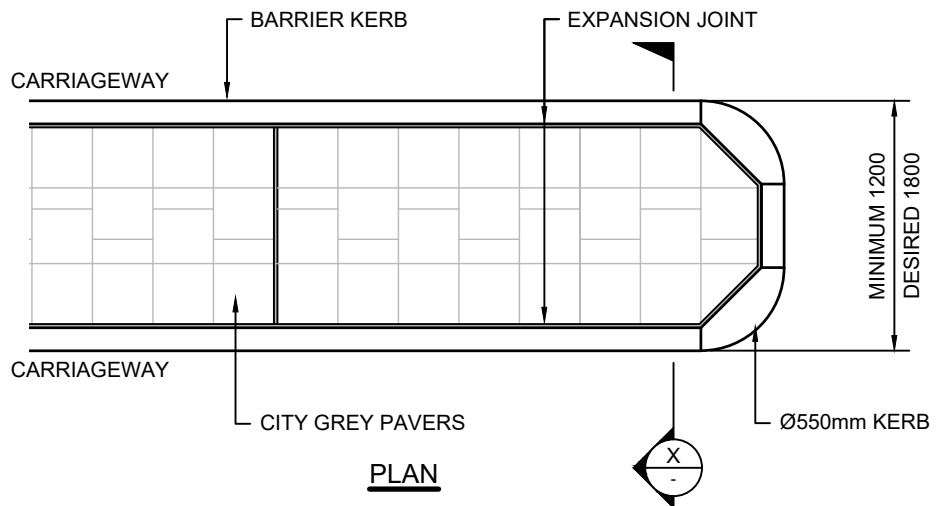
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# Design and Construction Note

## 302.03

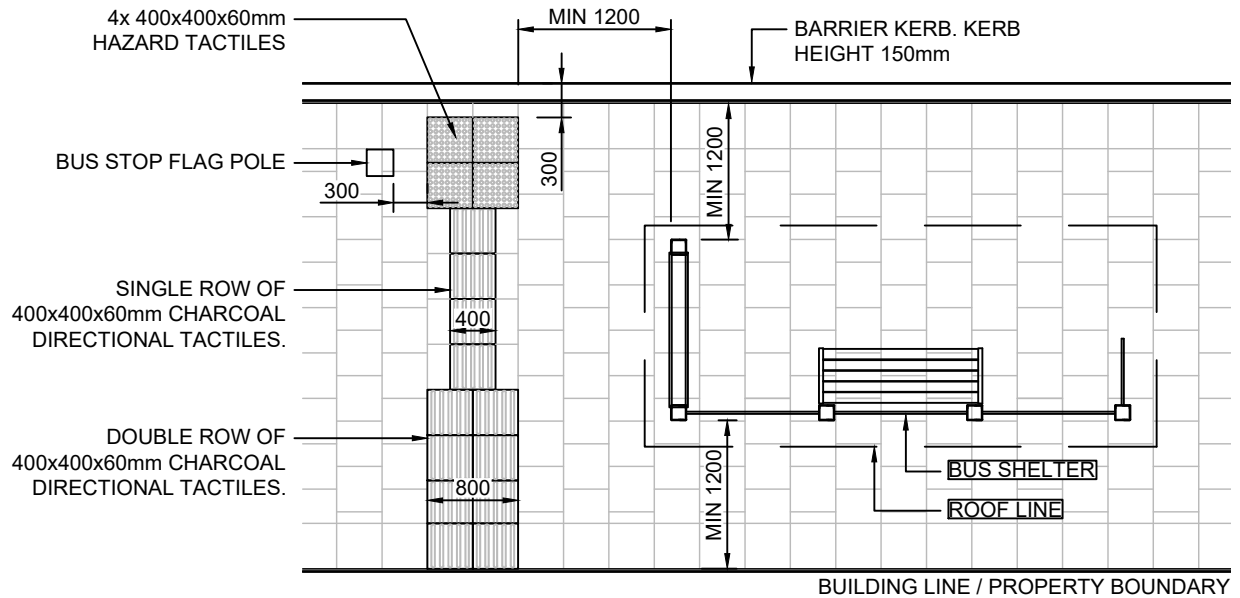
City Grey Paved Footpaths  
Median and Kerb Cross-Section

Reviewed: 17/11/2021

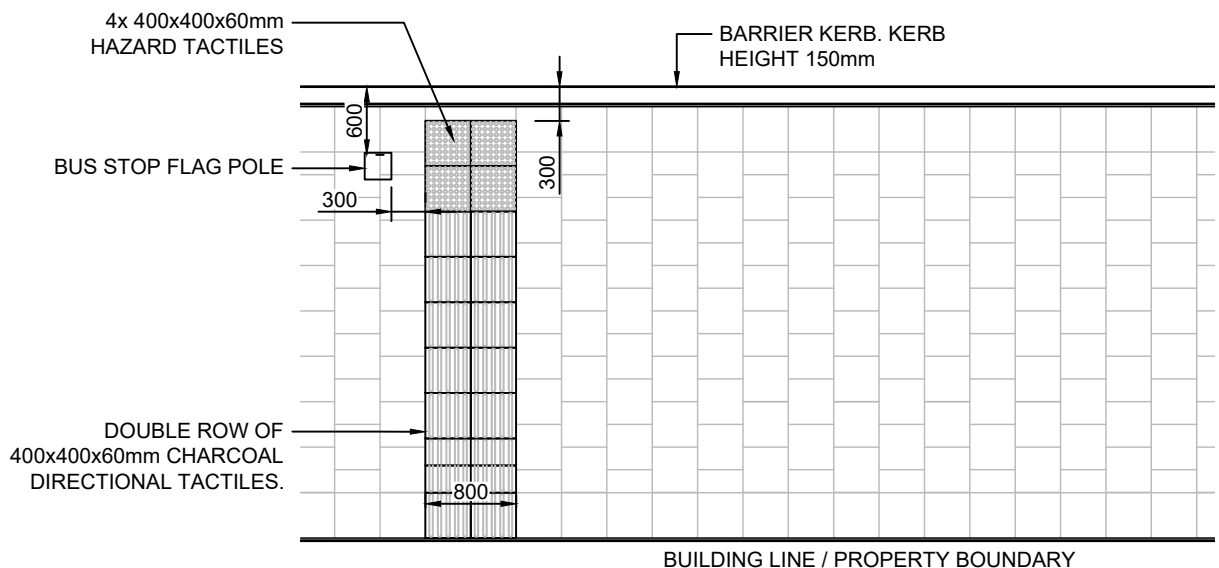


### General Notes:

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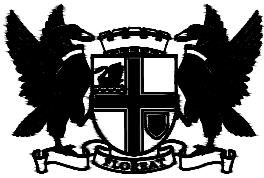
**BUS STOP WITH SHELTER**



**BUS STOP WITHOUT SHELTER**

**General Notes:**

1. Bus shelters should be located where there is a need for shelter from sun, rain and/or wind, for passengers waiting for or alighting from buses.
2. Bus shelters shall be positioned:
  - 2.1. a minimum of 600mm clearance is had between the roof line or overhang from the edge of road;
  - 2.2. to avoid damage to existing services and tree roots;
  - 2.3. to avoid affecting 'line of sight' for vehicles entering traffic from adjacent streets and cross-overs;
3. Street furniture shall be placed no closer than 1600mm from the shelter structure and the bus information board.
4. The kerb height at bus stops shall be 150mm. If the kerb height needs to increase or decrease to suit this condition, the change in height must transition over a large enough length so that the change is not obvious to pedestrians 1:40 max.
8. Hazard Tactile Indicators in City Grey paved footpaths are to match in size 400x400x60mm & 'Bonita - Shadow'. All tactile ground surface indicators (pavers) shall comply with AS1428.4.1 2009.



City of Perth

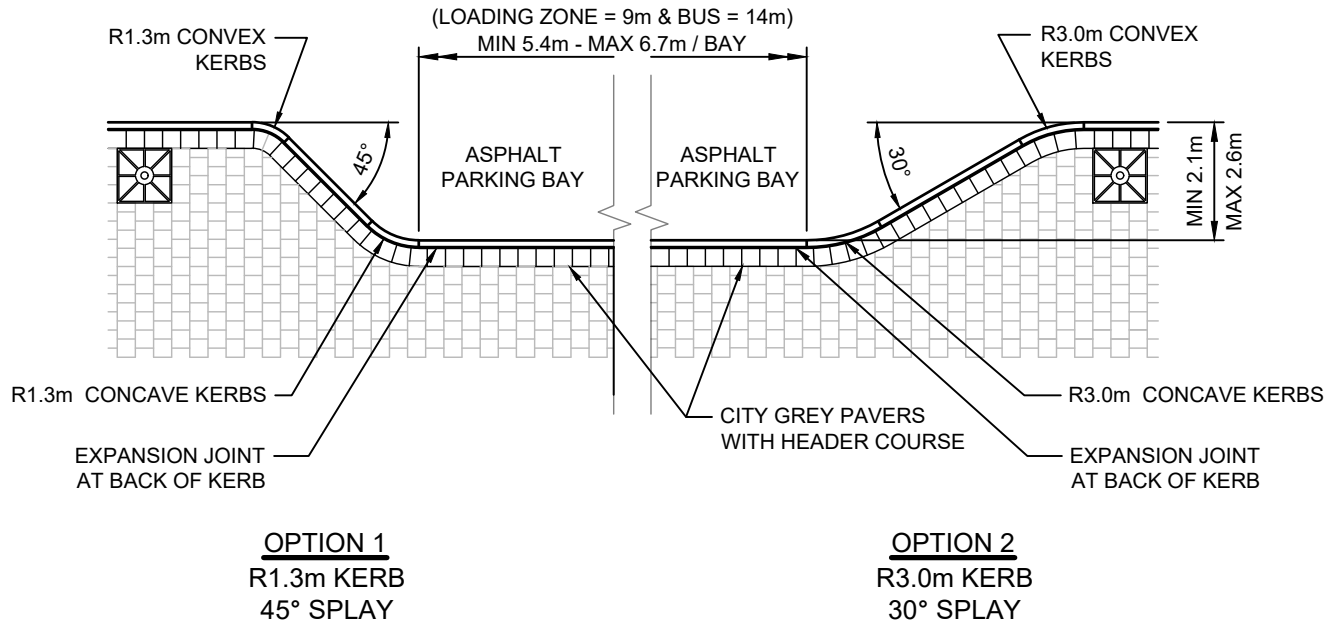
## Design and Construction Note

# 302.05

City Grey Paved Footpaths

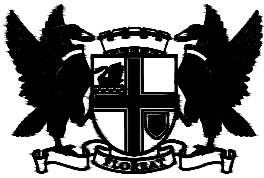
## Parking Embayment with Splayed Nibs

Reviewed: 12/08/2019



### General Notes:

1. Max / Min lengths for concave / convex kerbs vary for details refer *Design and Construction Notes: Book 100*.
2. Generally embayment design for coaches, buses, loading zones and taxis will have splayed nibs using barrier kerbs. While it is acceptable for loading zones and taxi embayments to have a 45° splay, bus and coach embayments require a 30° splay.
2. Major street enhancement projects may utilise a combination of splays for car parking.
3. The minimum lengths and widths of parking bays are considered in *Design and Construction Notes: Book 100*
4. The paving material for parking embayments at road level shall be asphalt. The detail of asphalt is to be the same as the road, refer *Design and Construction Notes: Book 100*



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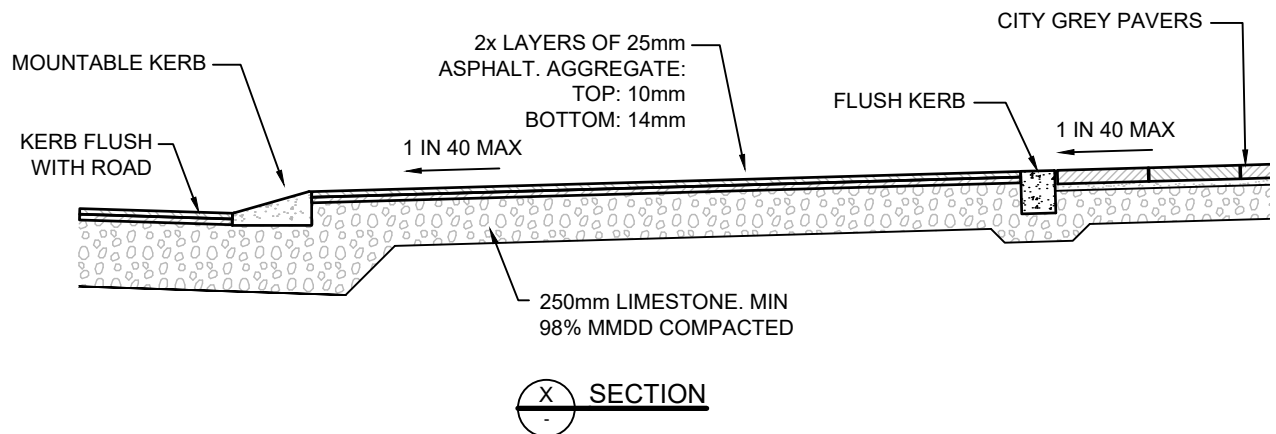
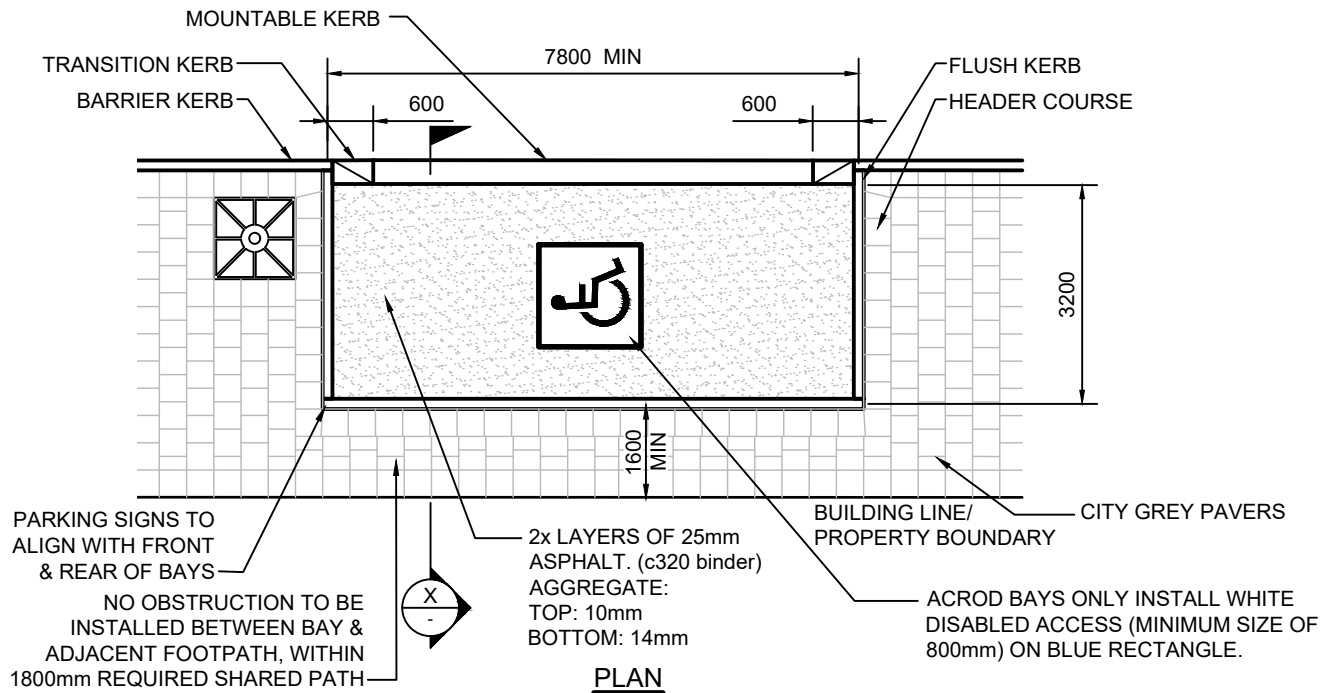
# Design and Construction Note

# 302.06

City Grey Paved Footpaths

## Disabled (ACROD) and Universal Bays

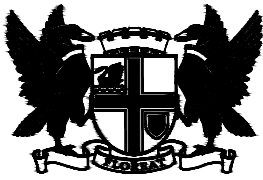
Reviewed: 12/08/2019



### General Notes:

1. Accessible Parking space shall be identified by means of a white symbol of access in accordance with AS 1428.1 between 800 mm and 1000 mm high placed on a blue rectangle with no side more than 1200 mm, placed as a pavement marking in the centre of the space between 500 mm and 600 mm from its entry point as illustrated.
2. Accessible parking bays should be provided on footpaths where:
  - 2.1. A need for such a bay has been identified in consultation with parking services; and
  - 2.2. The footpath can maintain a 1600mm minimum clearway in addition to the accessible parking bay.
3. Please note that this detail is based on a kerb height of 130mm. In instances where the kerb height differs, keep front of kerb flush with road surface level and take up variance within the embayment and footpath.
4. Dedicated parking spaces shall be outlined with unbroken lines 80mm to 100mm wide on all sides excepting any side delineated by a kerb, barrier or wall.
5. Line marking must be yellow and non-slip.





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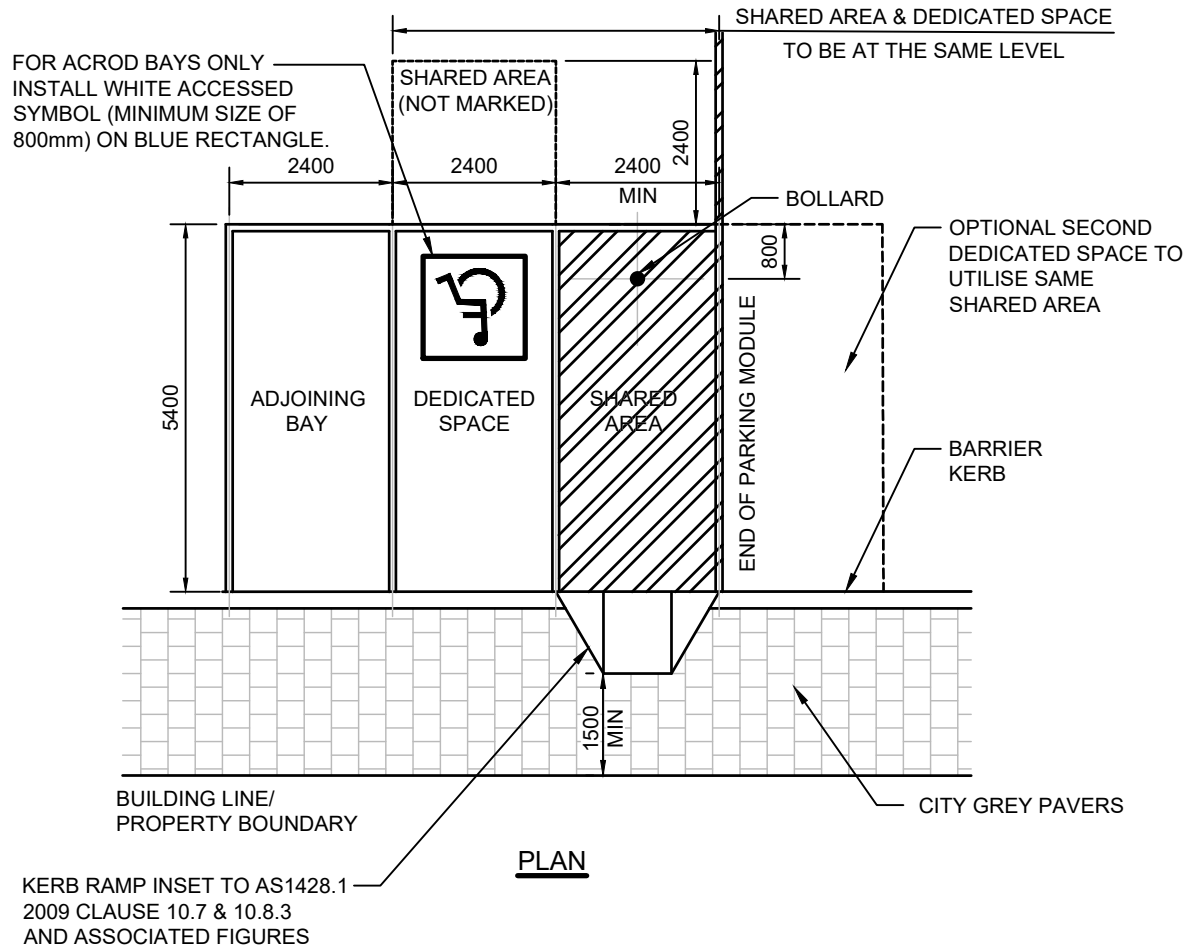
## Design and Construction Note

# 302.07

City Grey Paved Footpaths

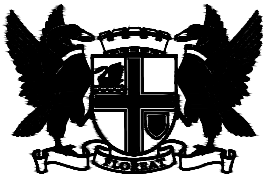
### Line Marked ACROD Parking Bay (Single)

Reviewed: 12/08/2019



#### General Notes:

1. The slope of the dedicated parking space & adjacent shared area to not exceed 1:33 for a bitumen surface or 1:40 for every other surface.
2. Head room over the dedicated parking space & adjacent shared area to be no less than 2500mm.
3. Mark the dedicated space with the white symbol of access (AS1428.1) on a blue rectangle, 800-1000mm high, with no side more than 1200mm placed as a pavement marking in the centre of the space between 500-600mm.
4. Pavement marking to be yellow & have a slip resistant surface. Refer to AS2890.6 clause 3.2 for details.
5. Flush kerbing only between the dedicated space & adjacent shared area and at the rear of the dedicated space & shared area.
6. Attached style of kerb ramp is not acceptable.
7. The slope of the footpath at the head of the bay is to be no steeper than 1:40
8. Bollard to be 1300mm high, yellow with red warning strips.



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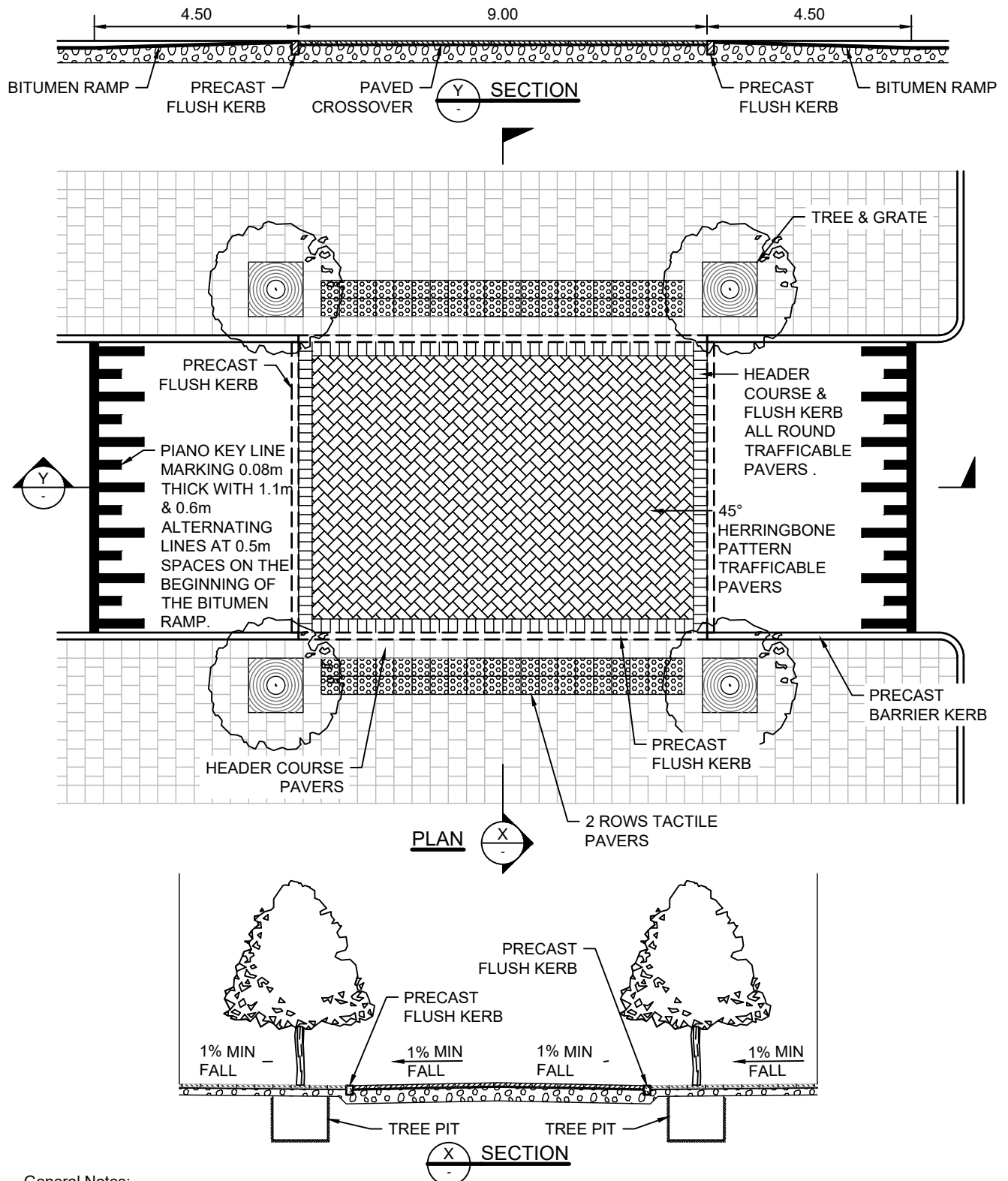
# Design and Construction Note

# 302.08

City Grey Paved Footpaths

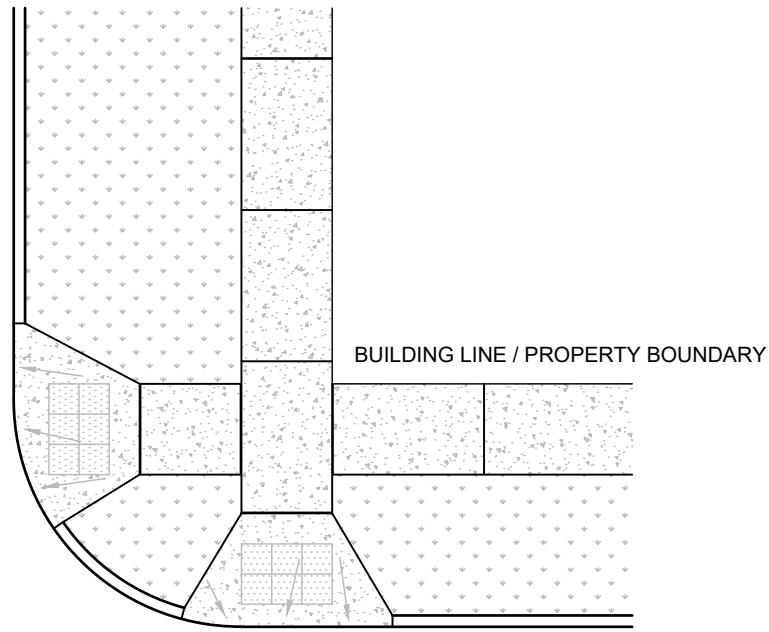
## Flush Vehicle Crossing

Reviewed: 17/11/2021



### General Notes:

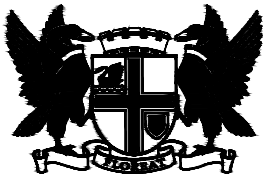
1. If Pedestrian Platform is Situated on a Cat Bus Route then Raised Platform is to have a Minimum Length of 9m & Ramp Minimum Length of 4.5m as Shown.
2. 300x200x70 City Grey Trafficable Pavers
3. 400x400x60 City Grey Pavers
8. 400x400x60 Tactiles are to be 'Bonita - Shadow'. All tactile ground surface indicators (pavers) shall comply with AS1428.4.1 2009 Clause 2.2 & 2.3.



PLAN

General Notes:

1. At signalised intersections pram ramp position to conform with Australian Standards 1428.1 (2009).
2. Tactiles to be laid the width of the ramp and 800mm deep for pedestrian ramps.
3. Tactiles to be laid minimum 300mm from edge of road.
8. Where ramps are to be situated in concrete footpaths, tactiles are to be '*Bonita - Shadow*'. All tactile ground surface indicators (pavers) shall comply with AS1428.4.1 2009 Clause 2.2 & 2.3.
9. Ramps are to match the surrounding in colour and texture. Concrete Mix 25MPa. Mix needs to be washed to produce a washed aggregate finish.
10. All expansion joints shall be "All-in One Lock" & Expansion Joint or equivalent.



City of Perth

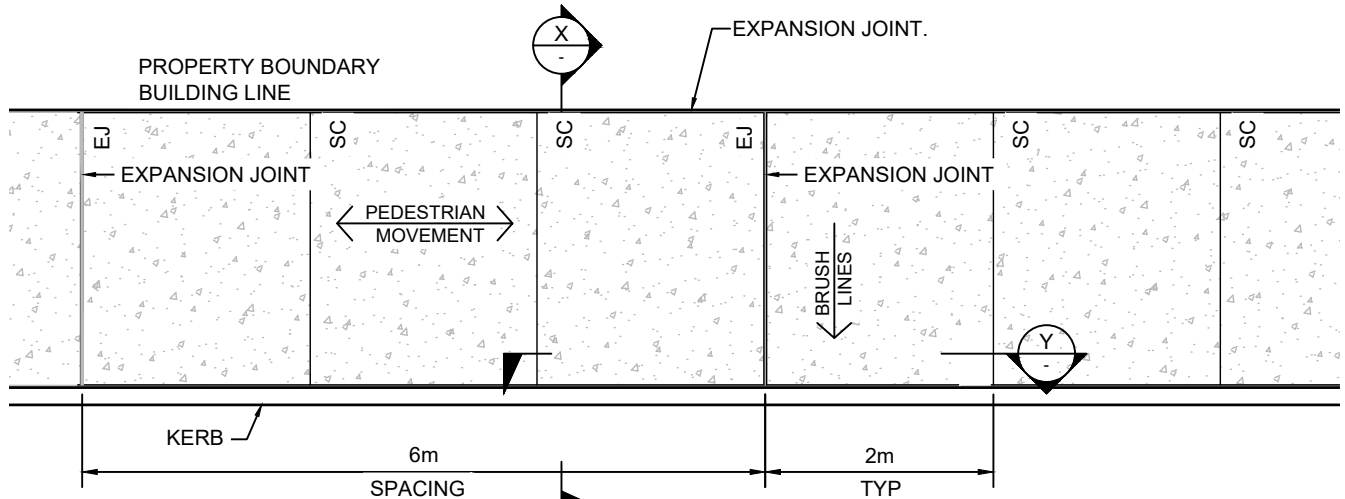
# Design and Construction Note

# 302.10

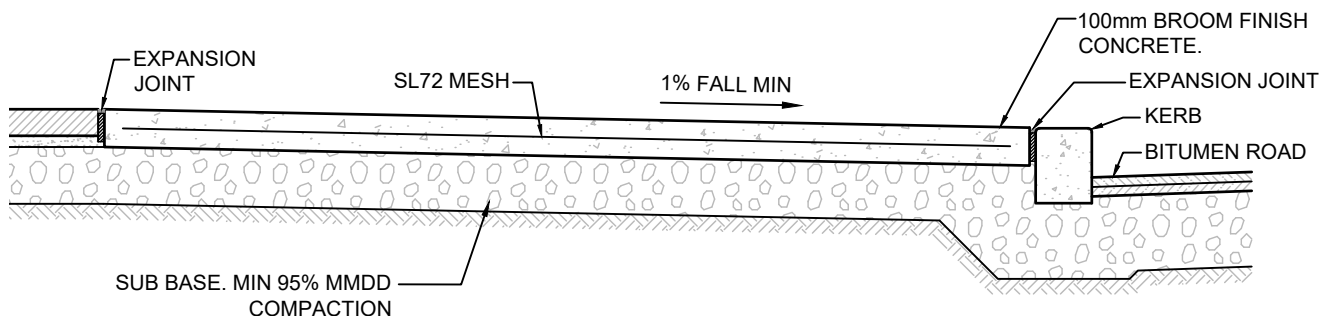
City Grey Paved Footpaths

## Brushed Concrete Footpath

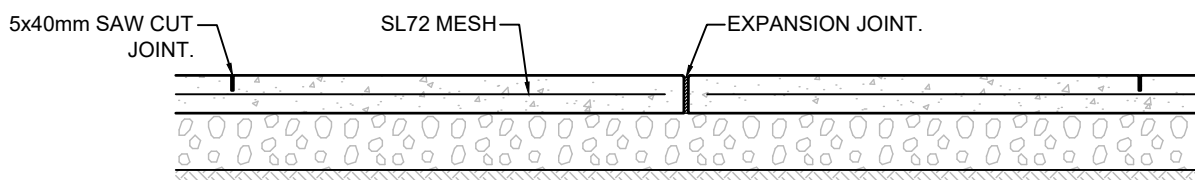
Reviewed: 17/11/2021



PLAN



SECTION X

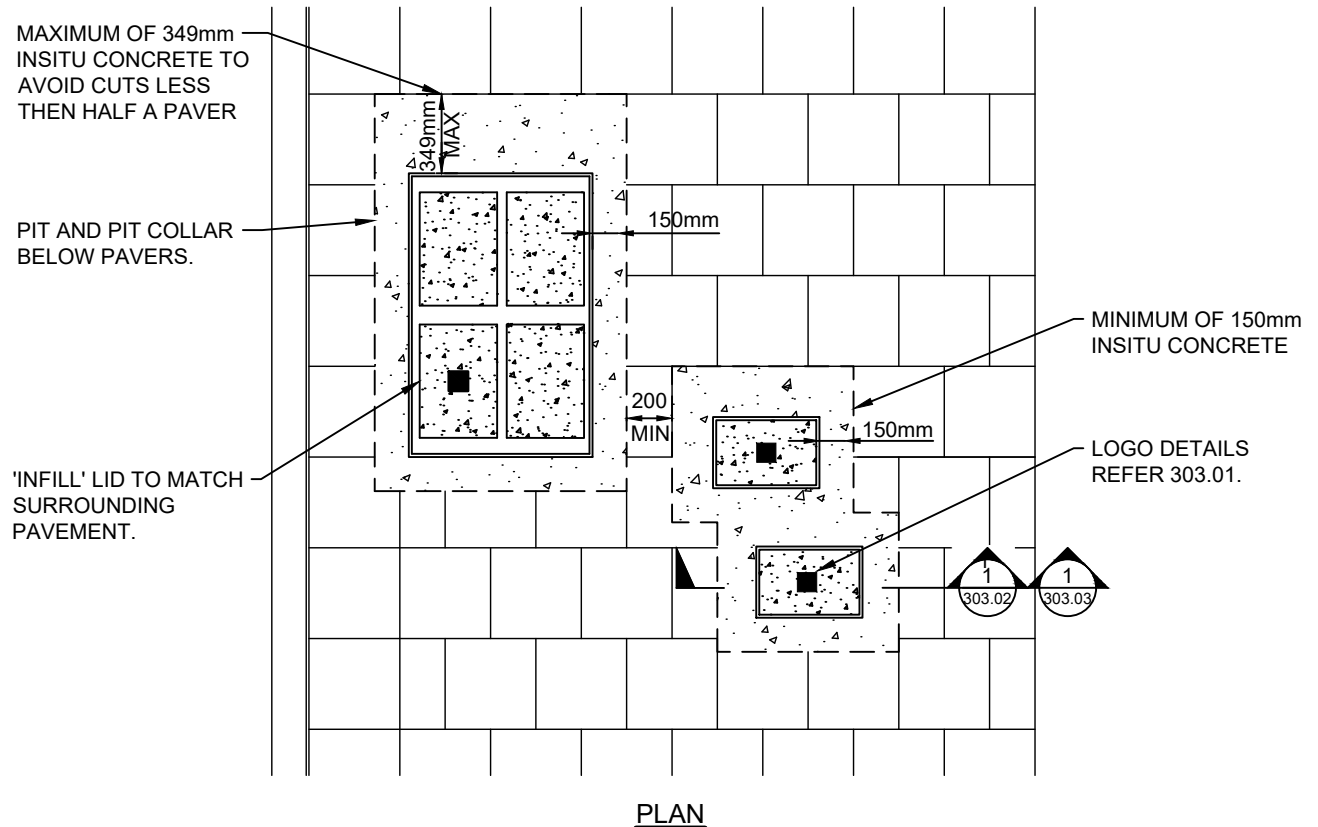


SECTION Y

### General Notes:

1. 100mm thick concrete to achieve a minimum 25 characteristic MPa compressive strength at 28 days. A minimum nominal aggregate of 14mm and slump of 80mm Max. Slip resistance to comply with AS4586 & AS3661. Broom finish perpendicular to the direction of pedestrian flow.
2. Saw Cut joints 5x40mm saw cuts fill with approved sealant to match surround colour.
3. All transverse expansion joints shall be "All-in One Lock" & Expansion Joint or equivalent at max spacing of 6m.
4. All longitudinal expansion joints shall be 75mm x 12mm 'Abelflex' or similar approved with 'Westbuild PaveN'lock' sand or similar approved.

TYPICAL PIT LID & FRAME ARRANGEMENT

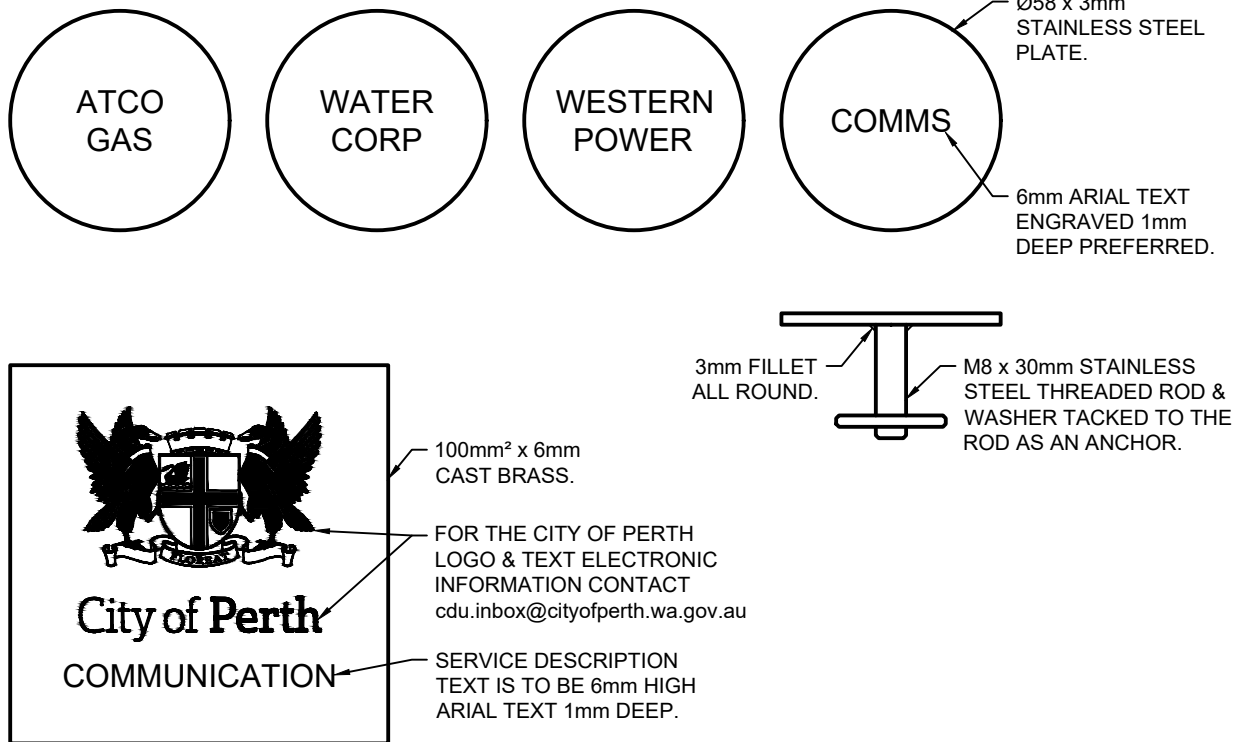


SERVICE COVERS

GENERAL:

Upon request, the City of Perth will consider permitting service covers installed at pavement level. Should permission be granted, the following 'best practice' design and construction standards shall apply:

- Lids shall be a 'tray' design in cast metal or fabricated steel with in-situ concrete matching in colour and texture and with a minimum strength of 25MPa. To match the City Grey paving the concrete mix is: PCC Grey Mix from Hansen Quarries. Mix needs to be washed to produce a washed aggregate finish.
- Snap location of pit lid & frame to the grid created by 400x400x60mm pavers where possible.
- Paving around the cover should be no less than  $\frac{1}{2}$  a standard paving unit - cut adjacent paver to accommodate if required.
- Access pits and lids shall be of robust construction and professionally engineered to withstand dynamic loading and physical impacts associated with city centre streets. All pits & lids shall conform to AS 3996-2006.
- Maximum 5mm gap between pit frame and surrounding paving. If this cannot be achieved, approval can be sought to use insitu fill frame to match surrounding paving and infill material in lid. Minimum width and depth of insitu fill may apply (refer City OF Perth rep) min 100mm max 150mm.
- Traffic load to include street sweepers & garbage trucks.
- Exceptions have been made for existing service pits & lids maintenance on D&C note 303.03 any further inquiries refer to the City of Perth representative at Street Presentation & Maintenance [spm.inbox@cityofperth.wa.gov.au](mailto:spm.inbox@cityofperth.wa.gov.au)

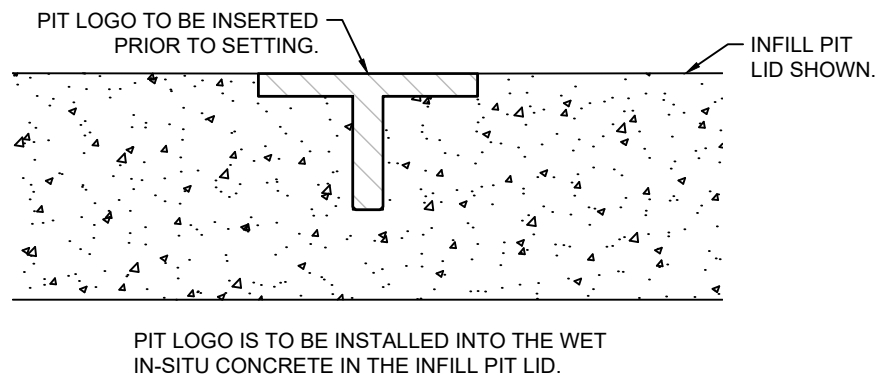


CITY OF PERTH 6mm CAST BRASS LOGO.

NOTE: LOGO Inserts supplied by City of Perth or alternative supplier.

Adhesive for inserts: SIKa FLEX 252, or equivalent.

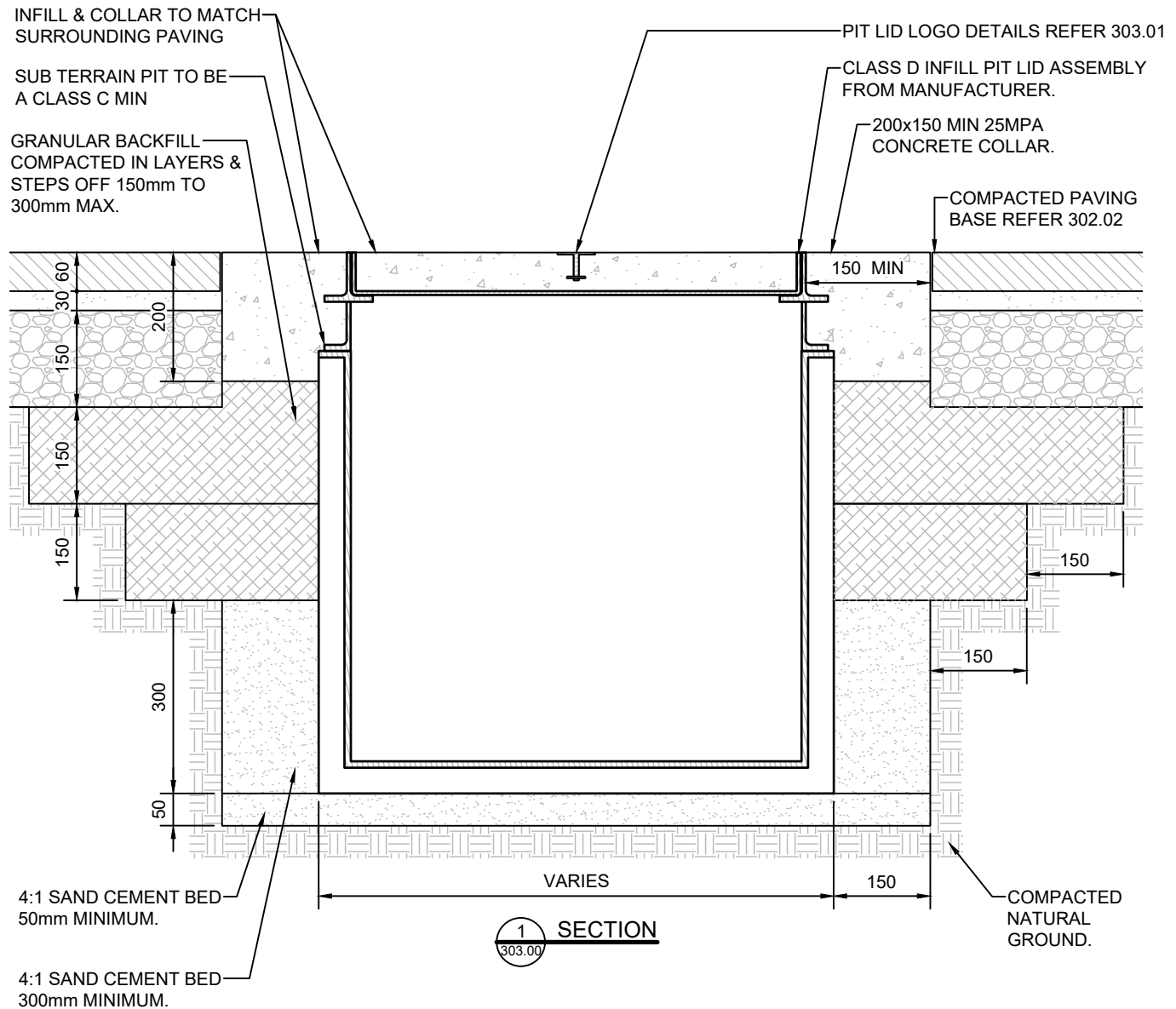
Surface to be prepared with SIKa cleaner 205 & SIKa primer 210T or equivalent.



#### DETAIL

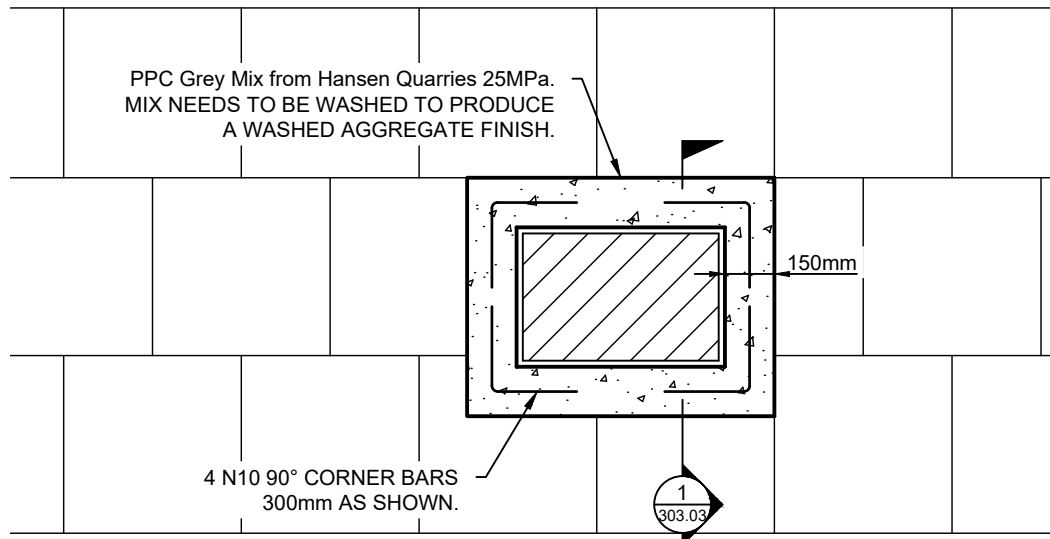
Note:

Any further information can be obtained from the Co-ordination & Design Unit at: [cdu.inbox@cityofperth.wa.gov.au](mailto:cdu.inbox@cityofperth.wa.gov.au)

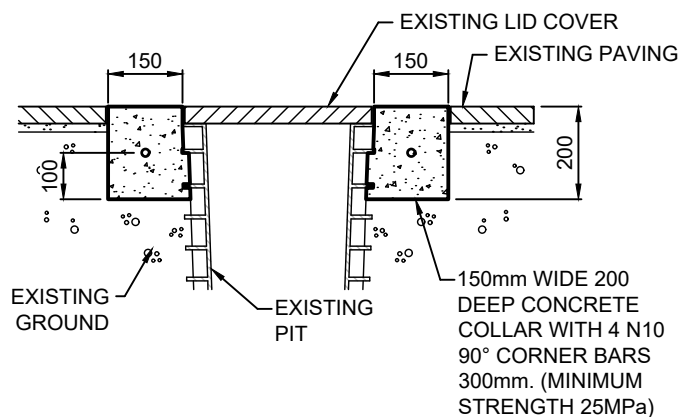


# Reinstatement / Maintenance of Existing Service Pit Covers In City Grey Paving

Reviewed: 12/08/2019



PLAN



SECTION

Note:

- where existing alignment does not allow for the installation of paving up to pit as per 303.00 - In-situ concrete can only be used as shown above with Approval from a City of Perth Representative
- Any further information can be obtained from the Co-ordination & Design Unit at: [cdu.inbox@cityofperth.wa.gov.au](mailto:cdu.inbox@cityofperth.wa.gov.au)