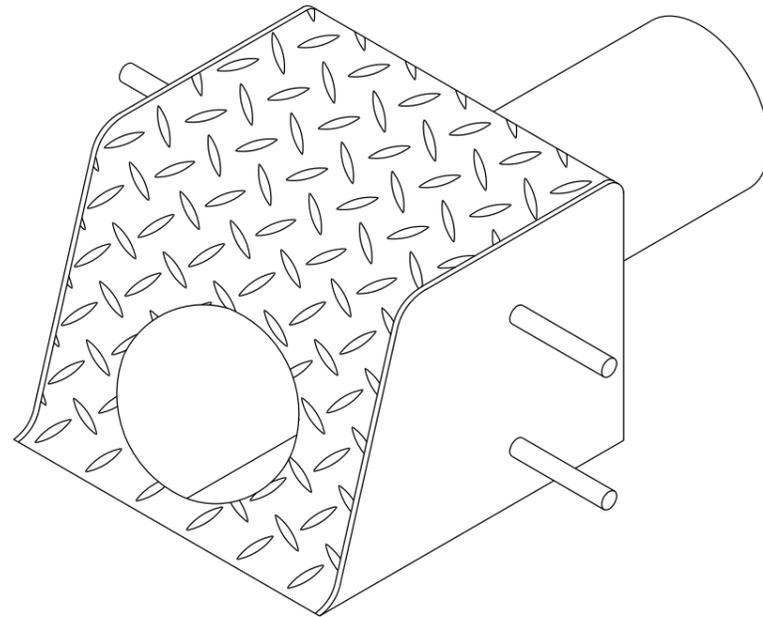
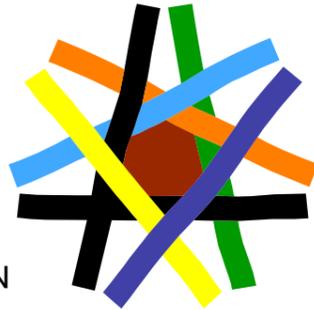


# DUBBO CITY COUNCIL

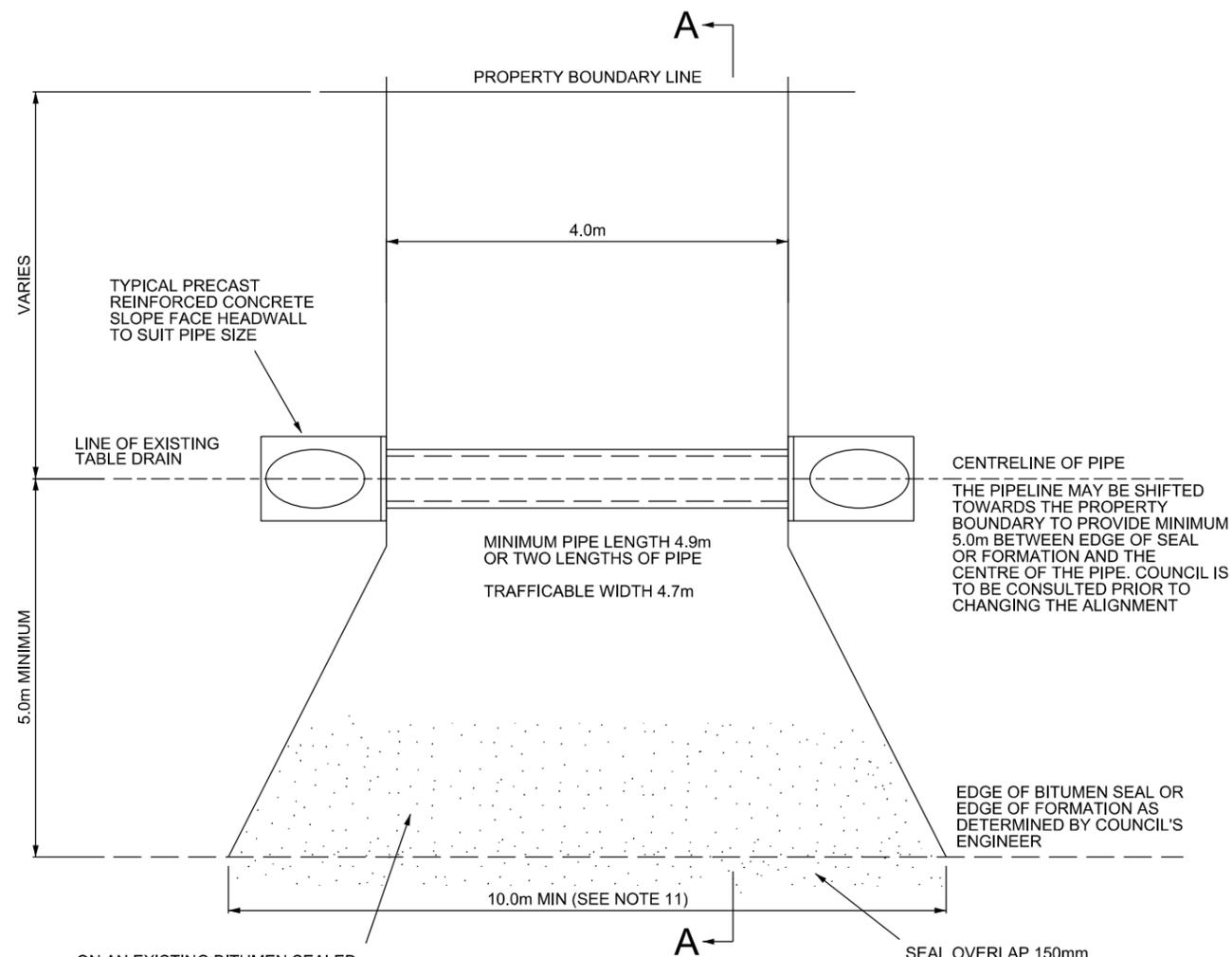
TECHNICAL SERVICES DIVISION



# STANDARD DRAWINGS

Drawing No.	Drawing Title	Revised
STD 1264	Pipe Culvert in Rural Situation	19/06/2014
STD 1270	Stormwater Gully Pit	19/06/2014
STD 1271	Stormwater Junction Pit	19/06/2014
STD 1620	Grated Inlet Pit in Roll Over Kerb	19/06/2014
STD 5090	Grated Letter Opening Stormwater Pit	19/06/2014
STD 5166	Pram Ramp	19/06/2014
STD 5197	Inter-Allotment Drainage Inlet Pit	19/06/2014
STD 5205	Crossover Driveway Slab	19/06/2014
STD 5211	Driveway Slab	19/06/2014
STD 5235	Kerb & Vehicular Crossing Profiles	19/06/2014
STD 5251	Footpaths & Cycleways	19/06/2014
STD 5266	Concrete Causeway	19/06/2014
STD 5268	Residential Subdivision Service Allocation in Footway	19/06/2014
STD 5320	Hydrant Location Markers for Urban Roads	10/03/2015
STD 5364	Grated Surcharge & Inlet Pits	20/02/2015
STD 5458	Intersection Median Island	20/02/2015
STD 5518	Utility Trench Details	19/06/2014
STD 5882	20mm Water Service Connection Detail	09/09/2014
STD 6639	Tree Planting Standards	21/08/2014
STD 6659	Bridge Style Vehicular Crossing Slab	19/06/2014
STD 6720	Installation of Stormwater Outlets Through Kerb Face	19/06/2014
STD 6738	Arrangements for Pits with Internal Branch Points	19/06/2014
STD 6750	Subsoil Drainage Flushing Point	19/06/2014
STD 6763	CBD Stormwater Kerb Adaptor	19/06/2014
STD 6818	Scour Valve Pit & Fittings Arrangement	29/01/2015
STD 6882	Street Name Signs	05/02/2015

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING CG _____ DATE 10/03/2015 CHECKED _____ DATE 10/03/2015 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Standard Drawings.dgn</small>	SCALES NOT TO SCALE  ORIGINAL SIZE A1	PERMANENT MARK: N/A    RL: N/A    DATUM: AHD & MGA STATUS: STANDARD DRAWING    PRINT DATE: 10/03/2015 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr><td>2.</td><td>19/06/2014</td><td>CG</td><td>AMENDED</td></tr> <tr><td>3.</td><td>09/09/2014</td><td>CG</td><td>AMENDED</td></tr> <tr><td>4.</td><td>05/02/2015</td><td>CG</td><td>AMENDED/STD 6882 ADDED</td></tr> <tr><td>5.</td><td>10/03/2015</td><td>CG</td><td>AMENDED/STD 5320 ADDED</td></tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	2.	19/06/2014	CG	AMENDED	3.	09/09/2014	CG	AMENDED	4.	05/02/2015	CG	AMENDED/STD 6882 ADDED	5.	10/03/2015	CG	AMENDED/STD 5320 ADDED	 TECHNICAL SERVICES DIVISION	DRAWING TITLE STANDARD DRAWINGS INDEX	JOB STANDARD DRAWING	SHEET No. 1 OF 1 SHEETS PLAN NO.
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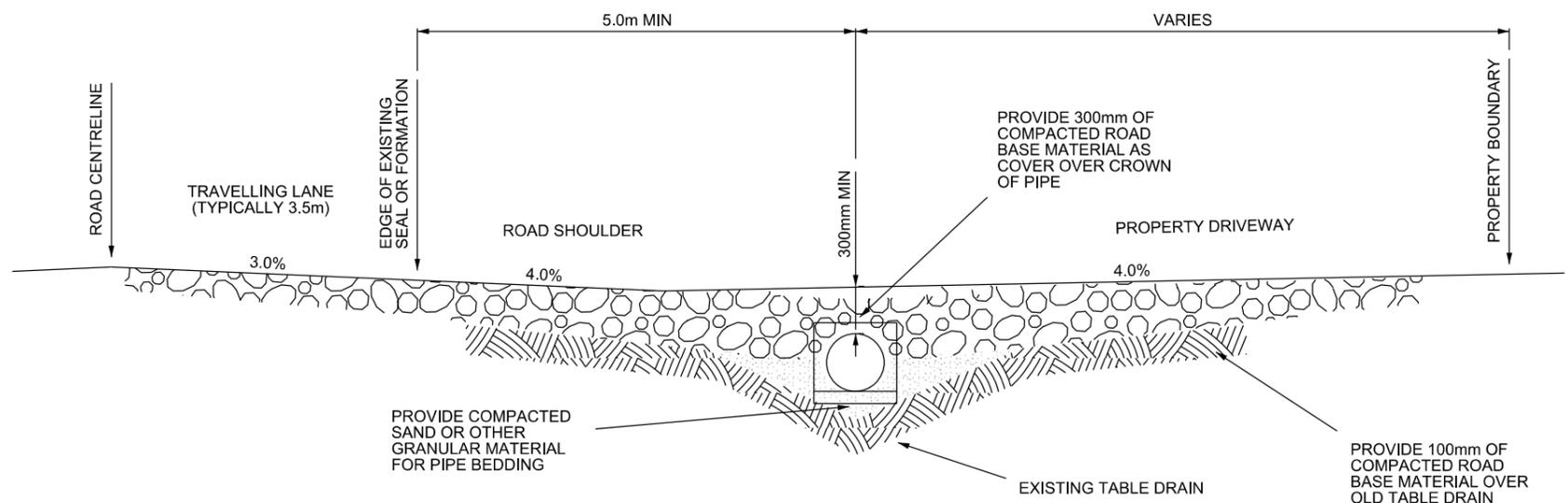


ON AN EXISTING BITUMEN SEALED ROAD, THE ACCESS IS TO BE SEALED WITH 150mm OVERLAPPING THE EXISTING BITUMEN TO THE PROPERTY BOUNDARY OR A MAXIMUM OF 20m. ON AN EXISTING GRAVEL ROAD, NO SEALING IS REQUIRED

**PLAN**

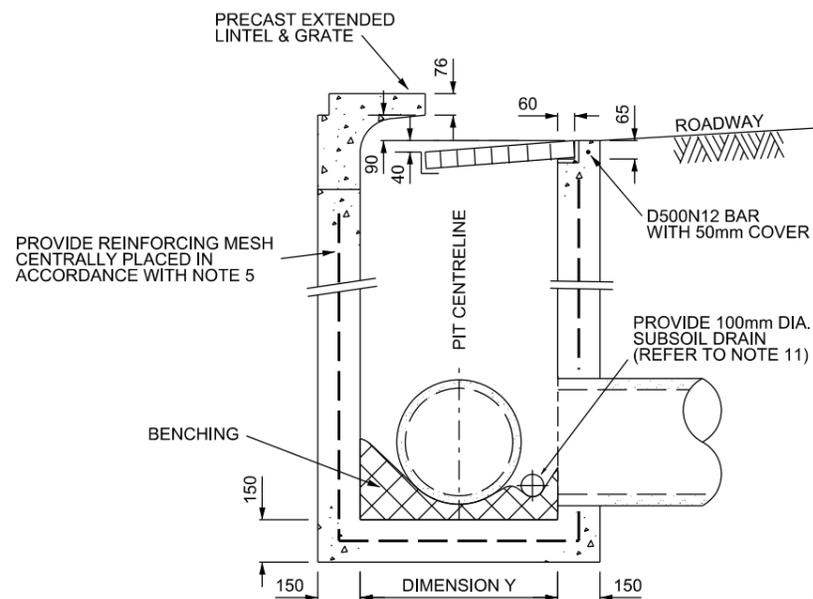
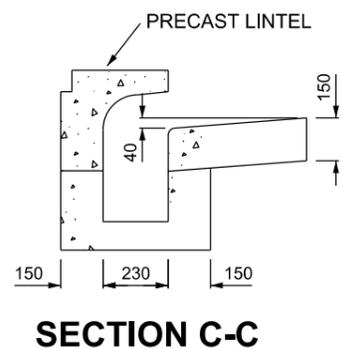
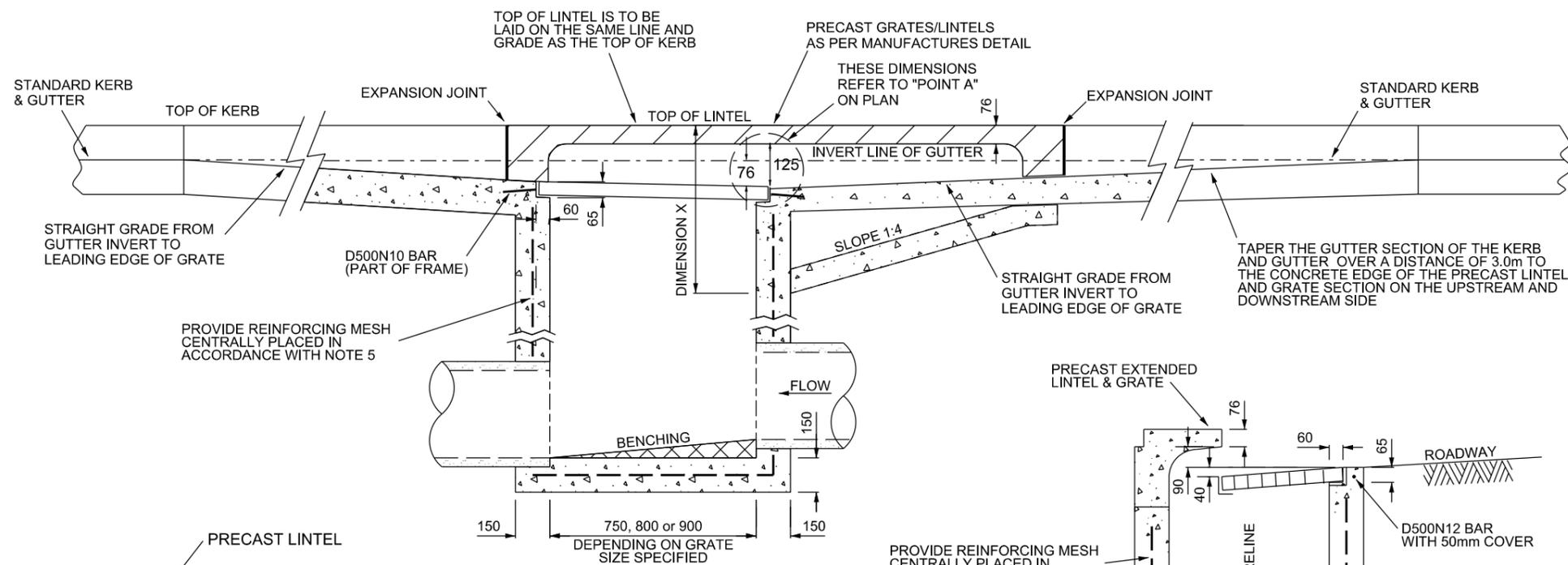
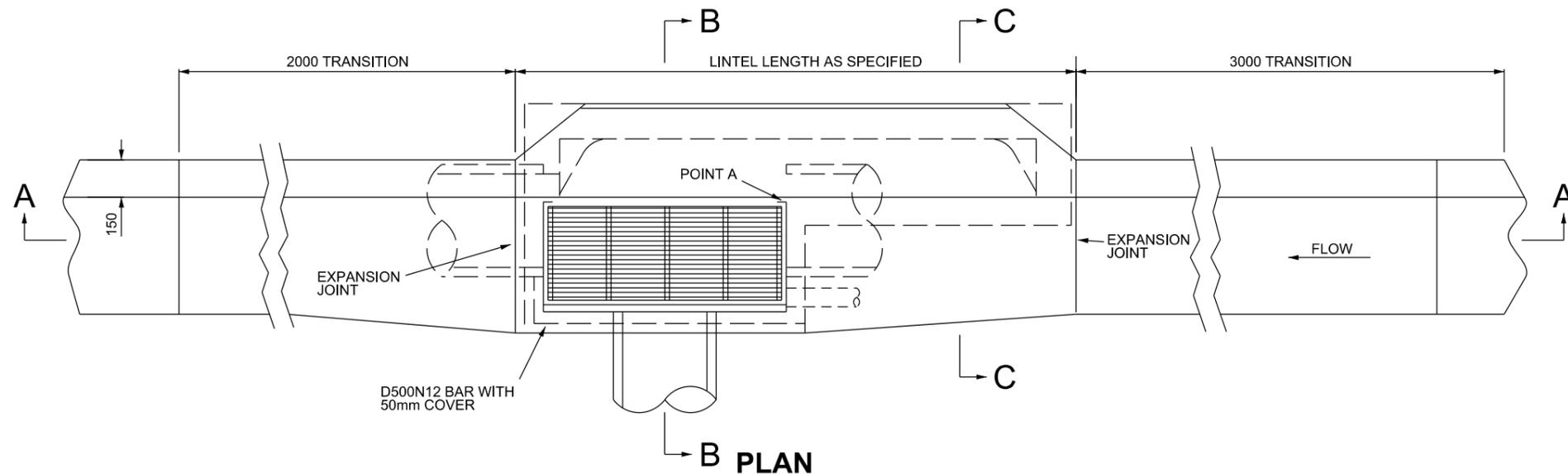
**NOTES**

1. This plan is to be read in conjunction with Dubbo City Council's Specification for Standard Culvert Access for Rural Property Entrances from Bitumen Sealed or Gravel Roads.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction. Any service pits located within the proposed driveway shall be moved at the cost of the Contractor/Owner/Developer by contacting the relevant authority.
3. The pipe entrance is to be constructed to the dimensions and specifications shown on this plan. Generally, pipes are to be 450mm dia. or larger. If a pipe smaller than 450mm dia. is proposed, detailed stormwater calculations must be submitted to and approved by Council prior to construction.
4. Reinforced concrete pipes are to be used. Pipes are to be a minimum of Class 3.
5. The pipe bedding is to be as specified in the Aus-Spec documentation for pipe laying. All poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material.
6. The pavement is to be constructed in accordance with the Aus-Spec documentation with a minimum depth of 200mm. Any bitumen seal is to use 10mm aggregate.
7. The potential for erosion and the transportation of sediment is to be addressed. Appropriate measures are to be in place to prevent this from happening. Where the table drains are more than 5% grade, measures are to be put in place so that the potential for erosion can be minimised.
8. The Contractor/Owner/Developer is responsible for the removal of all debris and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.
9. Energy dissipators (rock mattress) may be required to be installed for 1m either side of the culvert at the discretion of Council's supervising engineer.
10. The existing table drain shall be reshaped to ensure the culvert is free draining.
11. The width of the driveway at the edge of bitumen seal/edge of formation may be increased to accommodate turning paths of design vehicles.



**SECTION A-A**

APPROVED  MANAGER TECHNICAL SUPPORT DATE 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b> ORIGINAL SIZE A1 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 <b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>PIPE CULVERT IN RURAL SITUATION</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 1264</b>
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																								
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2.	19/06/2014	CG	AMENDED																									
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-	-	-	-																									



**NOTES**

- The compressive strength of the concrete is to 25MPa at 28 days.
- Base of pit to be benched down to outlet pipe.
- Outlet pipe to have a rounded entrance.
- Pits over 1.0m deep to have step irons installed at 300mm spacing.
- Provide the following reinforcement in wall and floor slabs:
  - Use D250N10 bent corner bars at 200 centres lapped 400 floor to wall and wall to wall.
  - For pits less than 1.8m deep provide R500SL82 mesh centrally placed in floor and wall slabs.
  - For pits between 1.8m and 3.0m deep provide R500SL81 mesh centrally placed in floor and wall slabs.
- Pits constructed to accommodate pipes larger than 1200mm dia. or having a depth greater than 3.0m are to have a special design.
- Where possible, intersection of pipe centrelines should occur on the downstream face of the pit. (See STD 6738 for preferred options where this is not possible).
- Centreline of pipes are to be pegged at the downstream face of pit.
- Pits to have supporting roof sections for pipes larger than 900 dia. running perpendicular to kerb and gutter and 600 dia. running under kerb and gutter. Provide R500SN82 mesh with 30mm clear cover to bottom surface of suspended roof slab.
- Steel reinforcing shall conform to AS/NZS4671-2001:
 

R/D/I	= Round, Deformed ribbed, deformed Indented shape.
250/500	= Strength grade.
S/R	= Square or Rectangular bar configuration (mesh only).
L/N	= Low or Normal ductility class.
Size	= Nominal bar diameter in millimetres.
Spacing	= Transverse spacing of bars, expressed in millimetres, divided by 100 (mesh only).
- A 100mm dia. subsoil drainage pipe 3.0m long wrapped in filter sock to be provided adjacent to and at the invert level of the inlet drainage pipe.
- All concrete works are to be in accordance with Aus-Spec Construction Specification No. 0319 for minor concrete works.

**TABLE FOR DIMENSION X**

LINTEL SIZE (m)	DIMENSION X (mm)
1.8	660
2.4	810
3.0	960
3.6	1110

**TABLE FOR DIMENSION Y**

PIPE DIA. (mm)	DIMENSION Y (mm)
≤ 600	650
675	790
750	870
825	950
900	1030
1050	1200
1200	1260

APPROVED: DATE: 19/06/2014  
 MANAGER TECHNICAL SUPPORT

CHECKED: DATE: 19/06/2014  
 SENIOR DESIGN ENGINEER

FIELD BOOK/SURVEY FILES

DESIGN FILES

DRAWING FILES

U/S/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Standard Drawings.dgn

SCALES

**NOT TO SCALE**

ORIGINAL SIZE A1

PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA

STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014

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2.	19/06/2014	CG	AMENDED
-	-	-	-
-	-	-	-

**DUBBO CITY COUNCIL**

TECHNICAL SERVICES DIVISION

DRAWING TITLE

**STORMWATER GULLY PIT**

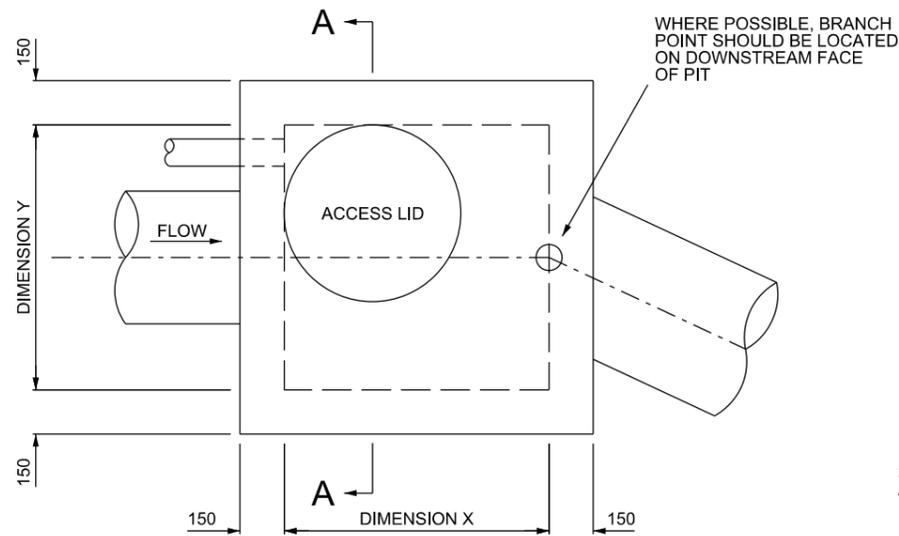
JOB

**STANDARD DRAWING**

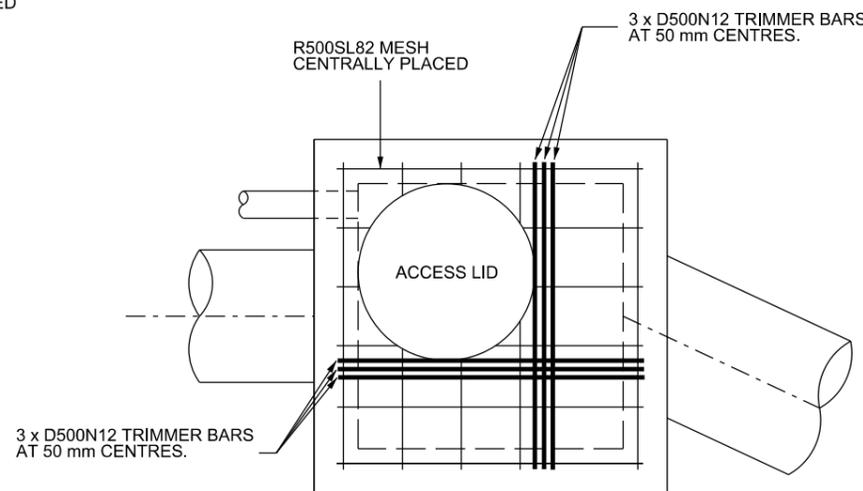
SHEET No. **1**

OF **1** SHEETS

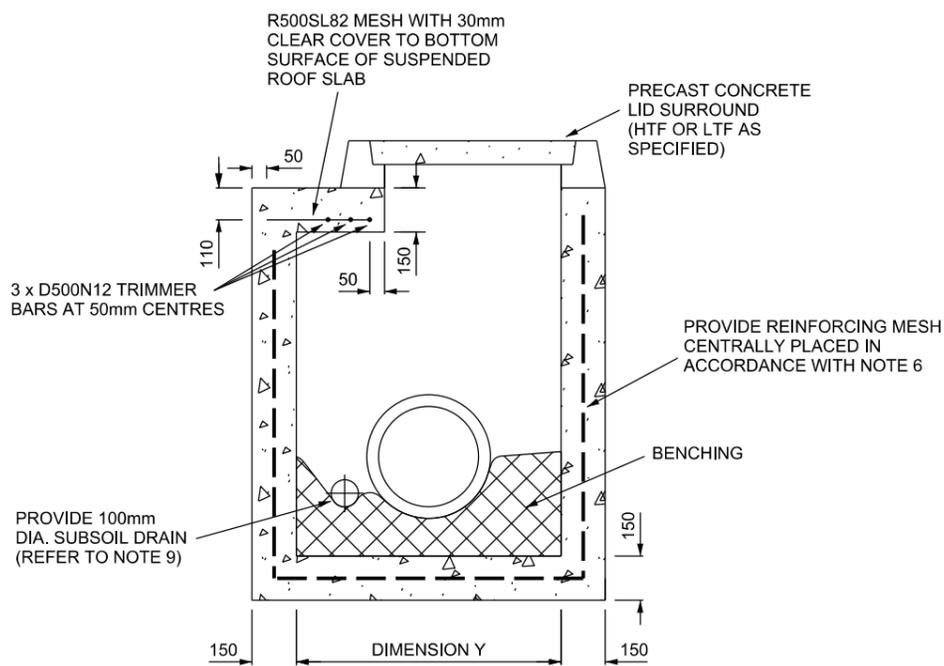
PLAN NO. **STD 1270**



**PLAN**



**ROOF SLAB REINFORCEMENT DETAILS**



**SECTION A-A**

**SCHEDULE OF JUNCTION PIT SIZES**

PIPE DIA.	INTERNAL PIT DIMENSIONS	
	DIMENSION X	DIMENSION Y
300-750mm	900mm	900mm
900mm	1050mm	1050mm
1050mm	1200mm	1200mm

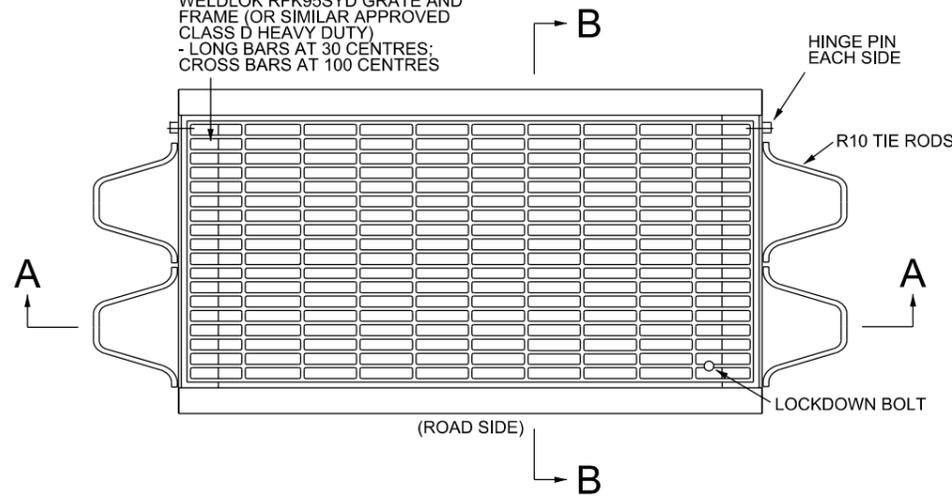
**NOTES**

- The compressive strength of the concrete is to be 25MPa at 28 days.
- R500SL82 mesh shall be provided in pit walls and floor slab centrally placed for pit depths less than 1.8m. For pits deeper than 1.8m R500SL81 will be provided.
- Outlet pipes are to have rounded entrances.
- Pits deeper than 1.0m are to have step irons at 300mm spacing.
- All pits to suit 1200mm dia pipes are to have R500SL82 mesh with 30mm clear cover to bottom surface of suspended roof slab with 3 x D500N12 trimmer bars at 50mm centres around the access grate.
- Provide the following reinforcement in walls and floor slabs:
  - Use D500N10 bent corner bars at 200mm centres lapped 400mm floor to wall and wall to wall.
  - For pits less than 1.8m deep provide R500SL82 mesh centrally placed in floor and wall slabs.
  - For pit depths between 1.8m and 3.0m provide R500SL81 mesh centrally placed in floor and wall slabs.
- Pits constructed to accommodate pipes larger than 1200mm dia. and having depths greater than 3.0m are to have a special design.
- Where possible, intersection of pipe centrelines should occur on the downstream face of the pit. (See STD 6738 for preferred options where this is not possible).
- A 100mm dia. subsoil drainage pipe 3.0m long wrapped in filter sock is to be provided adjacent to and at the invert level of the inlet drainage pipe.
- Steel reinforcing shall conform to AS/NZS4671-2001:
 

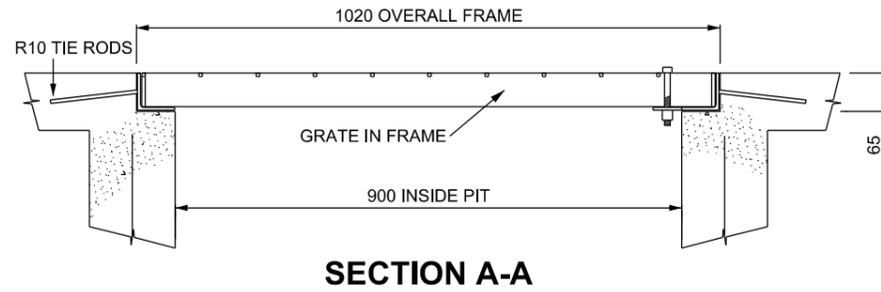
R/D/I	= Round, Deformed ribbed, deformed Indented shape.
250/500	= Strength grade.
S/R	= Square or Rectangular bar configuration (mesh only).
L/N	= Low or Normal ductility class.
Size	= Nominal bar diameter in millimetres.
Spacing	= Transverse spacing of bars, expressed in millimetres, divided by 100 (mesh only).
- All concrete works are to be in accordance with Aus-Spec Construction Specification No. 0319 for minor concrete works.

APPROVED:  DATE: 19/06/2014 MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED:  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <p style="text-align: center;"><b>NOT TO SCALE</b></p> <p style="text-align: center;">ORIGINAL SIZE A1</p>	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	<b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION	DRAWING TITLE: <b>STORMWATER JUNCTION PIT</b> JOB: <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 1271</b>
No.	DATE	APP'D	DETAILS OF AMENDMENTS																								
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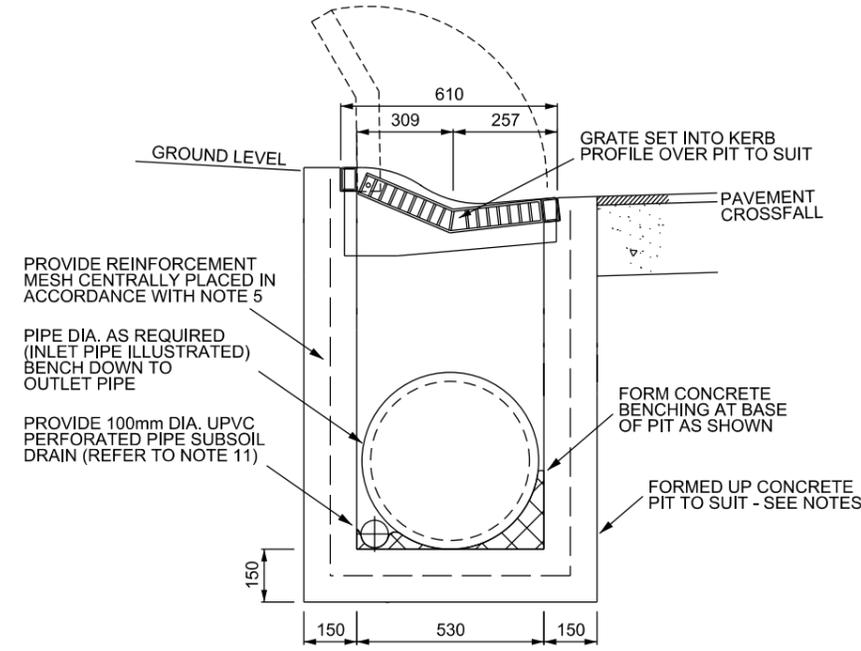
WELDLOK RFK95SYD GRATE AND FRAME (OR SIMILAR APPROVED CLASS D HEAVY DUTY)  
- LONG BARS AT 30 CENTRES;  
- CROSS BARS AT 100 CENTRES



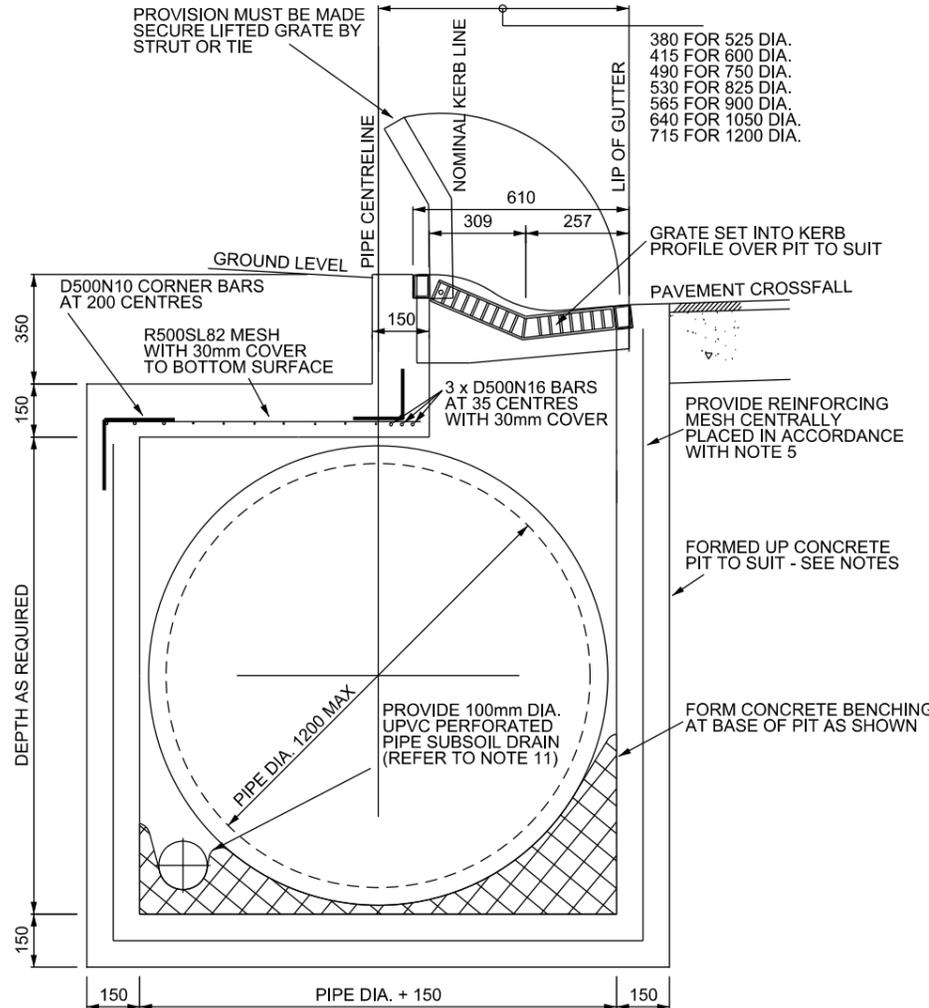
PLAN SHOWING GRATE & FRAME



SECTION A-A



SECTION B-B - THROUGH PIT (FOR PIPES UP TO 450 DIA.)



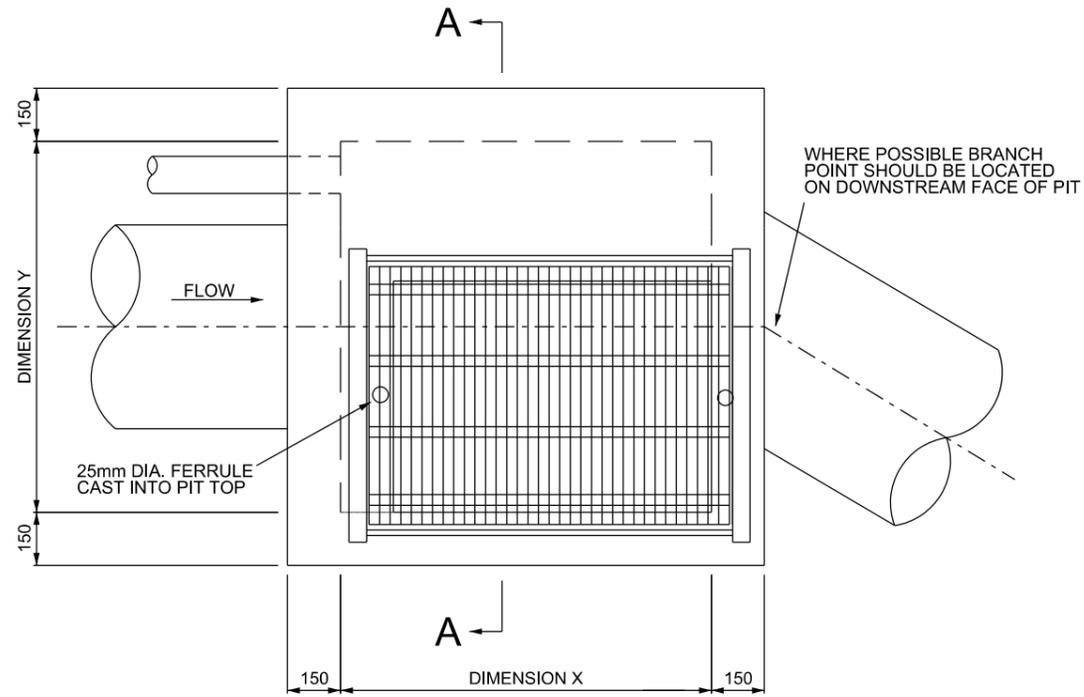
SECTION B-B - THROUGH PIT (FOR PIPES 525 TO 1200 DIA.)

NOTES

- The compressive strength of the concrete is to 25MPa at 28 days.
- Base of pit to be benched down to outlet pipe.
- Outlet pipe to have a rounded entrance.
- Pits over 1.0m deep to have step irons installed at 300mm spacing.
- Provide the following reinforcement in wall and floor slabs:
  - Use D500N10 bent corner bars at 200 centres, lapped 400 floor to wall and wall to wall.
  - For pits less than 1.8m deep provide R500SL82 mesh centrally placed in floor and wall slabs.
  - For pits between 1.8m and 3.0m deep provide R500SL81 mesh centrally placed in floor and wall slabs.
- Pits constructed to accommodate pipes larger than 1200mm dia. or having a depth greater than 3.0m are to have a special design.
- Where possible, intersection of pipe centrelines should occur on the downstream face of the pit. (See STD 6738 for preferred options where this is not possible).
- Centreline of pipes to be pegged at the downstream face of pit.
- Pits to have supporting roof sections for pipes larger than 900 dia. running perpendicular to kerb and gutter and 600 dia. running under kerb and gutter. Provide R500SL82 mesh with 30mm clear cover to bottom surface of suspended roof slab.
- Steel reinforcing shall conform to AS/NZS4671-2001:
 

R/D/I	= Round, Deformed ribbed, deformed Indented shape.
250/500	= Strength grade.
S/R	= Square or Rectangular bar configuration (mesh only).
L/N	= Low or Normal ductility class.
Size	= Nominal bar diameter in millimetres.
Spacing	= Transverse spacing of bars, expressed in millimetres, divided by 100 (mesh only).
- A 100mm dia. subsoil drainage pipe 3.0m long wrapped in filter sock is to be provided adjacent to and at the invert level of the inlet drainage pipe.
- All concrete works are to be in accordance with Aus-Spec Construction Specification No. 0319 for minor concrete works.

APPROVED:  DATE 19/06/2014 MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U/S/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Standard Drawings.dgn</small>	SCALES NOT TO SCALE ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	TECHNICAL SERVICES DIVISION	DRAWING TITLE GRATED INLET PIT IN ROLL OVER KERB	JOB STANDARD DRAWING	SHEET No. 1 OF 1 SHEETS PLAN NO. STD 1620
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																								
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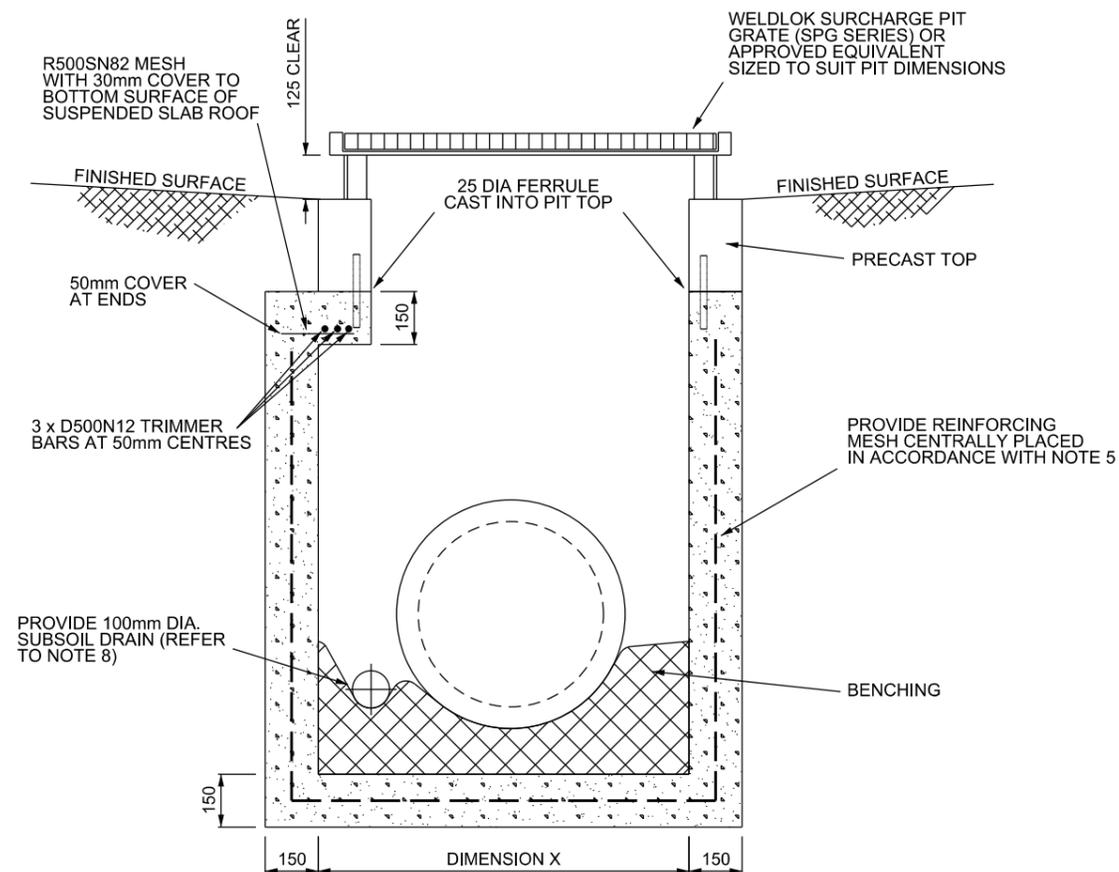
**PLAN**

**SCHEDULE OF JUNCTION PIT SIZES**

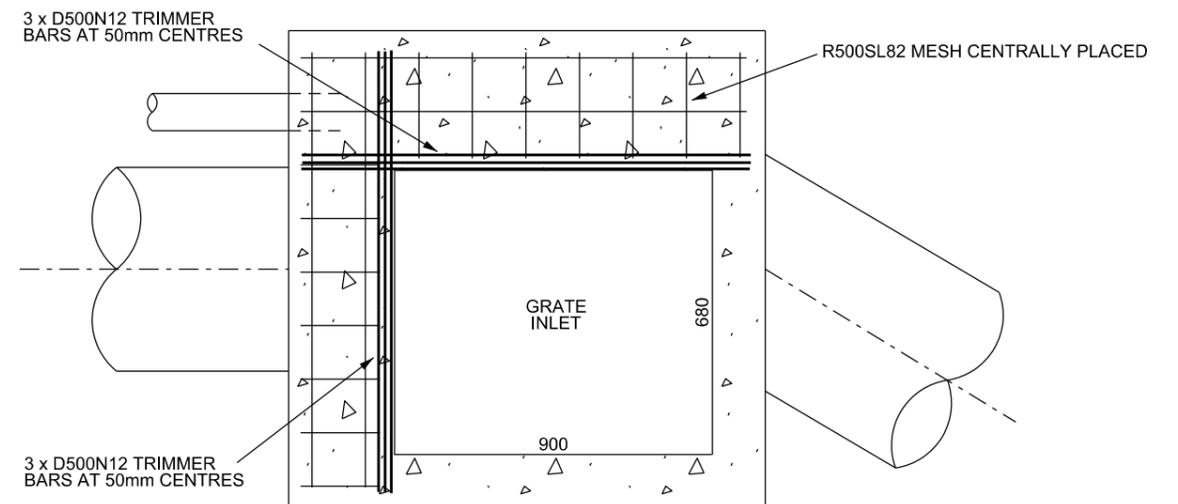
PIPE SIZE	INTERNAL PIT DIMENSIONS	
	DIMENSION X	DIMENSION Y
300 TO 750mm	900mm	900mm
900mm	1050mm	1050mm
1050mm	1200mm	1200mm

**NOTES**

- The compressive strength of the concrete is to be 25MPa at 28 days.
- All pipes are to be smoothly grouted at pit walls.
- Pits deeper than 1.0m are to have step irons at 300mm spacing.
- All pits to suit 1200mm dia. pipes are to have R500SL82 mesh with 30mm clear cover to bottom surface of suspended roof slab with 3 x D500SN12 trimmer bars at 50mm centres around the access grate.
- Provide the following reinforcement in walls and floor slabs:
  - Use D500N10 bent corner bars at 200mm centres lapped 400mm floor to wall and wall to wall.
  - For pits less than 1.8m deep provide R500SL82 mesh centrally placed in floor and wall slabs.
  - For pit depths between 1.8m and 3.0m provide R500SL81 mesh centrally placed in floor and wall slabs.
- Pits constructed to accommodate pipes larger than 1200mm dia. and having depths greater than 3.0m are to have a special design.
- Where possible, intersection of pipe centrelines should occur on the downstream face of the pit. (See STD 6738 for preferred options where this is not possible).
- A 100mm dia. subsoil drainage pipe 3.0m long wrapped in filter sock to be provided adjacent to and at the invert level of the inlet drainage pipe.
- All concrete works are to be in accordance with Aus-Spec Construction Specification No. 0319 for minor concrete works.

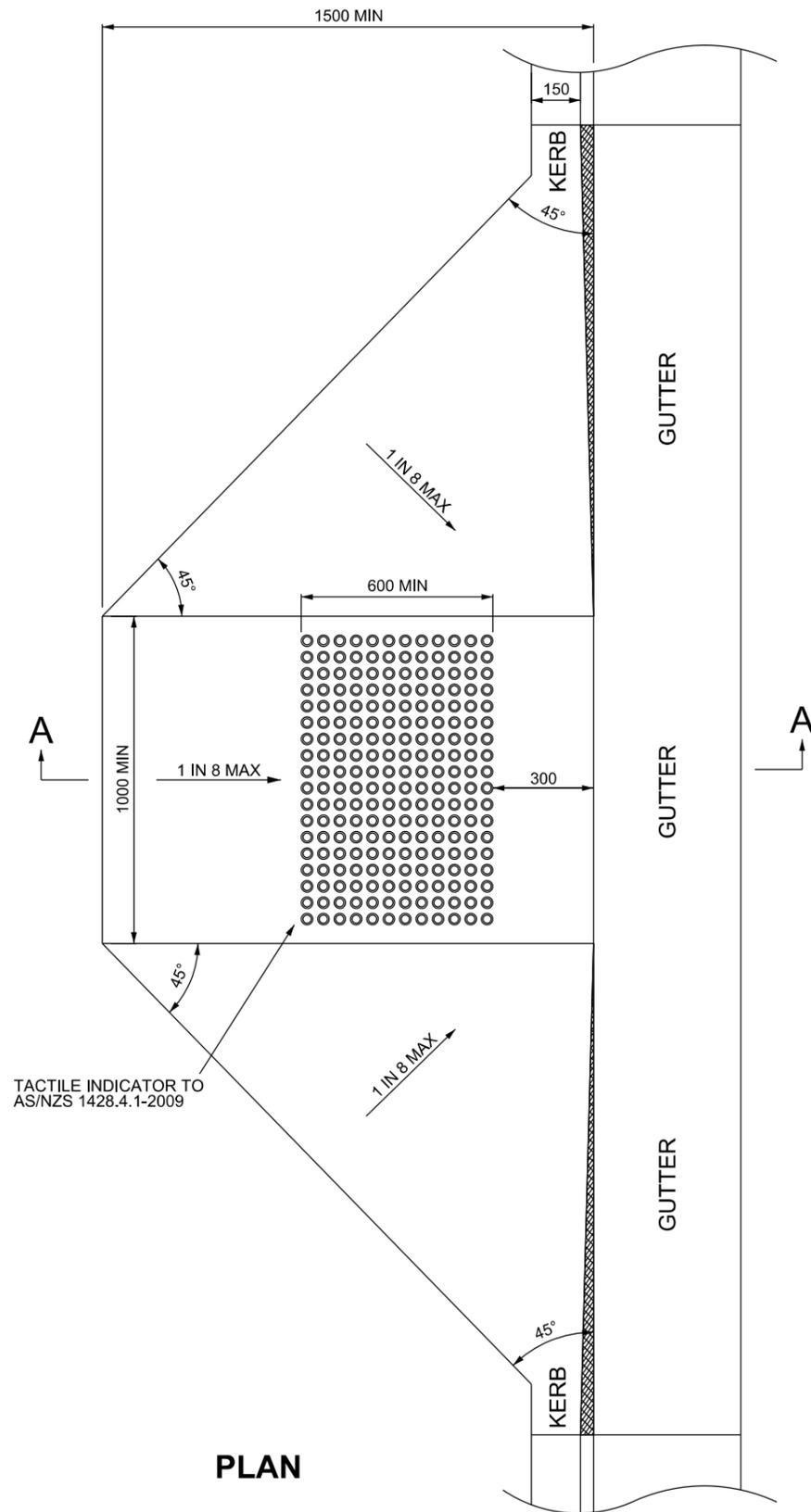


**SECTION A-A**



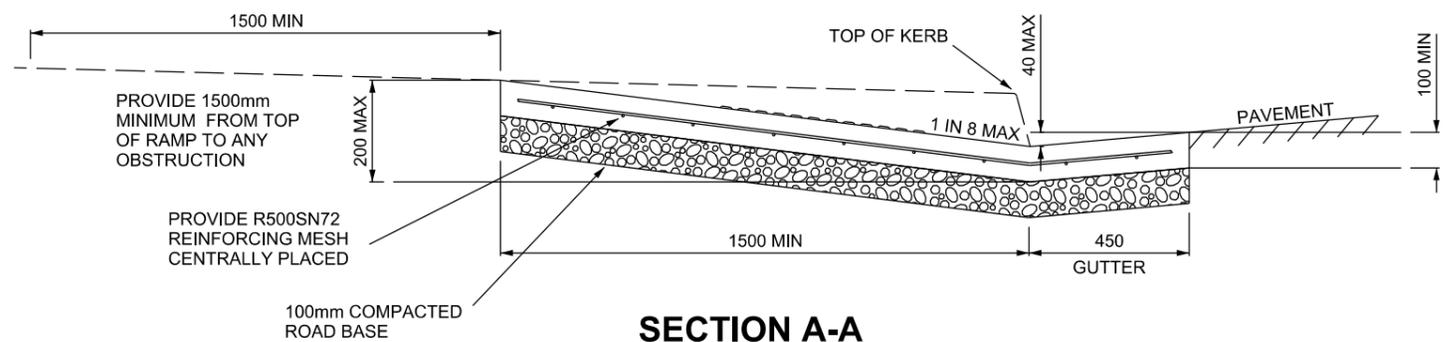
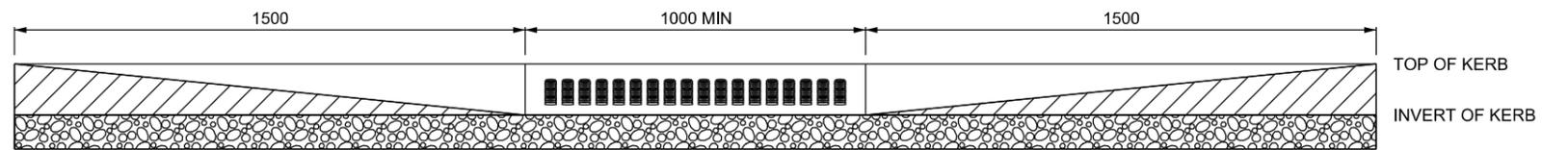
**ROOF REINFORCEMENT DETAILS**

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U/S/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>GRATED LETTER OPENING STORMWATER PIT</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 5090</b>
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																								
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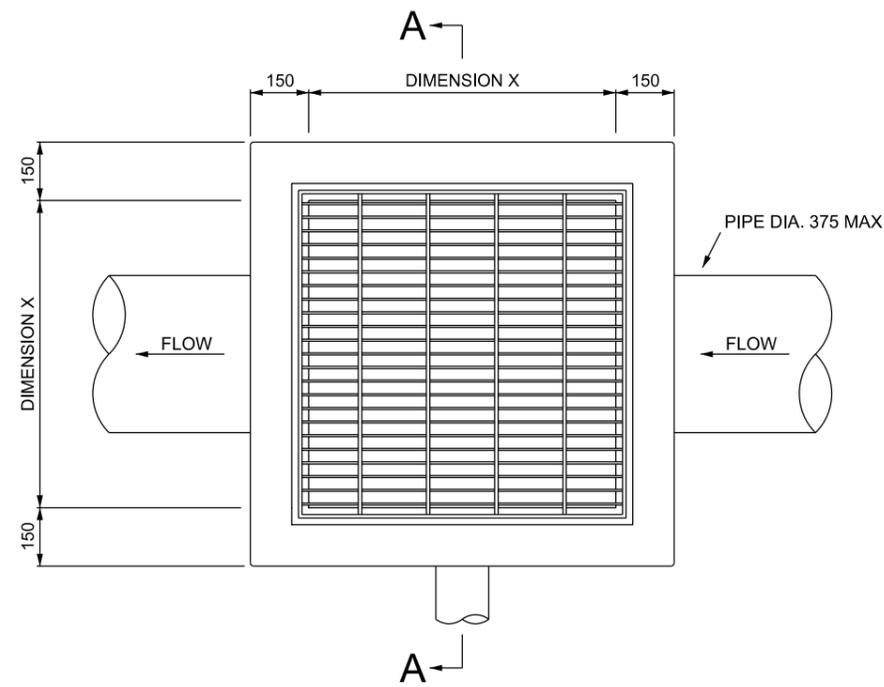


### NOTES

1. Construction of pram ramps is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
3. The compressive strength of the concrete is to be 25MPa at 28 days. All exposed edges are to have 10mm radius. Additionally, all poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the ramp.
4. The ramp and sloping sides are to be slip resistant and of a colour that contrasts with the adjoining surfaces.
5. Warning TGSIs (Tactile Ground Surface Indicators), as specified in AS/NZS 1428.4.1-2009, should be integrated into the pram ramp. The use of adhesive TGSi tiles is to be avoided. Tactile indicators are to be installed 300mm back from the face of the kerb and are to be 600mm to 800mm in depth and extend across the full width of the ramp as shown in the Plan view diagram. Where required, directional tactiles should be installed in accordance with Section 3 of AS/NZS 1428.4.1-2009.
6. A full separation joint is to be provided at the kerb using bituminous jointing (Jointex or similar). Additionally, bituminous jointing is to be placed around any large service pits with cracking prevented by the placement of additional reinforcing bars.
7. The finished surface is to be kept from drying too rapidly by covering with wet sand or plastic sheeting.
8. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.
9. The potential for sediment entering Council's underground stormwater drainage system is to be addressed. Appropriate measures are to be in place to prevent this from happening.
10. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.



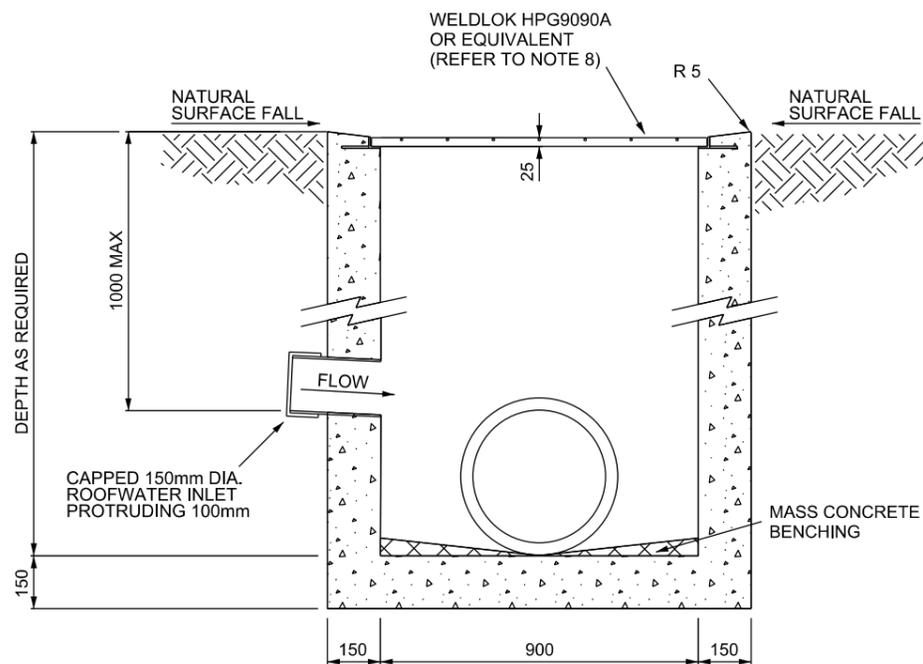
APPROVED  MANAGER TECHNICAL SUPPORT DATE 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U/S/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Standard Drawings.dgn</small>	SCALES NOT TO SCALE ORIGINAL SIZE A1 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 DUBBO CITY COUNCIL TECHNICAL SERVICES DIVISION	DRAWING TITLE PRAM RAMP	JOB STANDARD DRAWING	SHEET No. 1 OF 1 SHEETS PLAN NO. STD 5166
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																								
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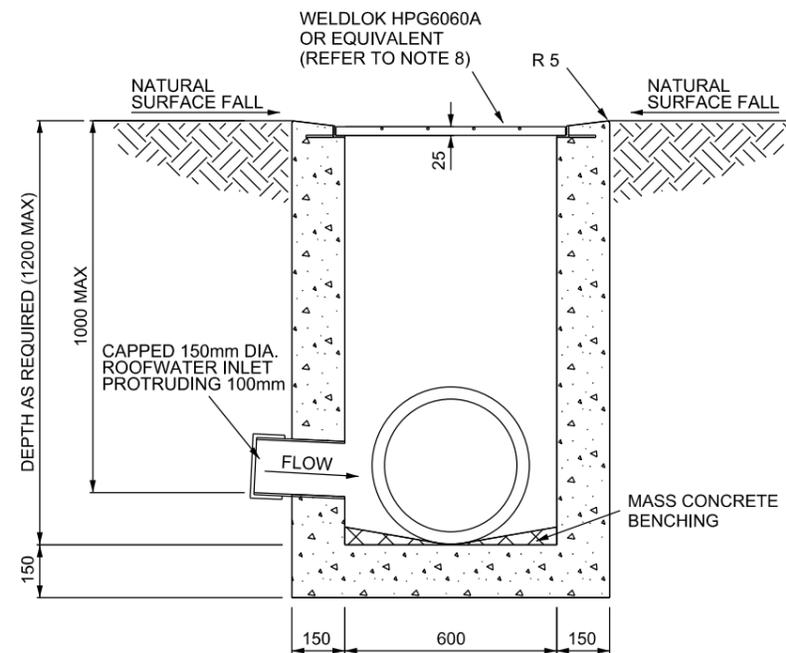
**PLAN**

**NOTES**

1. The compressive strength of the concrete is to be 25MPa at 28 days.
2. Interallotment drainage pits are primarily built as part of subdivision developments and constructed at the rear of the allotments in the lowest point when it is not possible to drain the roof water to the street drainage system.
3. All concrete works are to be in accordance with Aus-Spec Construction Specification No. 0319 for minor concrete works.
4. Pits over 1.2m deep are to have step irons installed at 300mm spacing.
5. A capped, 150mm Dia uPVC inlet stub is to be placed in the pit to allow for future roof water connections. The position of the stub is to be indicated by a peg installed on the surface.
6. Pits may be built using precast components, however pipe entry and exits are to be sealed to the satisfaction of Council and the bases to be benched with mass concrete as shown in Section A-A of this drawing.
7. Pit lids are to be lower than the natural ground level. The surrounding area is to be shaped so that all surface runoff is directed into the grate.
8. Grates are to be galvanised mild steel with hinged surround and lock down bolts (WELDLOK HPG6060A or HPG9090A or equivalent).
9. At the completion of the works, erosion and sediment controls are to be placed around the pits in accordance with the approved Erosion and Sediment Control Plan and are to remain in place until such time as the site has been established with vegetation. The operation of erosion and sediment controls should be monitored and rectified as necessary.
10. One single width (300mm) of turf is to be laid around the pit to avoid any scouring of topsoil.



**SECTION A-A  
(FOR DEPTHS OVER 1200mm)**

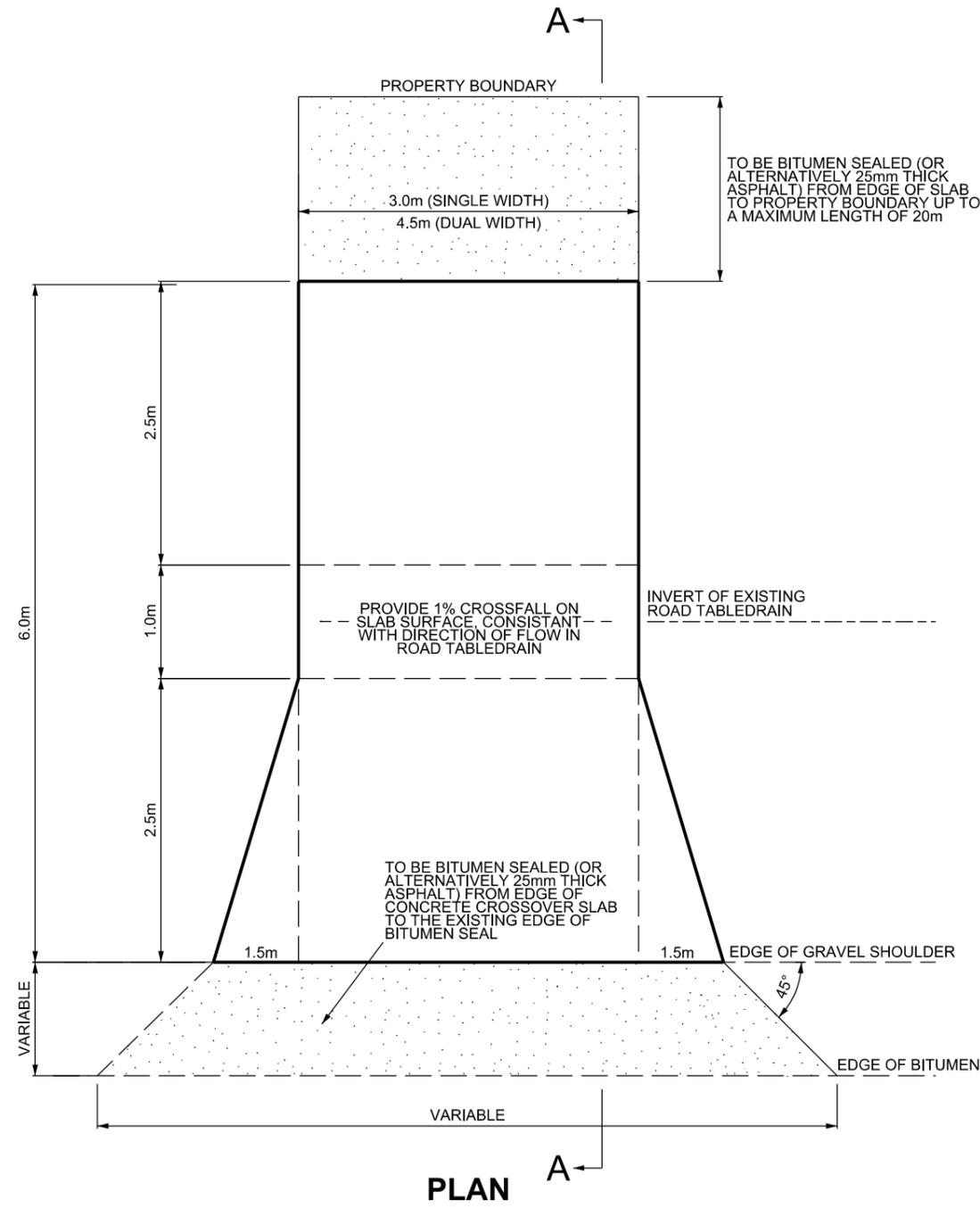


**SECTION A-A  
(FOR DEPTHS UP TO 1200mm)**

**TABLE FOR DIMENSION X**

PIT DEPTH (mm)	DIMENSION X (mm)
≤ 1200	600
> 1200	900

APPROVED  MANAGER TECHNICAL SUPPORT DATE 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U/S/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Standard Drawings.dgn</small>	SCALES <p style="text-align: center;"><b>NOT TO SCALE</b></p> <p style="text-align: center;">ORIGINAL SIZE A1</p>	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 TECHNICAL SERVICES DIVISION	DRAWING TITLE <p style="text-align: center;"><b>INTER-ALLOTMENT DRAINAGE INLET PIT</b></p>	JOB <p style="text-align: center;"><b>STANDARD DRAWING</b></p>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <p style="text-align: center;"><b>STD 5197</b></p>
No.	DATE	APP'D	DETAILS OF AMENDMENTS																									
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2.	19/06/2014	CG	AMENDED																									
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**NOTES**

1. Construction of driveway slabs is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
3. The driveway slab is to be constructed to the dimensions and specifications shown on this plan. The thickness shall be as follows:
  - (a) For a rural residential situation, the concrete shall be 125mm thick with one layer of R500SL82 mesh placed centrally and with a broom finish.
  - (b) For a commercial situation, the concrete shall be 150mm thick with one layer of R500SL82 mesh placed centrally and with a broom finish.
  - (c) For an industrial situation, the concrete shall be 200mm thick with two layers of R500SL92 mesh with 50mm top and bottom cover and a broom finish.

The compressive strength of the concrete is to be 25MPa at 28 days. All exposed edges are to be 10 mm radius. Additionally all poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the driveway slab.

4. The crossover slab shall be placed centrally across the road table drain. The table drain is required to have minimum 1% longitudinal fall from the high side to the low side and the finished surface level of the flat section shall be the same level as the existing ground on the high side and a minimum of 50mm higher than the ground level on the low side. In instances where the existing table drain is flat, (ie less than 1%) then these will be treated on an individual basis. Where the table drains have a grade of more than 5%, measures are to be put in place so that the potential for erosion can be minimised.

5. The following inspections are to be carried out prior to and during construction. In this regard, 24 hours notice is to be given by phoning 6801 4000. The inspections required are as follows:

- (a) Site inspection prior to the commencement of work.
- (b) When the formwork and compacted base are in place and prior to the mesh being placed.
- (c) When the mesh has been placed.
- (d) Prior to the bitumen sealing or asphalt works.
- (e) At the completion of all the works including restoration of the site.

Failure to have the above inspections carried out may result in the rejection of the crossing.

6. The finished surface is to be kept from drying out too rapidly by covering with wet sand or plastic sheeting.

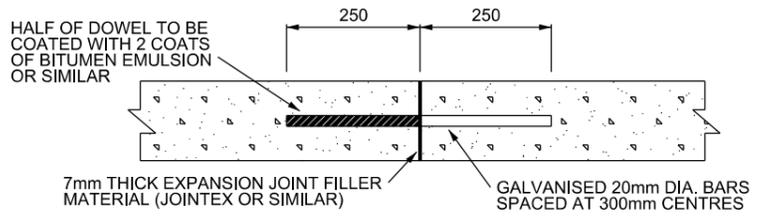
7. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.

8. Prior to construction of driveway slab, Section 138 Roads Act - Approval for Works in the Public Road to be lodged and approved by Council.

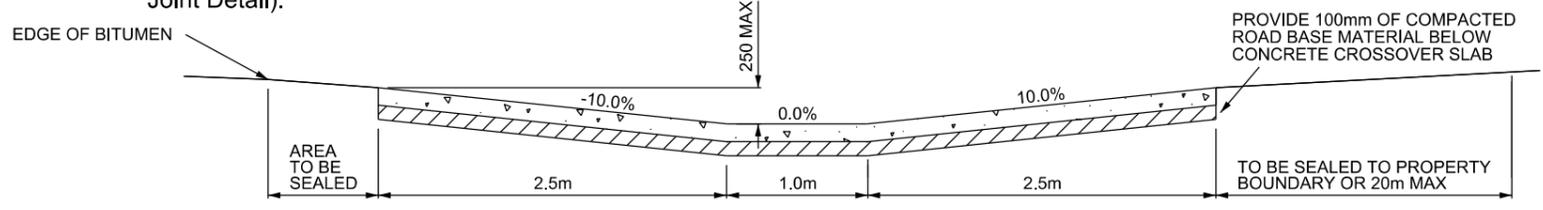
9. The potential for erosion and the transportation of sediment is to be addressed. Appropriate measures are to be in place to prevent this from happening.

10. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.

11. If the length or width of driveway slab exceeds 6m an expansion joint is to be provided at the mid-point (see Expansion Joint Detail).

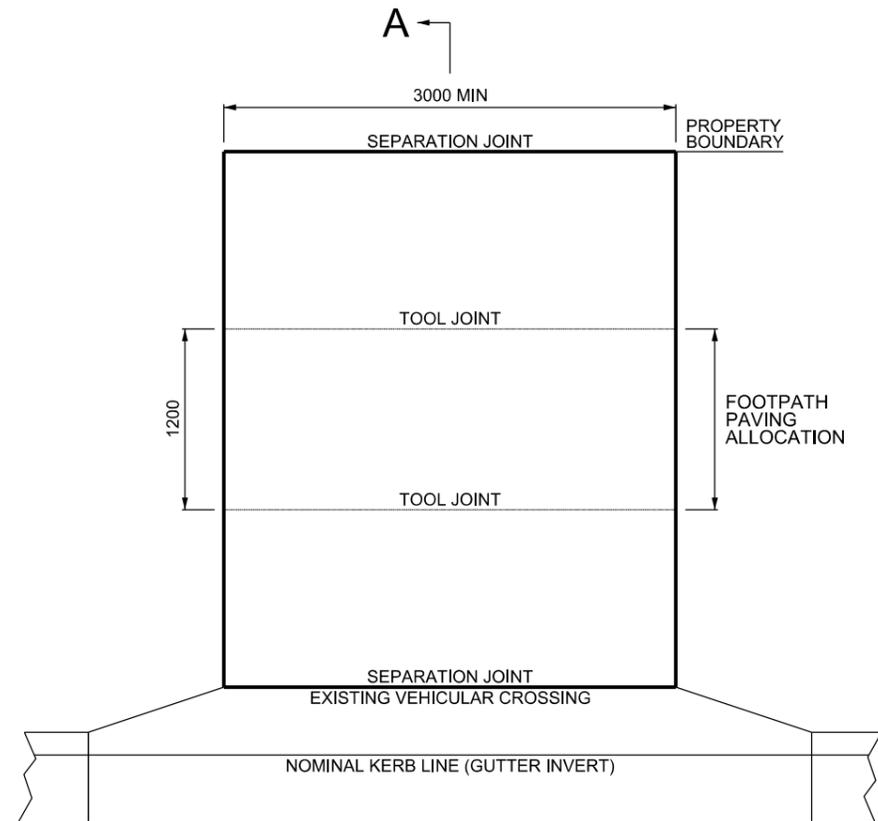


**EXPANSION JOINT DETAIL**

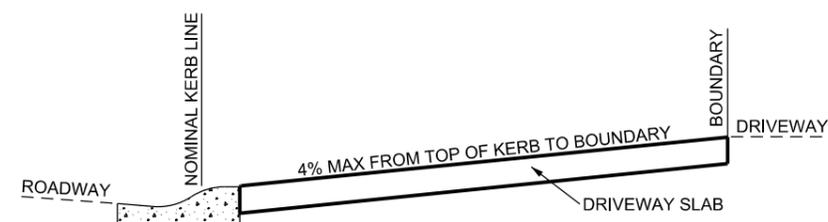
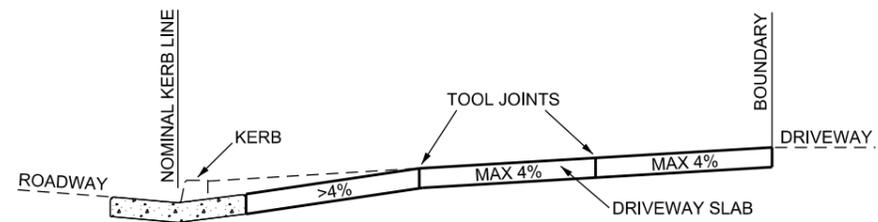
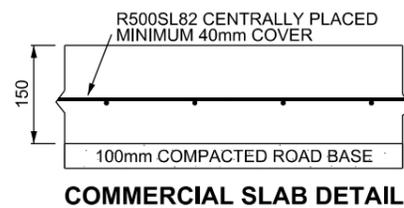
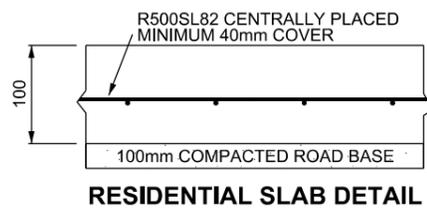


**SECTION A-A**

APPROVED  MANAGER TECHNICAL SUPPORT DATE 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Standard Drawings.dgn</small>	SCALES NOT TO SCALE ORIGINAL SIZE A1 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 DUBBO CITY COUNCIL TECHNICAL SERVICES DIVISION	DRAWING TITLE CROSSOVER DRIVEWAY SLAB STANDARD DRAWING	JOB STANDARD DRAWING	SHEET No. 1 OF 1 SHEETS PLAN NO. STD 5205
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**PLAN**



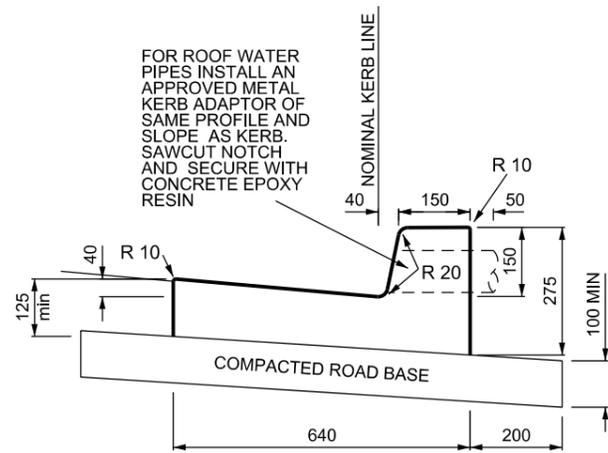
NOTE: WHERE A NEW VEHICULAR CROSSING IS TO BE CONSTRUCTED WITHIN AN EXISTING KERB AND GUTTER, THE TOTAL LENGTH OF KERB AND GUTTER MUST BE REMOVED (REFER STD 5235)

**NOTES**

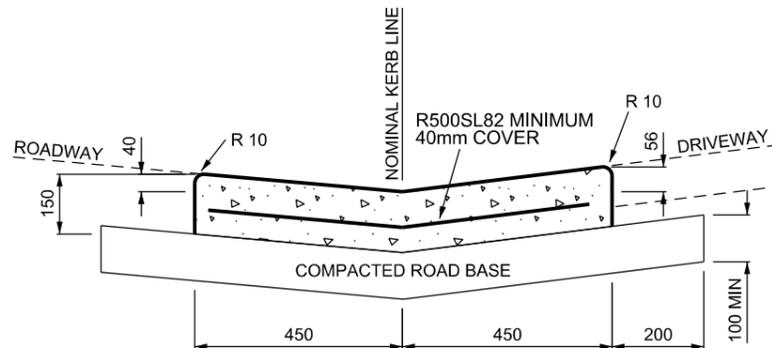
1. Construction of driveway slabs is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
2. Contractors/Owners/Developers are responsible for the locating of all all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
3. The driveway slab is to be constructed to the dimensions and specifications as shown on this drawing. The compressive strength of the concrete is to be 25MPa at 28 days. All exposed edges are to be 10mm radius. Additionally, all poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the slab.
4. It is the responsibility of the Contractor/Owner/Developer to ensure that the crossfall results in a suitable change of grade such that vehicles will not bottom out. In areas of doubt, the applicant will be required to provide Council with a longitudinal section through the proposed driveway with an appropriate car profile to verify such works. Alternatively, Council can carry out such works at the full cost to the applicant.
5. A fully separated joint is to be provided at the back of the new vehicular crossing and the driveway slab using bituminous jointing (Jointex) or similar.
6. The vehicular crossing and the driveway slab are to be poured separately. Pouring of the two (i.e. the vehicular crossing and the driveway slab), as one project will lead to rejection by Council.
7. The finished surface is to be kept from drying out too rapidly by covering with wet sand or plastic sheeting.
8. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.
9. Prior to construction of driveway slab, Section 138 Roads Act - Approval for Works in the Public Road to be lodged and approved by Council.
10. The potential for sediment to enter Council's underground stormwater system is to be addressed. Appropriate measures are to be put in place to prevent this from happening.
11. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.
12. The following inspections are to be carried out prior to and during construction. In this regard 24 hours notice is to be given by phoning 6801 4000. The inspections required are as follows:
  - (a) Site inspection prior to the commencement of work.
  - (b) When the formwork and compacted base are in place and prior to the mesh being placed.
  - (c) When the mesh has been placed.
  - (d) At the completion of all the works including restoration of the site.

Failure to have the above inspections carried out may result in the rejection of the crossing.

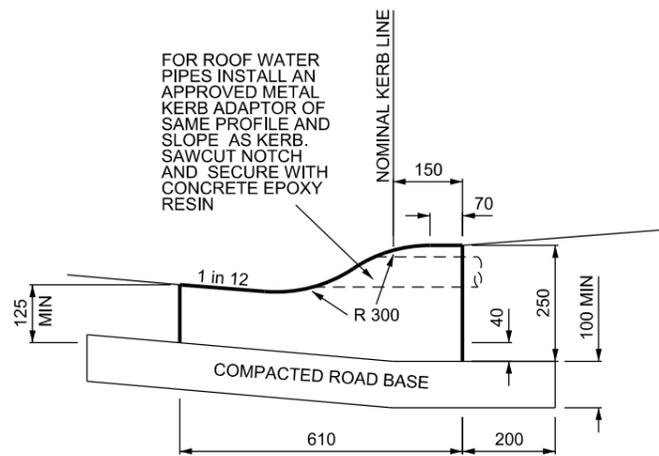
APPROVED:  DATE: 19/06/2014 MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES NOT TO SCALE ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	DUBBO CITY COUNCIL TECHNICAL SERVICES DIVISION	DRAWING TITLE: DRIVEWAY SLAB JOB: STANDARD DRAWING	SHEET No. 1 OF 1 SHEETS PLAN NO. STD 5211
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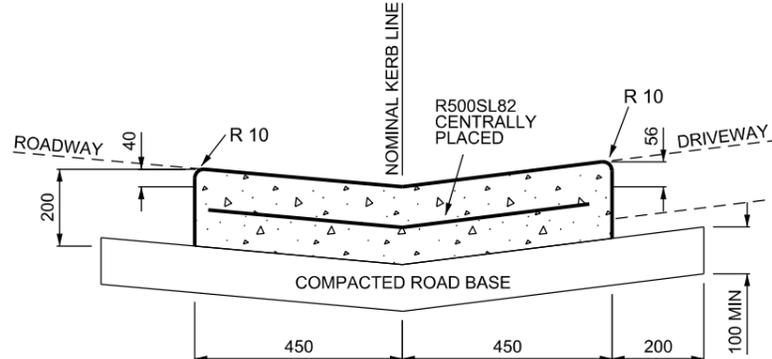
**STANDARD KERB & GUTTER SECTION DETAIL**



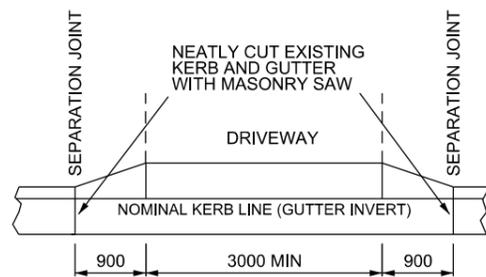
**RESIDENTIAL VEHICULAR CROSSING SECTION DETAIL**



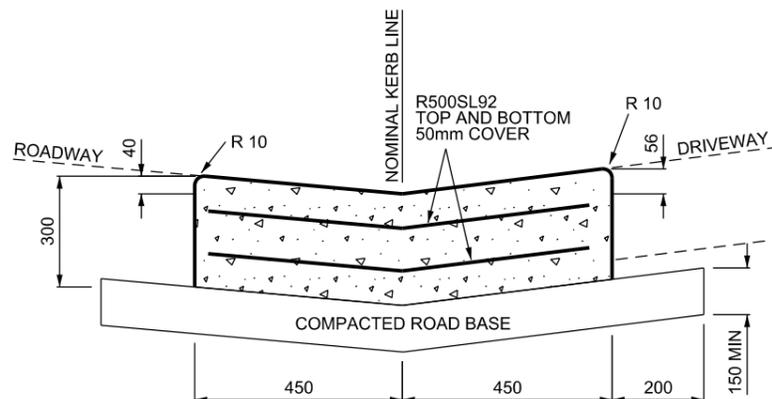
**ROLL OVER KERB AND GUTTER SECTION DETAIL**



**COMMERCIAL VEHICULAR CROSSING SECTION DETAIL**



**RESIDENTIAL VEHICULAR CROSSING WITH STANDARD KERB AND GUTTER**



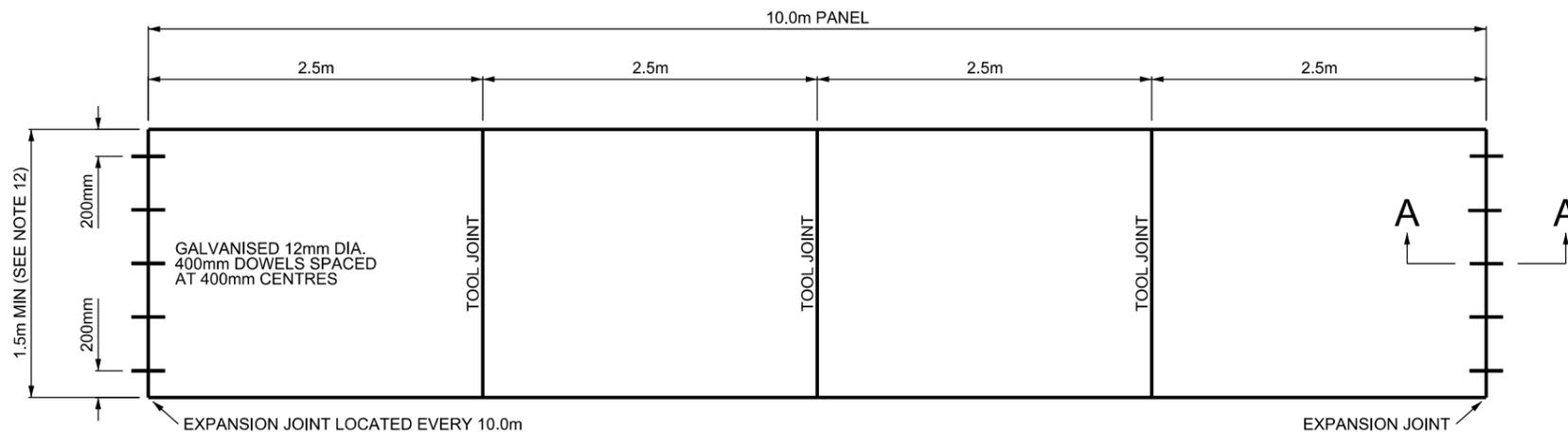
**INDUSTRIAL VEHICULAR CROSSING SECTION DETAIL**

**NOTES**

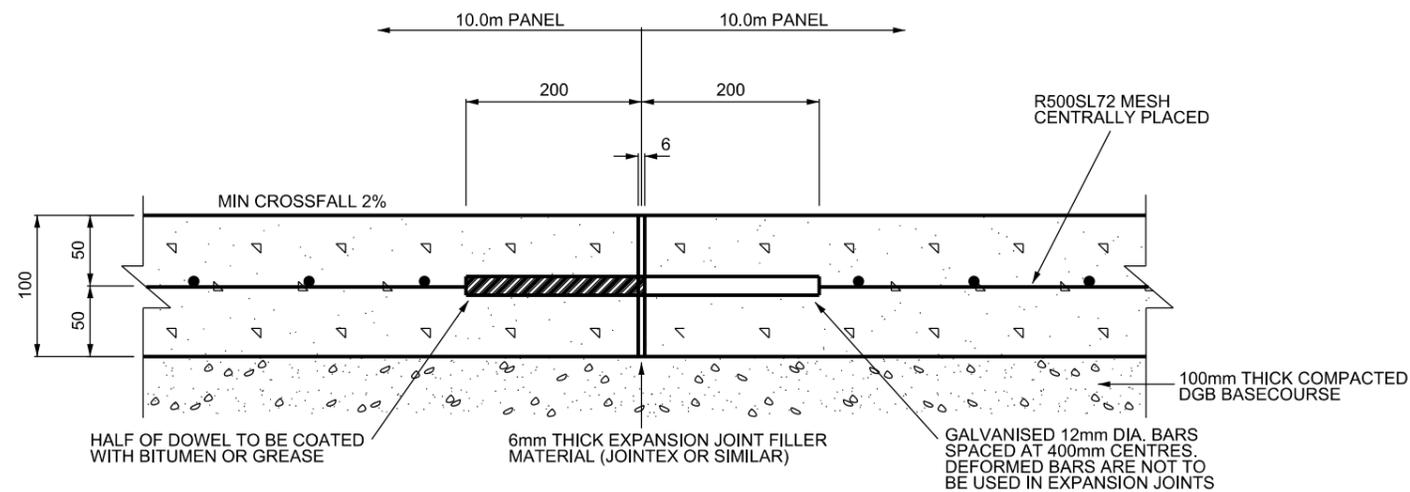
1. Construction of vehicular crossings is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
3. The vehicular crossing is to be constructed to the dimensions and specifications shown on this drawing. The compressive strength of the concrete is to be 25 MPa at 28 days. All exposed edges are to be 10mm radius. Additionally, all poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the vehicular crossing.
4. It is the responsibility of the Contractor/Owner/Developer to ensure that the crossfall results in a suitable change of grade such that vehicles will not bottom out. In areas of doubt, the applicant will be required to provide Council with a longitudinal section through the proposed driveway with an appropriate car profile to verify such works. Alternatively, Council can carry out such works at the full cost to the applicant. The section depicting a suitable arrangement for high crossfall road shoulders will be assessed on an individual basis and will only be allowed with specific approval from Dubbo City Council.
5. A full separation joint is to be provided at the back of the new vehicular crossing and the driveway slab using bituminous jointing (Jointex) or similar.
6. The vehicular crossing and the driveway slab are to be poured separately. Pouring the two (i.e. the vehicular crossing and the driveway slab) as one project will lead to the rejection by Council.
7. The finished surface should be kept from drying out too rapidly by covering with wet sand or plastic sheeting.
8. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.
9. Prior to construction of any driveway crossover, Section 138 Roads Act - Approval for Works in the Public Road to be lodged and approved by Council.
10. The potential for sediment to enter Council's underground stormwater system is to be addressed. Appropriate measures are to be put in place to prevent this from happening.
11. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.
12. Where a redundant vehicular crossing is to be removed and replaced with kerbing and guttering, the total length of the existing vehicular crossing is to be completely removed. The section is to be replaced with kerb and gutter that is constructed in accordance with this standard drawing.
13. The area in front of the replacement kerb and gutter or vehicular crossing shall be neatly saw cut and the material removed and replaced with AC10 (Asphaltic Concrete). Minimum dimensions of the restoration work are to be 600mm wide and 50mm deep. All material is to be placed on a thoroughly compacted DGB base material.
14. The following inspections are to be carried out prior to and during construction. In this regard, 24 hours notice is to be given by phoning 6801 4000. The inspections required are as follows:
  - (a) Site inspection prior to commencement of work.
  - (b) When the formwork and compacted base are in place and prior to the mesh being placed.
  - (c) When the mesh has been placed.
  - (d) Prior to the bitumen sealing or asphalt works.
  - (e) At the completion of all works including restoration of site.

Failure to have the above inspections carried out may result in the rejection of the crossing.

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCG Standard Engineering Drawings\Control\DCG Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 DUBBO CITY COUNCIL TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>KERB &amp; VEHICULAR CROSSING PROFILES</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 5235</b>
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**PLAN**



**SECTION A-A - EXPANSION JOINT AND MESH DETAIL**

**NOTES**

1. Construction of concrete cycleways and footpaths is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.

2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.

3. The concrete cycleway or footpath is to be constructed to the dimensions and specifications as shown on this drawing. The thickness shall be as follows:

For all concrete footpaths, the concrete shall be 100mm minimum with one layer of R500SL72 mesh centrally placed. The finish is to be a coarse broom finish applied laterally to the direction of travel.

The following exceptions will apply:

In industrial or commercial areas, the minimum thickness will remain 100mm except where there is a driveway to a property. In this case, the footpath will require thickening to 150mm in commercial areas and 200mm in industrial areas. Construction of this section of footpath is to be in accordance with Dubbo City Council's Standard Drawings 5211 and 5235.

The compressive strength of the concrete is to be 25MPa at 28 days. All exposed edges are to have a radius of 10mm. Additionally, all poor subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the footpath or cycleway.

4. Final line and level for all paths shall be determined by Dubbo City Council. The maximum crossfall for all paths is to be no greater than 2%.

5. Concrete footpaths that cross existing driveways are to be transitioned over a minimum of 5.0m on both sides of the existing driveway if any transition is required.

6. The following inspections are to be carried out prior to and during construction. In this regard, 24 hours notice is to be given by phoning (02) 6801 4000. The inspections required are as follows:

- (a) Site inspection prior to the commencement of works.
- (b) When the formwork and mesh are in place.
- (c) After the completion of all works including restoration of the site.

Failure to have the above inspections carried out may result in the rejection of the footpath/cycleway. Footpaths are to be completed to the satisfaction of Council. Any decision made by Council will be final.

7. The finished surface is to be kept from drying out too quickly by covering with wet sand or plastic sheeting.

8. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.

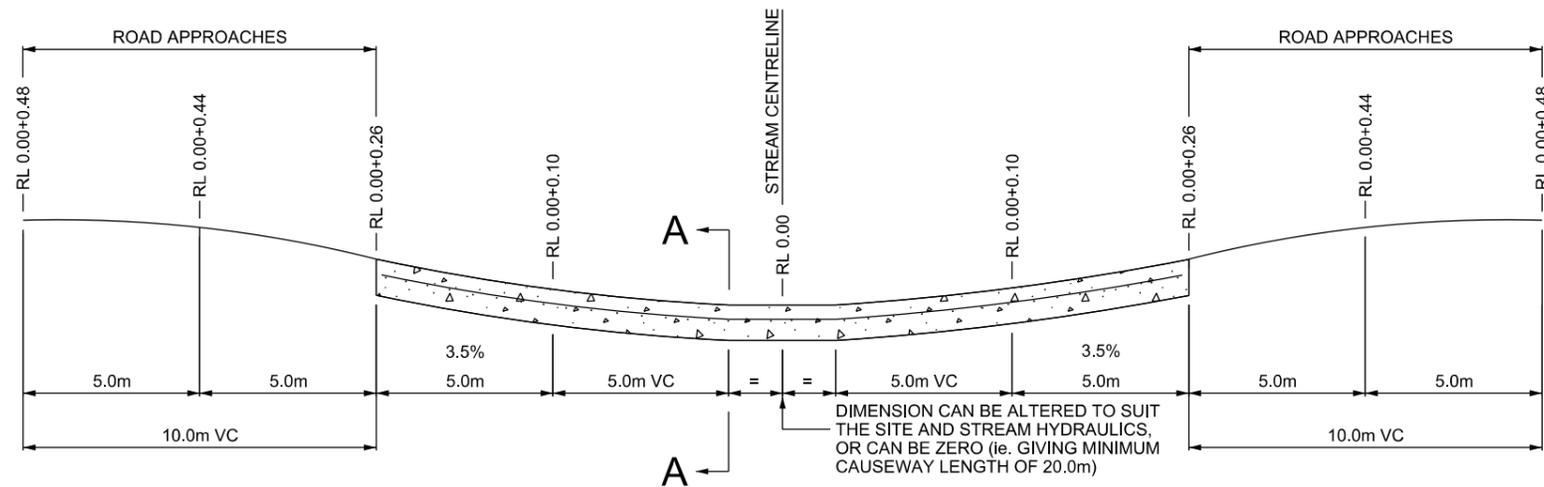
9. The potential for erosion and the transportation of sediment is to be addressed. Appropriate measures are to be in place to prevent this from happening.

10. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish from the site and the restoration of any disturbed land adjacent to the works.

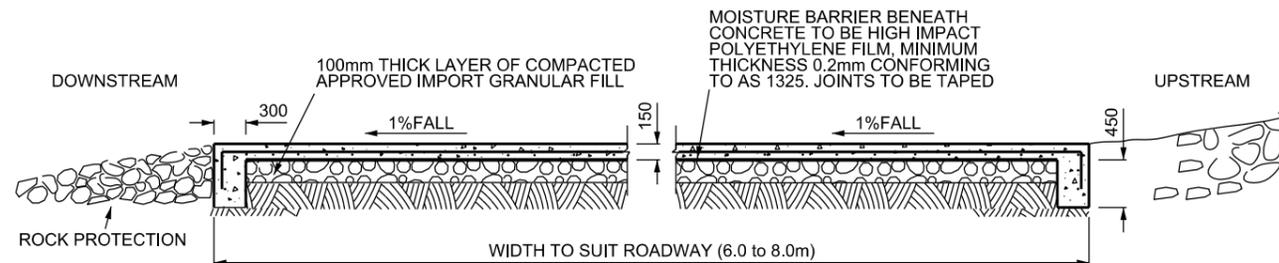
11. Longitudinally, the footpath is to blend into existing driveways at a grade no greater than 4%.

12. For shared footpaths, the minimum width is to be 2.5m.

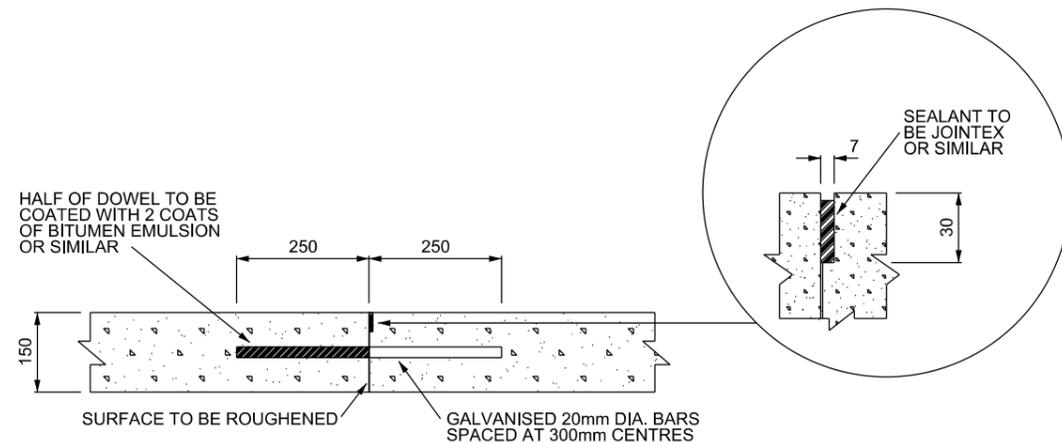
APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Standard Drawings.dgn</small>	SCALES <p style="text-align: center; font-weight: bold;">NOT TO SCALE</p> <p style="text-align: center;">ORIGINAL SIZE A1</p>	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 <b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION	DRAWING TITLE <p style="text-align: center; font-weight: bold;">FOOTPATHS &amp; CYCLEWAYS</p>	JOB <p style="text-align: center; font-weight: bold;">STANDARD DRAWING</p>	SHEET No. 1 OF 1 SHEETS PLAN No. STD 5251
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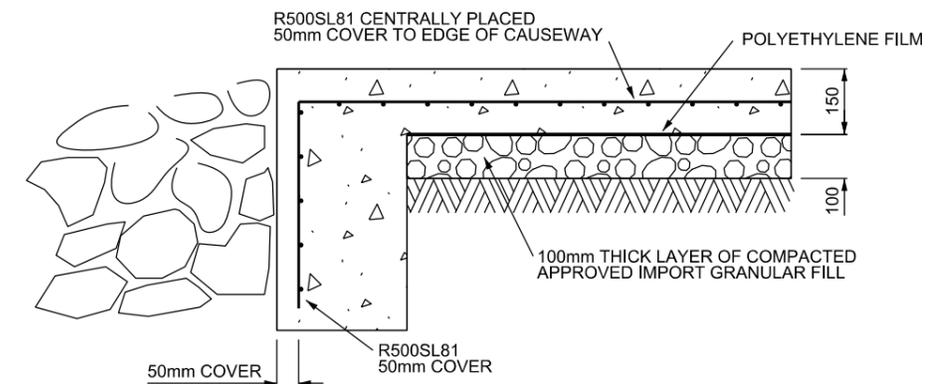
**CONCRETE CAUSEWAY  
LONG SECTION**



**SECTION A-A - TYPICAL CROSS SECTION**



**TRANSVERSE CONSTRUCTION JOINT**



**CURTAIN WALL DETAIL**

**NOTES**

1. This causeway design standard is based on a design speed of 80km/h and is intended for use on local rural roads with Average Annual Daily Traffic (AADT) less than 200. Where the design speed or AADT is exceeded this standard is to be treated as a guide only, and a full design to current Austroads standards is to be carried out.
2. R.L. 0.00 is adopted relative to the site under investigation and will be determined by Council's supervising engineer.
3. The minimum causeway transverse crossfall is to be 1%.
4. Hydraulic analysis should be undertaken to ensure the velocity and/or depth at the causeway are not hazardous. The following guidelines may be used:
  - (a) The peak depth should not exceed 0.3m
  - (b) The peak velocity should not exceed 3.0m/s
  - (c) The peak velocity-depth product should not exceed 0.3m<sup>2</sup>/s
5. Two options are permitted for the construction of the causeway slab and curtain wall:

**Reinforced concrete:**

- (a) The slab dimensions are to be as shown on the Typical Cross Section detail.
- (b) The minimum compressive strength of the concrete is to be 25 MPa at 28 days.
- (c) The reinforcement will be R500SL81 mesh placed centrally. For splices in the mesh the minimum overlap (both transverse and longitudinally) will be 400mm.
- (d) Dowelled joints are to be provided at maximum spacing of 25m in accordance with the Transverse Construction Joint detail.
- (e) High impact polyethylene film moisture barrier is to be provided under the slab.

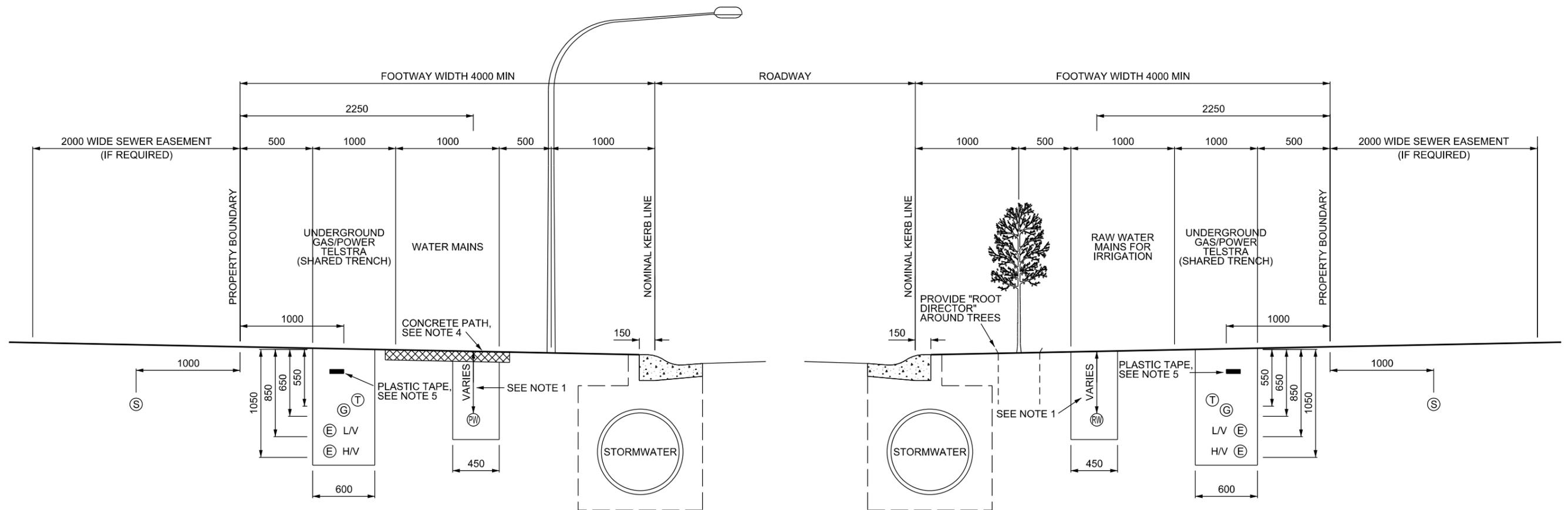
**Fibrecrete:**

- (a) The slab dimensions are to be as shown on the Typical Cross Section detail.
- (b) The fibrecrete is to contain 186EE fibres and have a fibre content of 75kg per cubic metre (Type F6/75). Compressive strength is to be 40MPa at 28 days and flexural strength is to be 6MPa at 90 days.
- (c) Dowelled joints are to be provided at 10m spacing in accordance with Transverse Construction Joint detail.
- (d) The steel reinforcement is not required.
- (e) The high impact polyethylene film moisture barrier is not required.

APPROVED  MANAGER TECHNICAL SUPPORT DATE 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\S1\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b> 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>CONCRETE CAUSEWAY</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 5266</b>
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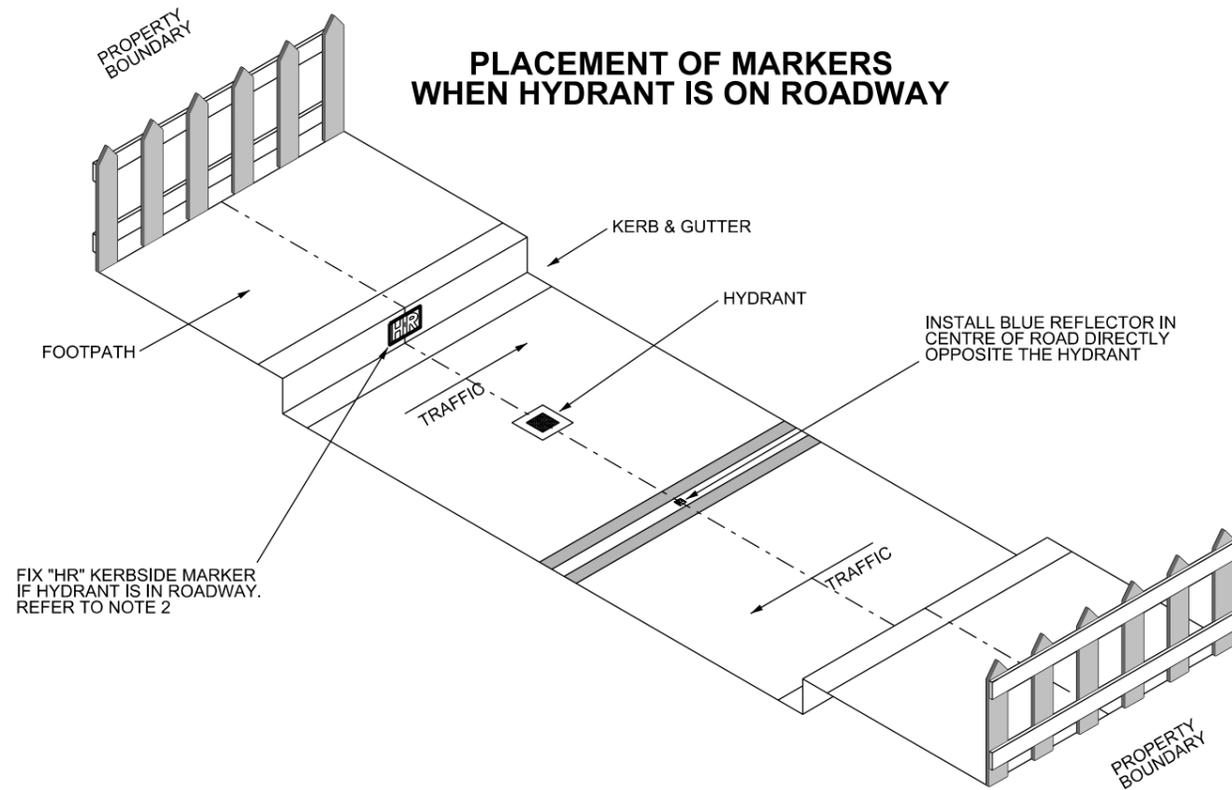
## NOTES

1. Cover over water mains shall be 600mm minimum in all areas subject to vehicular loading and 50mm minimum otherwise.
2. Footpath trees must not be planted within 6m of street lights.
3. For water, sewer and stormwater trench details refer to STD 5518.
4. If required, concrete footpath is to be 1200mm wide and located centrally. For footpath detail refer to STD 5251.
5. Two layers of plastic identification tape for electricity/gas/telstra to be installed 200mm below the finished surface level.



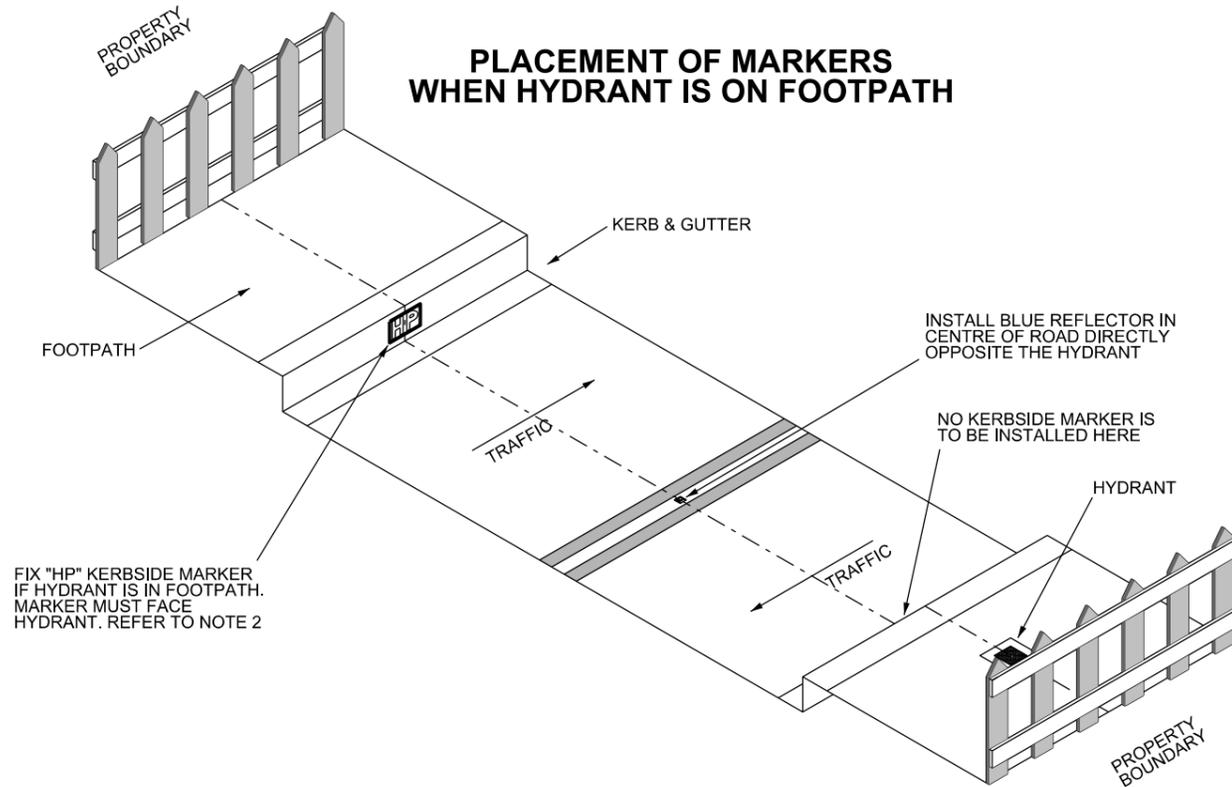
LEGEND	
(E)	- ELECTRICITY CABLES
(G)	- GAS MAINS
(PW)	- POTABLE WATER
(RW)	- RAW WATER
(S)	- SEWER LINE
(T)	- TELSTRA CABLES

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES NOT TO SCALE 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>RESIDENTIAL SUBDIVISION SERVICE ALLOCATION IN FOOTWAY</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 5268</b>
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**PLACEMENT OF MARKERS WHEN HYDRANT IS ON ROADWAY**

FIX "HR" KERBSIDE MARKER IF HYDRANT IS IN ROADWAY. REFER TO NOTE 2

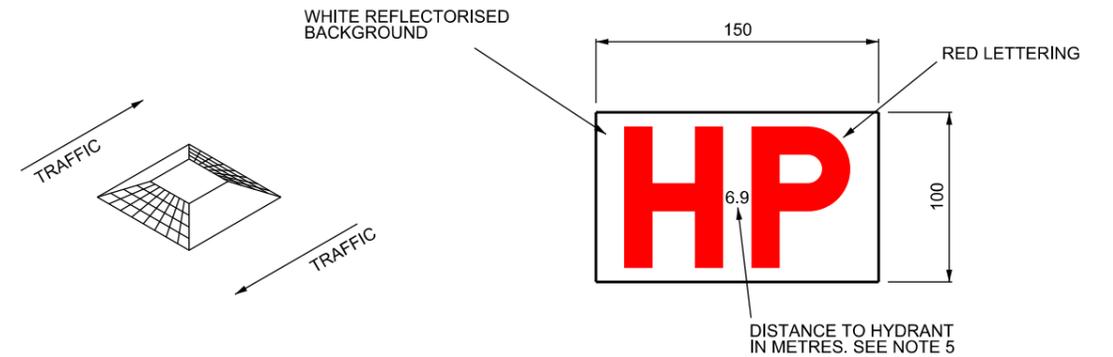


**PLACEMENT OF MARKERS WHEN HYDRANT IS ON FOOTPATH**

FIX "HP" KERBSIDE MARKER IF HYDRANT IS IN FOOTPATH. MARKER MUST FACE HYDRANT. REFER TO NOTE 2

**NOTES**

1. Hydrant RRPM (reflective raised pavement marker) shall be blue and have two reflective faces opposing traffic. RRPMS are to be manufactured in accordance with AS 1906-2007. Utilise Ray-O-Lite "Catseyes" or similar product.
2. Kerbside marker signs are to be aluminium with a thickness of 2mm. Dimensions are to be 100x150mm with a reflective white background and red upper case lettering fixed to the kerb with an exterior adhesive such as Sikaflex or a similar product applied in accordance with the manufacturer's recommendations. Signs are to have lettering "HR" if the hydrant is on the road or "HP" if the hydrant is on the footpath.
3. Hydrant RRPM is to be fixed to roadway with an exterior adhesive such as Sikaflex or a similar product applied in accordance with the manufacturer's recommendations.
4. "HP" or "HR" signs must face the direction of the hydrant.
5. Distance from kerbside marker sign to hydrant must be marked on the centre of the kerbside marker as shown in the kerbside marker example below. Distances must be expressed to one decimal place, i.e. (x.x) and measured in metres. Distance to be measured from the face of the marker plate to the centre of the hydrant lid. Numbers are to be stamped onto sign plate with a number punch and must not be written in any kind of ink or paint which could potentially fade.

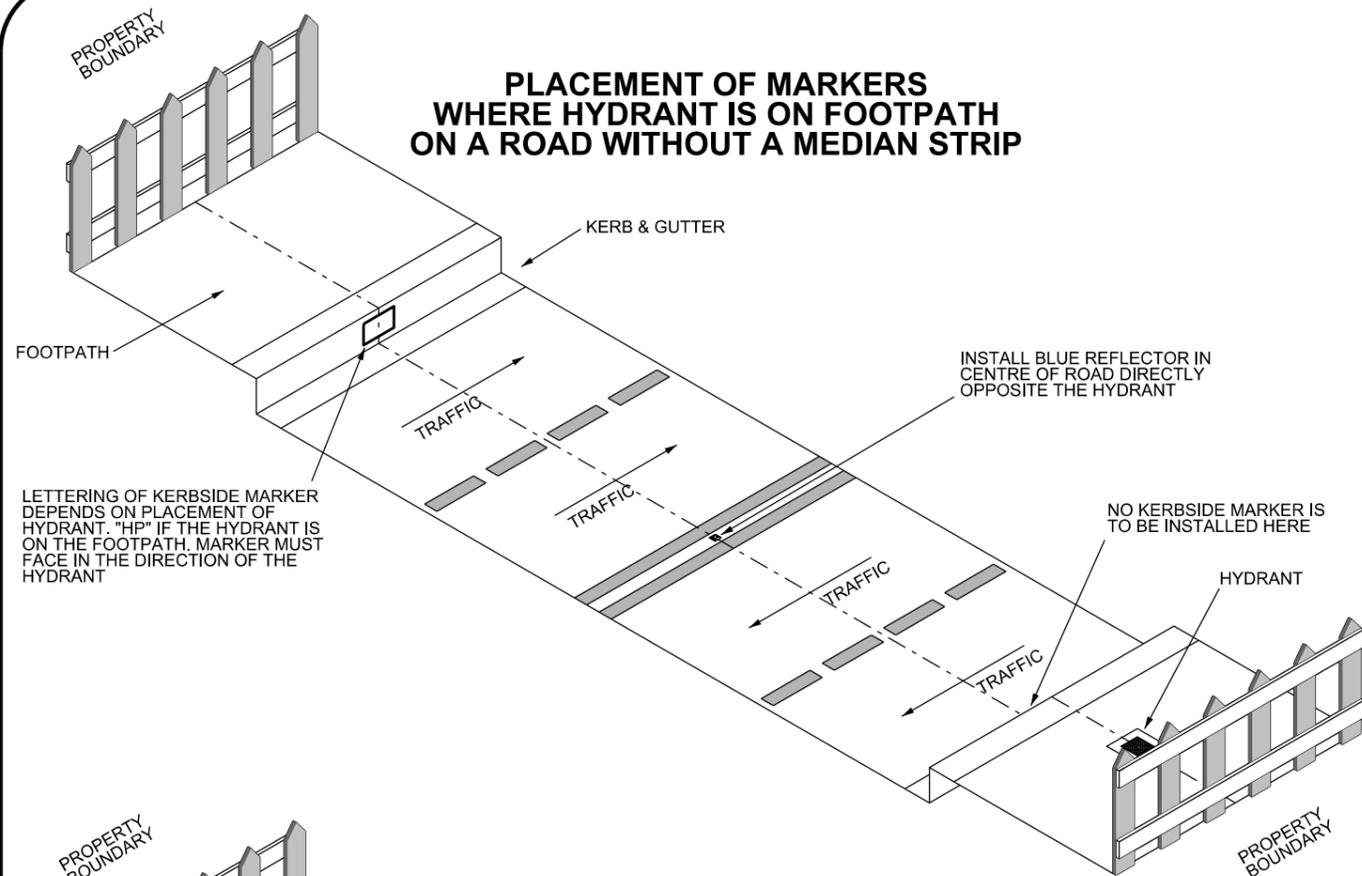


**ORIENTATION OF HYDRANT RRPM**

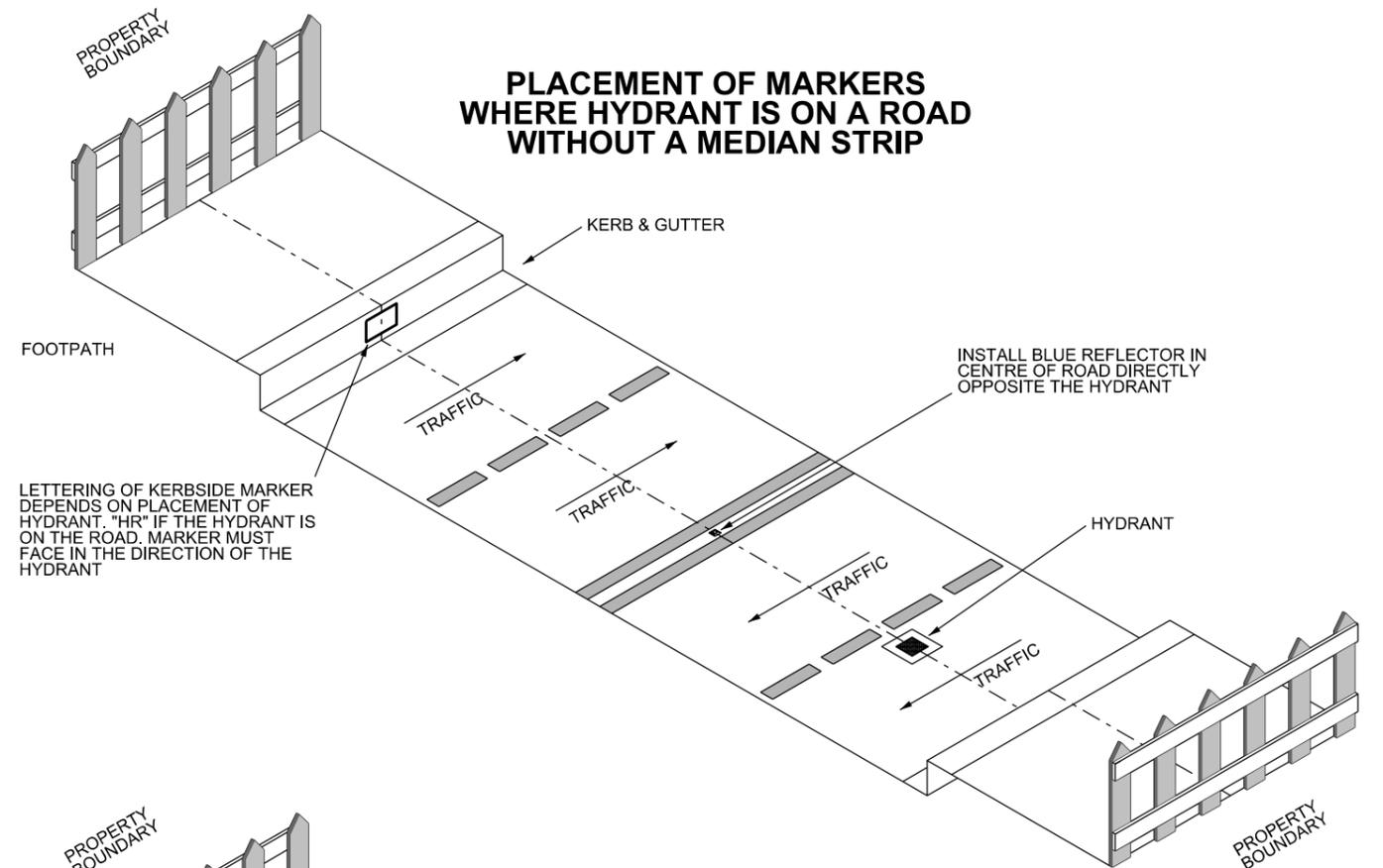
**"HP" & "HR" KERBSIDE MARKER SIGN EXAMPLE**

APPROVED  MANAGER TECHNICAL SUPPORT DATE 10/03/2015	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING CG DATE 10/03/2015 CHECKED _____ DATE 10/03/2015 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCG Standard Engineering Drawings\Control\DCG Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 10/03/2015 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> <tr><td>-</td><td>-</td><td>-</td><td>-</td></tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	 DUBBO CITY COUNCIL TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>HYDRANT LOCATION MARKERS FOR URBAN ROADS</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>2</b> SHEETS PLAN NO. <b>STD 5320</b>
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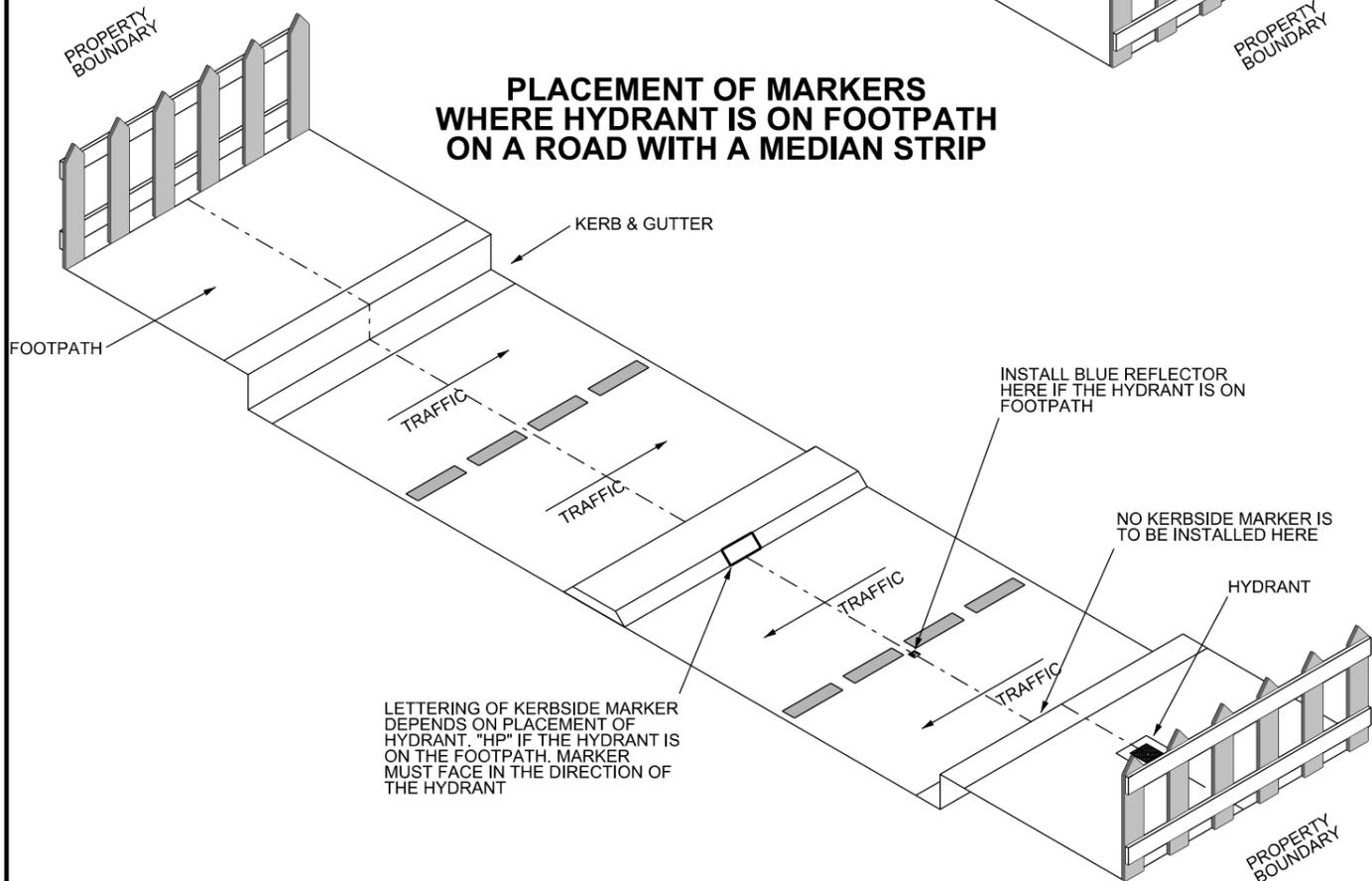
**PLACEMENT OF MARKERS  
WHERE HYDRANT IS ON FOOTPATH  
ON A ROAD WITHOUT A MEDIAN STRIP**



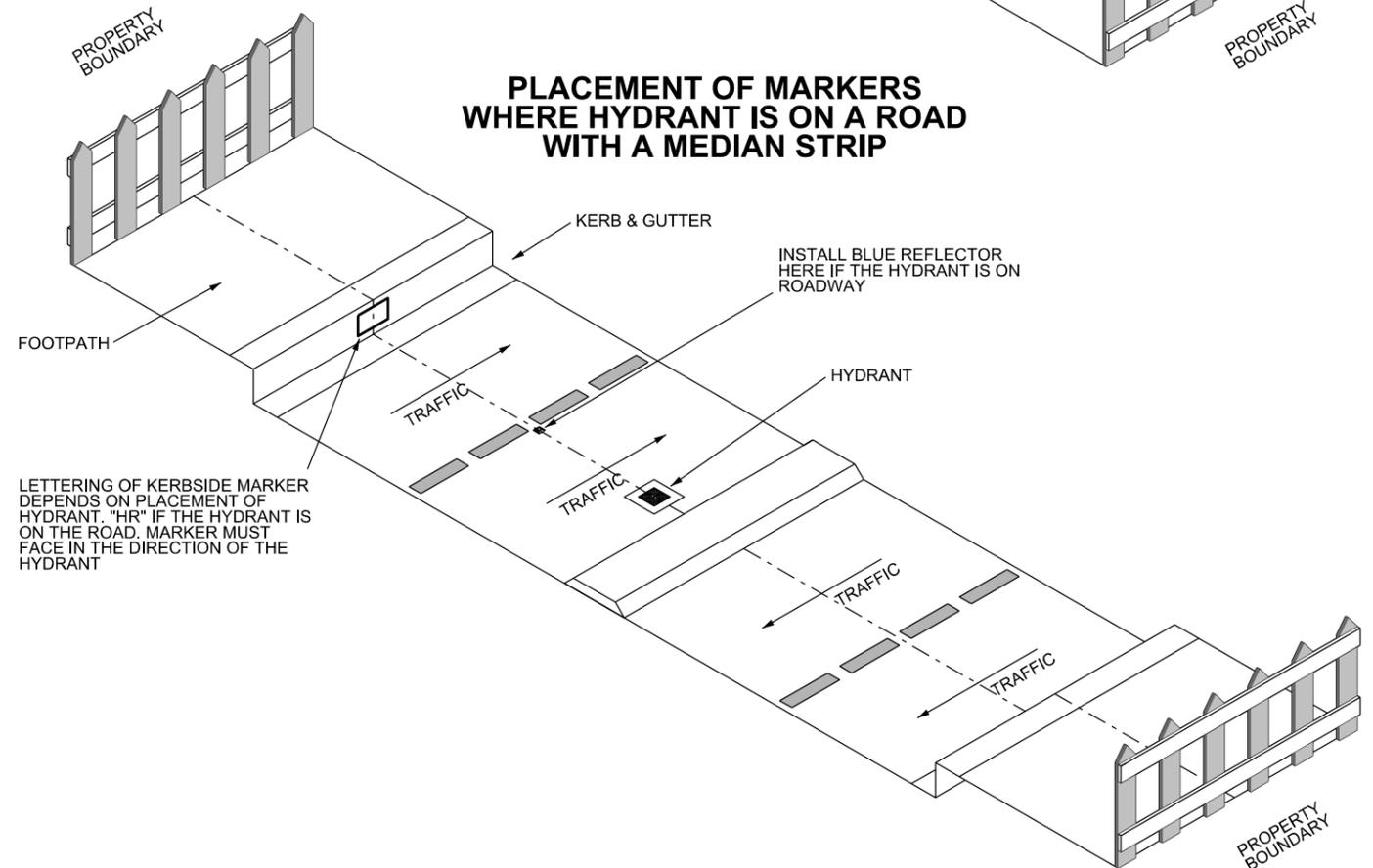
**PLACEMENT OF MARKERS  
WHERE HYDRANT IS ON A ROAD  
WITHOUT A MEDIAN STRIP**



**PLACEMENT OF MARKERS  
WHERE HYDRANT IS ON FOOTPATH  
ON A ROAD WITH A MEDIAN STRIP**



**PLACEMENT OF MARKERS  
WHERE HYDRANT IS ON A ROAD  
WITH A MEDIAN STRIP**



APPROVED:  DATE 10/03/2015  
MANAGER TECHNICAL SUPPORT

SURVEY \_\_\_\_\_ DATE \_\_\_\_\_  
DESIGN \_\_\_\_\_ DATE \_\_\_\_\_  
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CHECKED  DATE 10/03/2015  
SENIOR DESIGN ENGINEER

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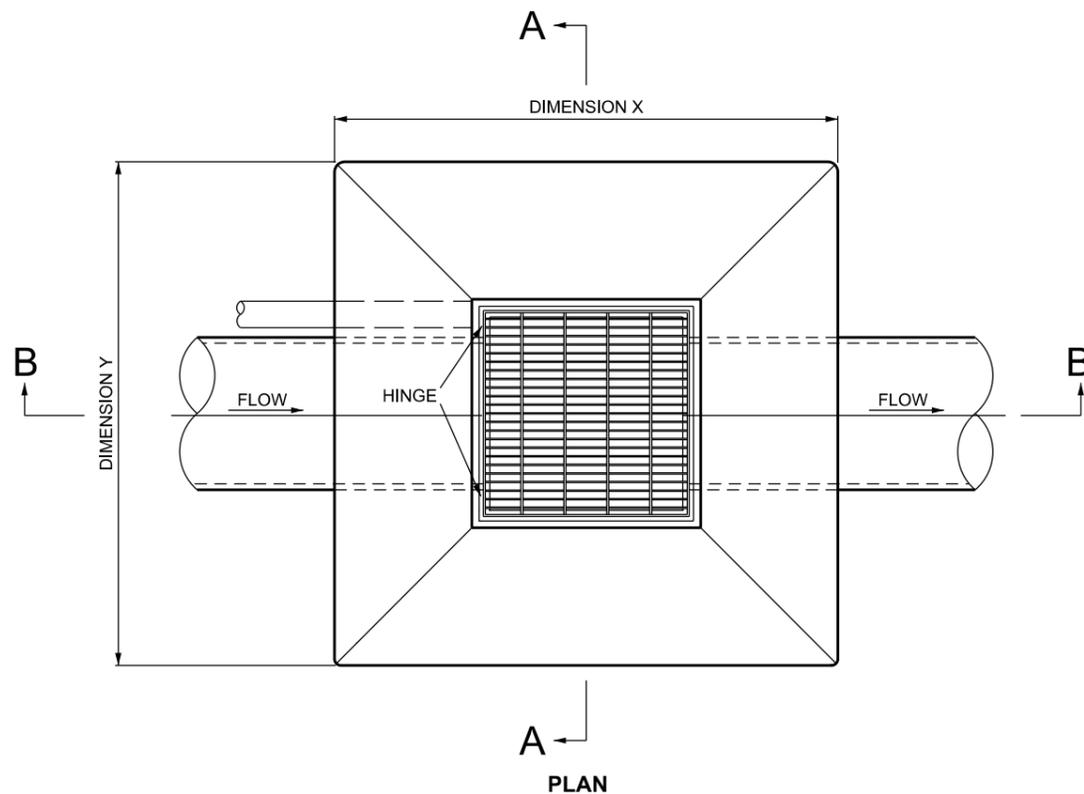

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**DUBBO CITY COUNCIL**   
TECHNICAL SERVICES DIVISION

DRAWING TITLE  
**HYDRANT LOCATION MARKERS FOR URBAN ROADS**

JOB  
**STANDARD DRAWING**

SHEET No. **2**  
OF **2** SHEETS  
PLAN NO.  
**STD 5320**



**TABLE 1 - DIMENSIONS**

PIT TYPE	DIMENSION (mm)				MAXIMUM PIPE DIA. (mm)
	W	X	Y	Z	
A	600	1900	1900	600	450
B	600	1900	2200	900	750
C	900	2200	2200	900	750

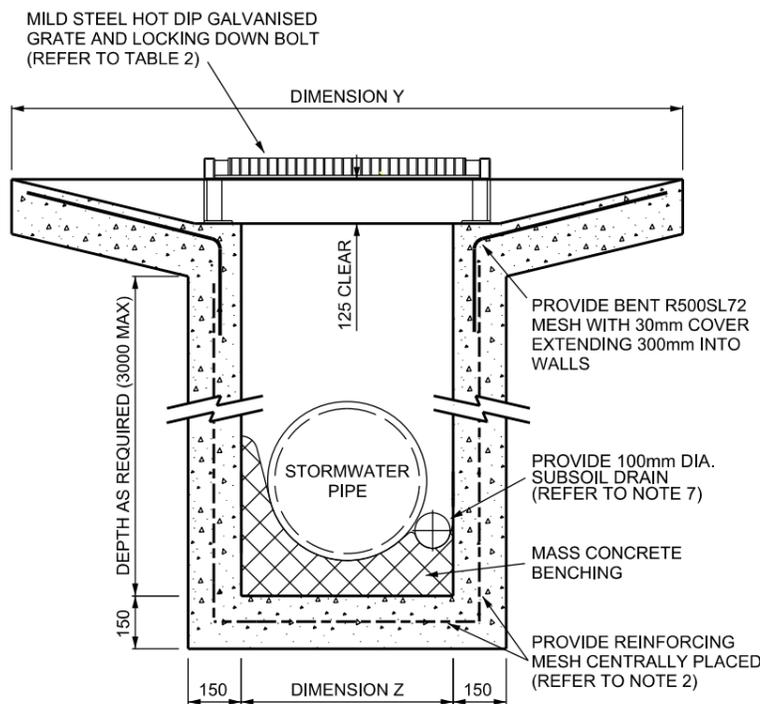
**TABLE 2 - GRATE TYPES**

PIT TYPE	WELDLOK GRATE TYPE*	
	INLET	SURCHARGE
A	HPG6060B	SPG66-BL
B	HPG6090B	SPG69-BL
C	HPG9090B	SPG99-BL

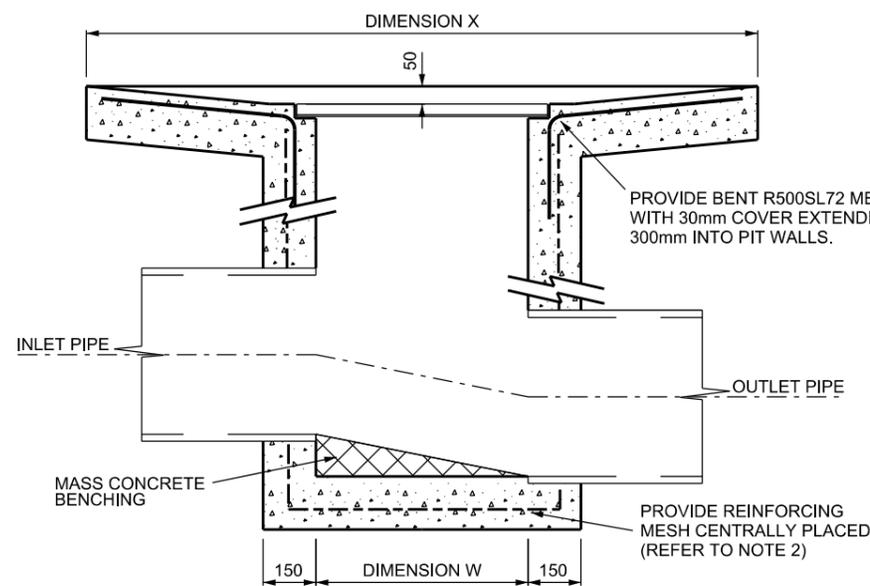
\* FOR GRATES FITTED WITH LEGS REFER TO GRATE LEG DETAIL

**NOTES**

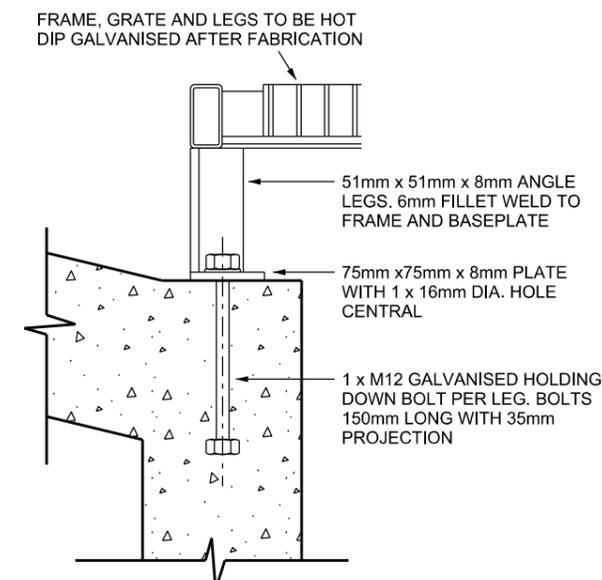
- The compressive strength of the concrete is to be 25MPa at 28 days.
- Provide the following reinforcement in walls and floor slabs:  
Use D500N10 bent corner bars at 200mm centres lapped 400mm floor to wall and wall to wall.  
For pits less than 1.8m deep provide R500SL82 mesh centrally placed in floor and wall slabs.  
For pits between 1.8m and 3.0m provide R500SL81 mesh centrally placed in floor and wall slabs.
- Pits constructed to accommodate pipes larger than 1200mm dia. and having depths greater than 3.0m are to have a special design.
- Pits deeper than 1.0m are to have step irons at 300mm spacing.
- Hot dipped galvanised grating is to be used as specified in Table 2.
- Ensure the faces of all pipes in pit walls are smoothly grouted.
- A 100mm dia. subsoil drainage pipe 3.0m long wrapped in filter sock is to be provided adjacent to and at the invert level of the inlet pipe.
- All concrete works are to be in accordance with Aus-Spec Construction Specification No. 0319 for minor concrete works.



**SECTION A-A  
(SURCHARGE PIT SHOWN)**

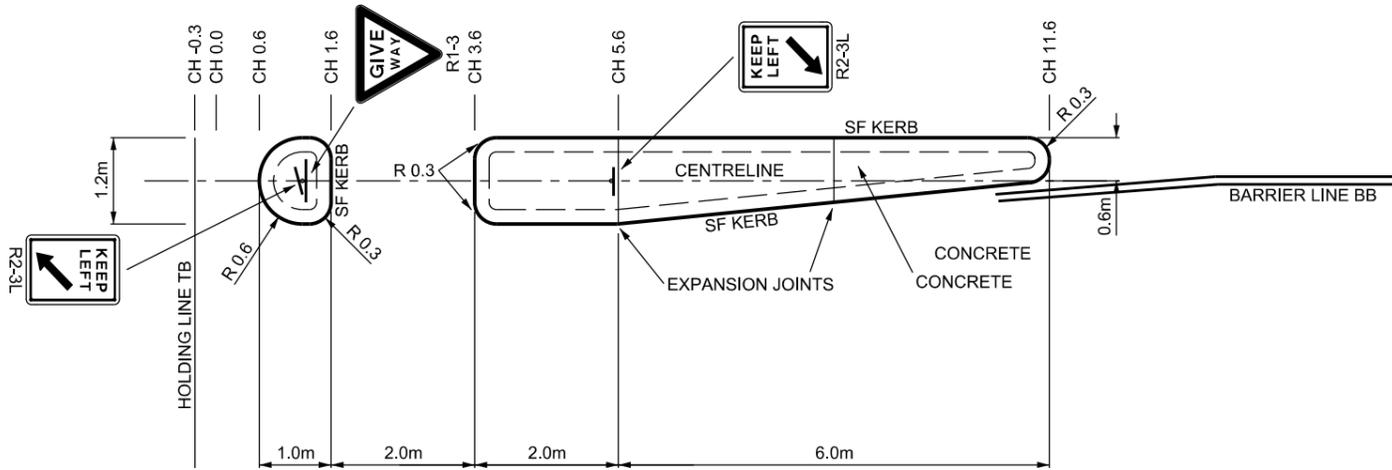


**SECTION B-B  
(INLET PIT SHOWN)**

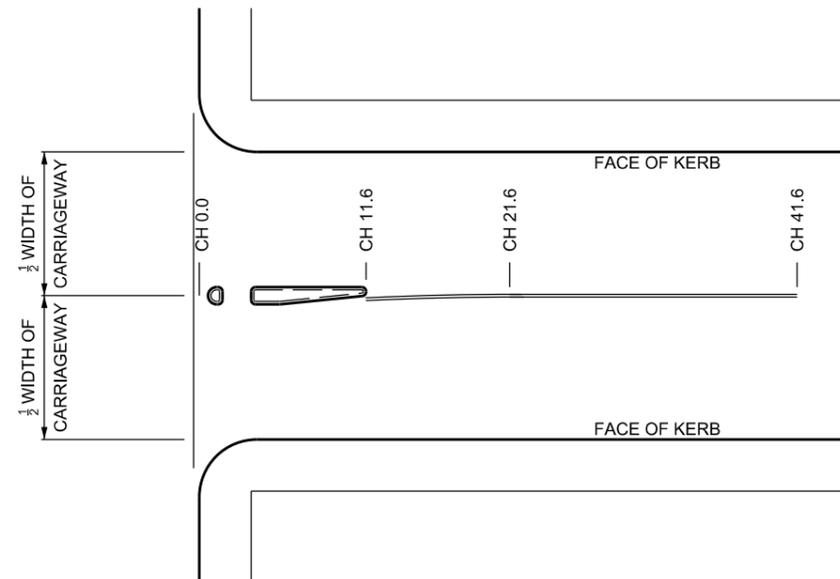


**GRATE LEG DETAIL**

APPROVED: MANAGER TECHNICAL SUPPORT DATE: 20/02/2015	SURVEY: _____ DATE: _____ DESIGN: _____ DATE: _____ DRAWING: AR, CG DATE: 29/05/2014 CHECKED: SENIOR DESIGN ENGINEER DATE: 20/02/2015	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <p style="text-align: center;"><b>NOT TO SCALE</b></p> <p style="text-align: center;">ORIGINAL SIZE A1</p>	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/02/2015 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>20/02/2015</td> <td>CG</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	20/02/2015	CG	AMENDED	 <b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION	DRAWING TITLE <p style="text-align: center;"><b>GRATED SURCHARGE &amp; INLET PITS</b></p>	JOB <p style="text-align: center;"><b>STANDARD DRAWING</b></p>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <p style="text-align: center;"><b>STD 5364</b></p>
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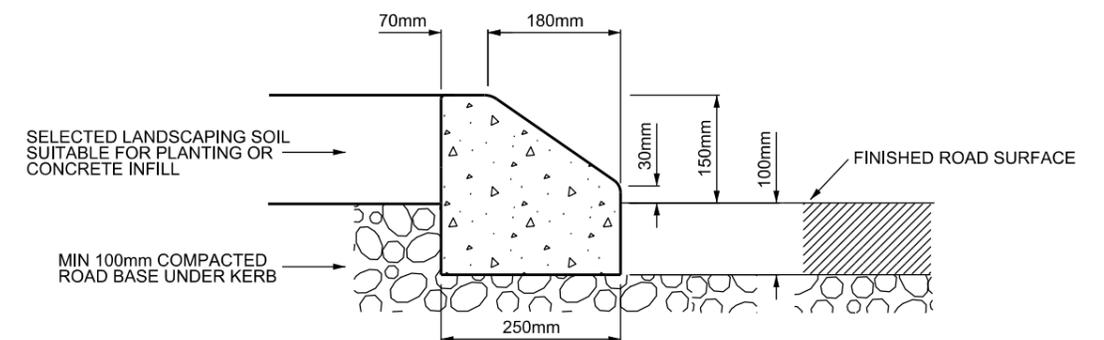
PLAN



PLAN OF BB LINE

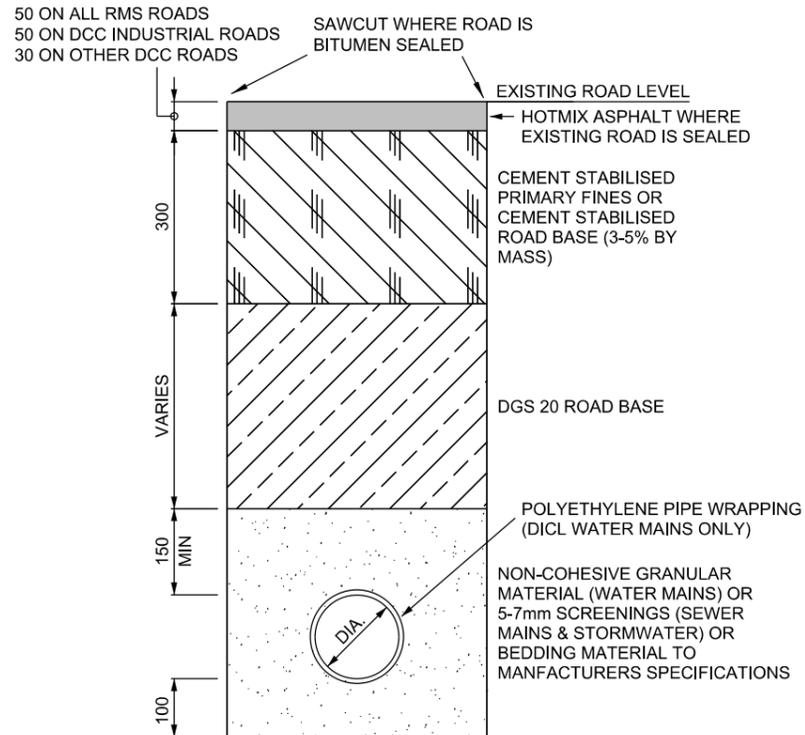
**NOTES**

- All work is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
- Contractors are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
- The median island is to be constructed to the dimensions and specifications shown on this drawing.
- The compressive strength of the concrete is to be 25 MPa at 28 days. All exposed edges are to have a radius of 10mm. All poor quality subgrade material shall be removed and replaced with suitable fill material. All subgrades are to be well compacted before the placement of the base material.
- The finished surface is to be kept from drying out too quickly by covering with wet sand or plastic sheeting.
- An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.
- The potential for erosion and the transportation of sediment is to be addressed. Appropriate measures are to be in place to prevent this from happening.
- The Contractor is responsible for the removal of all formwork and rubbish from the site and the restoration of any disturbed street surface adjacent to the work site.
- CH 0.0 is in line with face of kerb on cross street.
- The median is to be located on the centre line of the road midway between the kerb lines or at the location specified on the approved drawings.
- Double Barrier lines (BB) curve around the island to direct vehicles away from median.
- Barrier line extends 30m from CH 11.6 to CH 41.6
- Holding line (TB) located at CH -0.3m, segments 600mm long by 200mm wide with 600mm gaps between segments.
- Keep Left sign should be angled 15° to allow cars turning right greater visibility of sign.
- Front radius of island is to be 0.6m. All others are to be 0.3m.
- The kerb of the median island is to be Standard Median Kerb Type SF. The kerb is to be keyed into the roadway every 2m. Key dimensions are 250x250x100mm deep.
- Full depth expansion joints are to be provided.

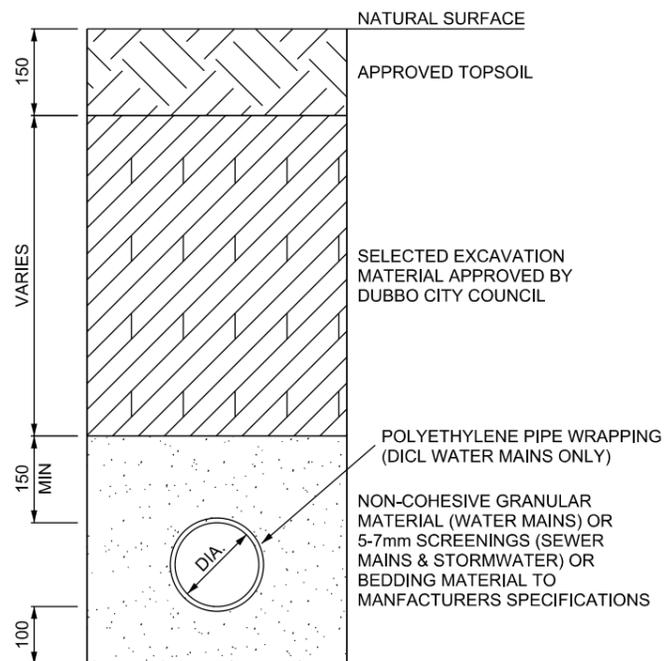


STANDARD MEDIAN KERB "SF" PROFILE

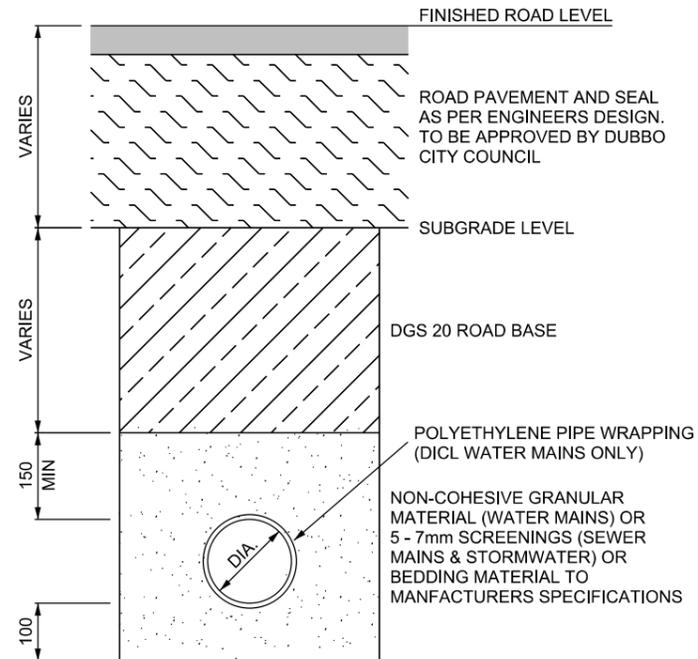
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	No.	DATE	APP'D	DETAILS OF AMENDMENTS																				
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**BEDDING AND BACKFILL DETAILS  
IN EXISTING ROADWAYS**



**BEDDING AND BACKFILL DETAILS  
NOT IN ROADWAYS**



**BEDDING AND BACKFILL DETAILS  
IN NEW ROADWAYS**

**TABLE 1**

SIEVE APERTURE SIZE (mm)	PERCENTAGE PASSING
9.5	100
6.7	90 - 100
0.425	40 - 90
0.150	0 - 10

For Particle Size Distribution - Sieving Method refer to AS 1141.11.1-2009

**TABLE 2**

	IN ROADWAY	WATER	SEWER
Compaction Test Spacing (See Note 5)		100m	
Minimum Relative Standard Compaction (See Note 3)		98%	
Minimum Relative Modified Compaction (See Note 3)		95%	
	NOT IN ROADWAY		
Compaction Test Spacing (See Note 5)		200m	300m
Minimum Relative Standard Compaction (See Note 4)		95%	
Minimum Relative Modified Compaction (See Note 4)		92%	

**NOTES**

**1. NON-COHESIVE GRANULAR MATERIAL**

- (a) The bedding material is to have a low permeability and high stability when saturated.
- (b) The particle size distribution of the material is to satisfy the limits given in TABLE 1.
- (c) The bedding material is to be compacted to a density index of 70% determined in accordance with AS 1289.5.4.1-2007.

**2. 5mm OR 7mm SCREENINGS**

- (a) Screenings are to be free of fines.
- (b) The bedding material is to be compacted to a density index of 70% determined in accordance with AS 1289.5.4.1-2007.

**3. APPROVED PRIMARY FINES OR APPROVED ROAD BASE BACKFILL**

- (a) Only select granular backfill material or DGS20 road base approved by the superintendent is to be used.
- (b) Fill material is to be compacted in layers not exceeding 300mm to the relative modified compaction given in TABLE 2.
- (c) The moisture content of the material is to be no more than 1% above its optimum moisture content.

**4. ORDINARY EXCAVATED MATERIAL**

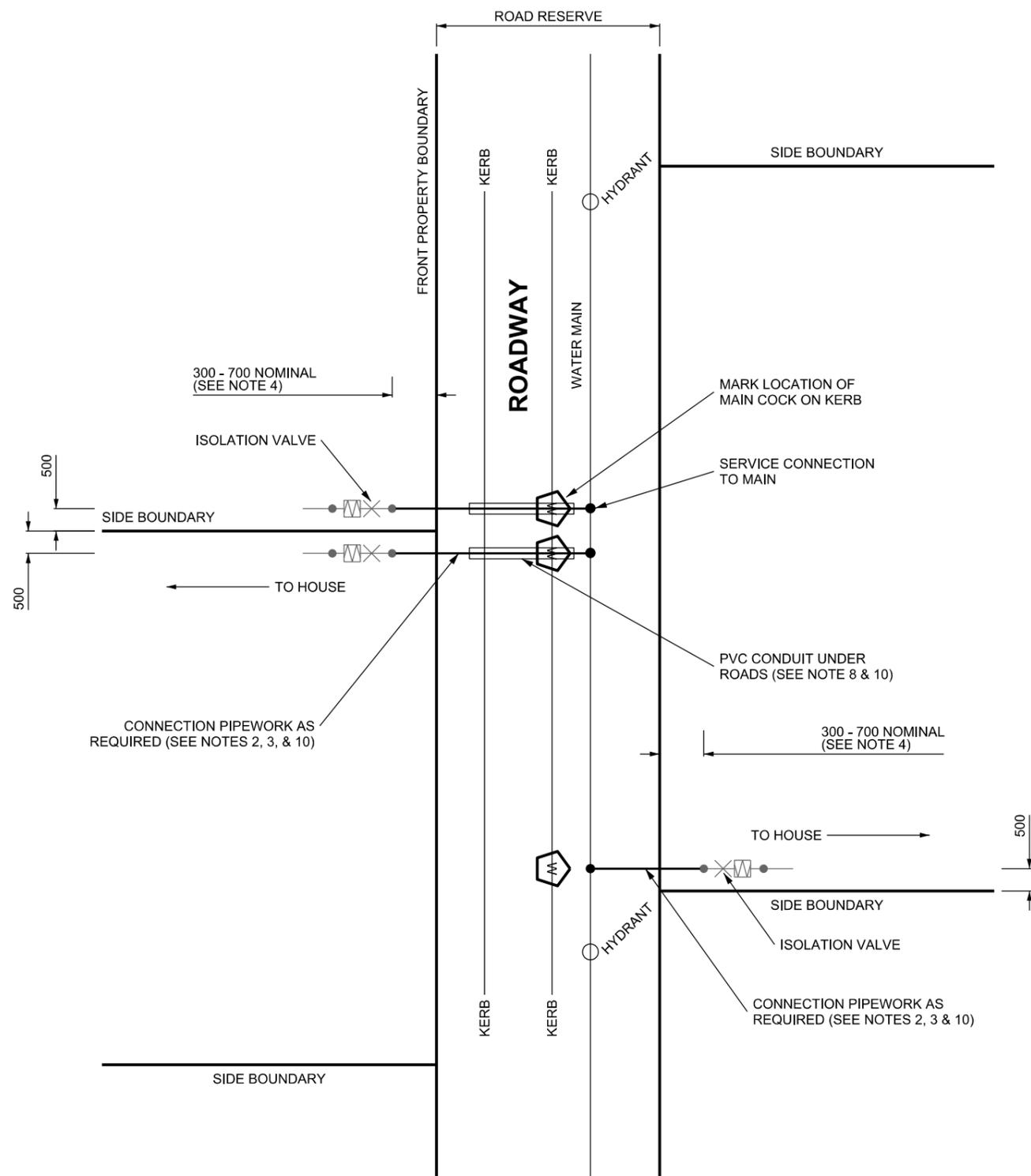
- (a) Ordinary excavated fill material refers to material excavated from the trench that is free of vegetable matter, humus, large clay lumps and rock boulders, and has been approved by the superintendent.
- (b) Fill material is to be compacted in layers not exceeding 300mm to the relative modified compaction given in TABLE 2.
- (c) The moisture content of the material is to be no more than 1% above its optimum moisture content.

**5. COMPACTION TESTS**

- (a) Compaction tests shall be undertaken by a NATA registered laboratory in accordance with TABLE 2.
- (b) Test certificates shall be issued and indicate the field optimum moisture content, standard maximum dry density, type of material, method of compaction and the relative compaction for each test location.
- (c) The compaction test is deemed to have failed if the relative compaction at any location is less than that specified in TABLE 2.
- (d) If the test fails the trench is to be recompacted on both sides of the failed test site to a point midway between the failed test site and the adjacent test sites, as nominated by the superintendent, and retested. The location of the compaction re-test sites is to be determined by the superintendent.

6. For detailed trench dimensions and bedding refer to relevant Auspec (DCC) Section 221 specification.

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR, CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\S1\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 DUBBO CITY COUNCIL TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>UTILITY TRENCH DETAILS</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 5518</b>
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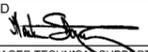
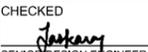
**WATER SERVICE CONNECTION**  
(SEE SHEET 2 FOR DETAILS)

**NOTES**

1. All dimensions in millimeters.
2. Connection pipework from the main to meter assembly to be either:
  - (a) Copper pipe type A to AS 1432-2004. Copper alloy fittings to AS 1167.1-2005. All copper fittings to be silver soldered.
  - (b) Polyethylene pipe (minimum class 12.5) to AS 4130-2009 and fittings to AS 4129-2008.
3. Where possible, lay service connections at right angles (perpendicular) to water main. Where not possible, lay marking tape on top of connection pipework.
4. Locate meter and isolation valve riser relative to the side and front boundaries as shown.
5. Orientate meter and isolation valve at right angles (perpendicular) to front property boundary.
6. Pipework to be located in road reserve is accordance with these drawings. Any variation to this standard must be approved by Dubbo City Council prior to construction.
7. Meter to be installed at a maximum of 300mm above the finished ground surface level.
8. 40mm PVC conduit under roads. PVC conduit to be solvent welded.
9. For service connections of size greater than 20mm, contact Dubbo City Council.
10. See plan STD 5518 for standard trench and reinstatement detail.
11. Where applicable, permanently mark concrete kerbing square to the location of the Main Cock, by means of a "W" stenciled into wet concrete, fixing a "W" sign or other approved method.

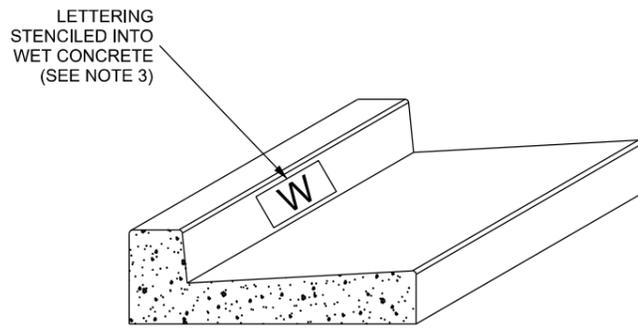
**LEGEND**

- METER, INCORPORATING BACKFLOW PREVENTION DEVICE 
- ISOLATION VALVE 
- PROPERTY BOUNDARIES 
- KERB MARKING 

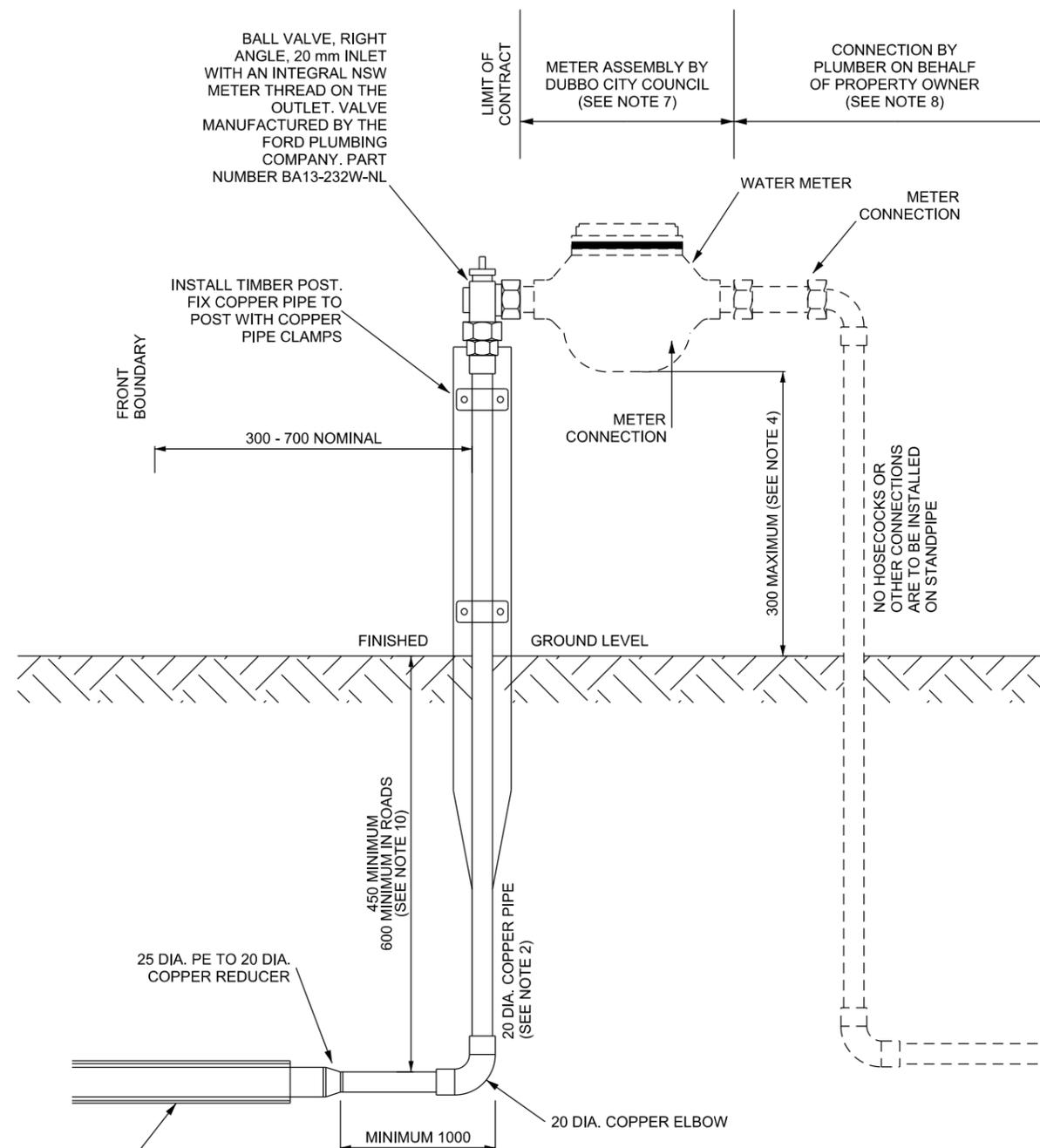
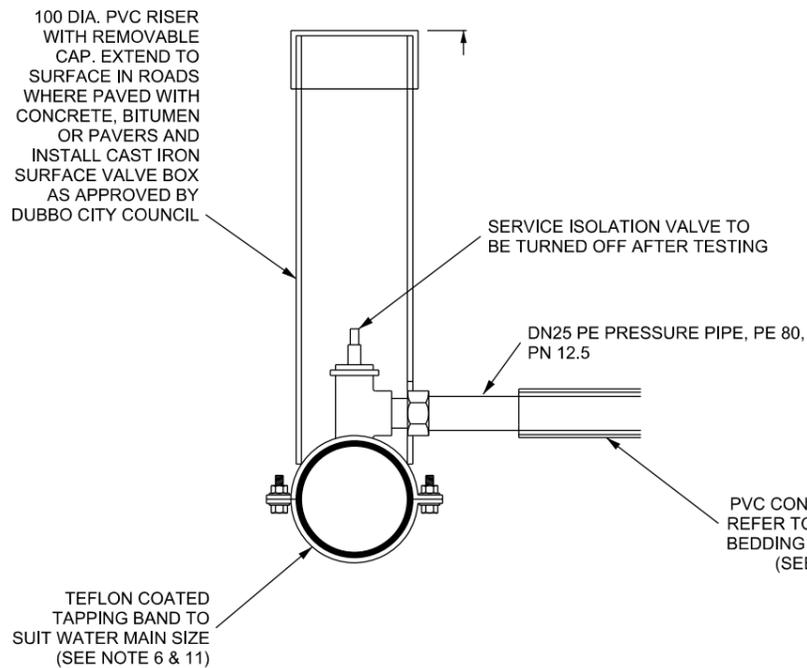
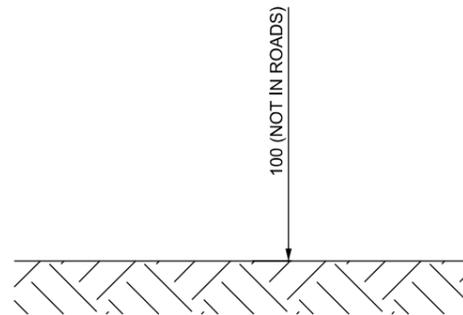
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**NOTES**

1. All dimensions in millimeters.
2. Connection pipework from the main to meter assembly to be either:
  - (a) Copper pipe type A to AS 1432-2004, copper alloy fittings to AS 1167.1-2005. All copper fittings to be silver soldered.
  - (b) Polyethylene pipe (minimum class 12) and fittings to AS 2033-2008.
3. Where applicable, permanently mark concrete kerbing square to the location of the Main Cock, by means of a "W" stenciled into wet concrete, fixing a "W" sign or other approved method.
4. Meter to be installed at a maximum of 300mm above the finished ground surface level.
5. 40mm PVC conduit under roads. PVC conduit to be solvent welded.
6. Pre-tapped connectors and ferrule main cocks may also be used as alternatives for connection to water main.
7. Dubbo City Council to install meter assembly on receipt of water service application.
8. Service connection to be done by NSW accredited and licenced plumbers only.
9. For service connections of size greater than 20mm, contact Dubbo City Council.
10. See plan STD 5518 for standard trench and reinstatement detail.
11. Position of service tapping band should not be located under driveways.
12. Only Ford Angle Ball Meter Valves, specifically, part number BA13-232W-NL are to be utilised when providing a water service connection point to a property.

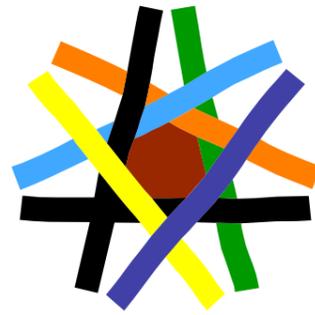


**KERB MARKING**  
(SEE NOTE 3)



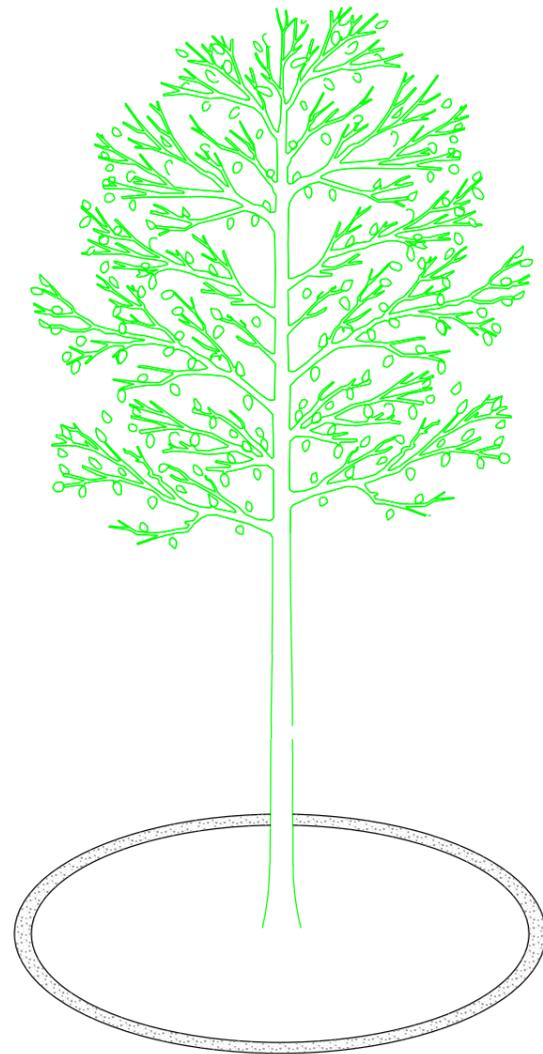
**TYPICAL SERVICE CONNECTION DETAIL**  
(SEE PLAN STD 5882 FOR CONNECTION LOCATION)

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# TREE PLANTING STANDARDS

## PLAN SHEET INDEX



SHEET 1 - COVER SHEET

SHEET 2 - TREE > 45 L POT SIZE

SHEET 3 - TREES IN ROAD PAVEMENT - PART 1

SHEET 4 - TREES IN ROAD PAVEMENT - PART 2

SHEET 5 - TREES IN TURF WITH FOOTPATH

SHEET 6 - TREES IN TURF NO FOOTPATH

SHEET 7 - STREET TREES IN MASS PLANTING & MALLS

SHEET 8 - TREES IN CENTRAL MEDIAN STRIPS  
WITH INNER KERB

SHEET 9 - TREES IN CENTRAL MEDIAN STRIPS  
WITH GARDEN

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING NP _____ DATE 29/05/2014 CHECKED _____ DATE 21/08/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Tree Planting Standards.dgn</small>	SCALES NOT TO SCALE ORIGINAL SIZE A1 	PERMANENT MARK: N/A    RL: N/A    DATUM: AHD & MGA STATUS: STANDARD DRAWING    PRINT DATE: 21/08/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>21/08/2014</td> <td>CG</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	21/08/2014	CG	AMENDED	DUBBO CITY COUNCIL PARKS & LANDCARE DIVISION 	DRAWING TITLE COVER SHEET	JOB TREE PLANTING STANDARDS	SHEET No. 1 OF 9 SHEETS PLAN NO. STD 6639
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MANAGER TECHNICAL SUPPORT    SENIOR DESIGN ENGINEER    DATE 21/08/2014																								

GENERAL NOTES

- Provide assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council's Parks and Landcare prior to planting.
- All stakes and hessian ties to be removed at the end of landscape contractors maintenance period.
- The landscape contractor must furnish test evidence to Council that all soils used do comply with the soil types nominated on these details.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent ACQ treated pine.
- Irrigation lines may or may not be required and will be determined on a site by site basis by the Project Manager (02 6801 4000)
- Root barrier, either modular or linear, may be required and will be determined by the D.C.C Project Manager based on site specific conditions.

Tree to be vigorous and healthy, free from insects and disease. All trees to be assessed against NATSPEC prior to acceptance for installation, see General notes.

Hessian to form a loose figure eight around tree stem. Staple tie to hardwood stakes.

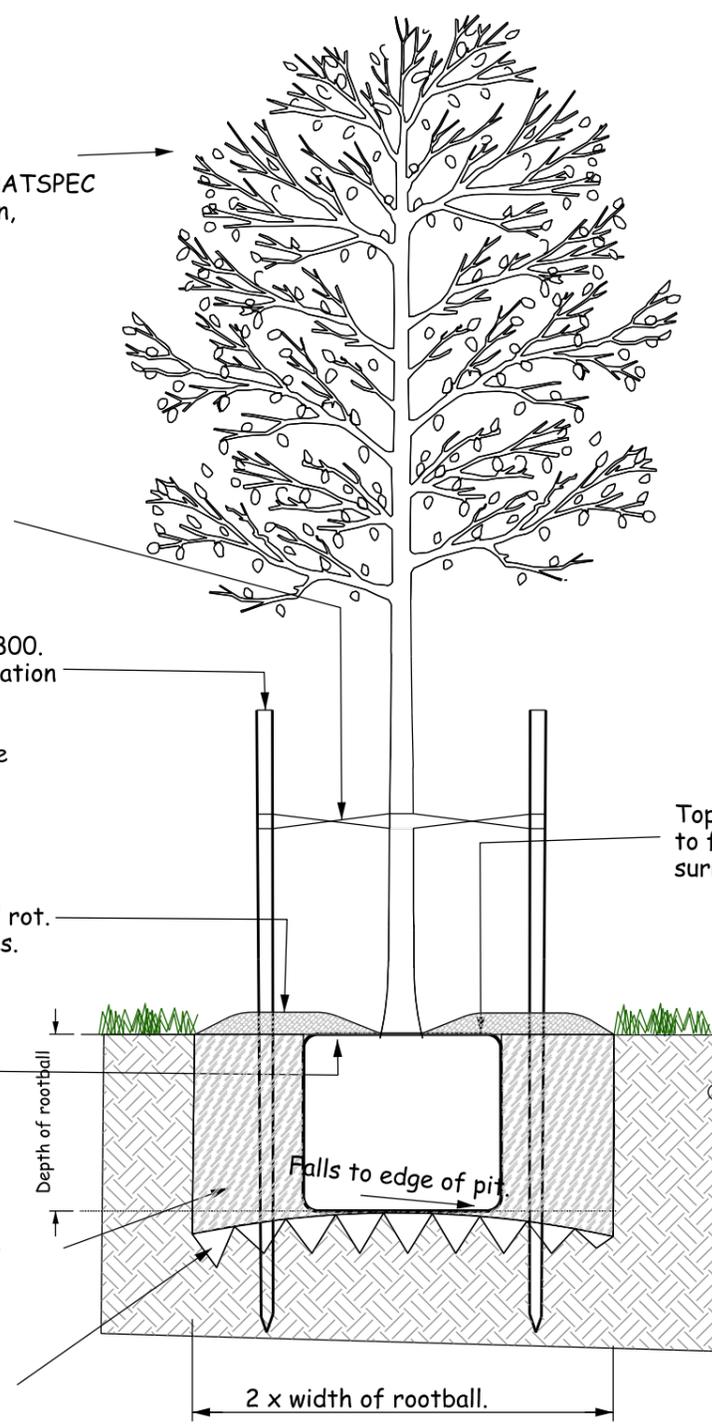
Two hardwood stakes 50 x 50 x 1800. Ensure stakes do not damage irrigation tube and rootball when finished. (Site specific and determination whether they are required is to be made by DCC Project Manager)

75mm deep wood chip or pinebark mulch - no fines. Keep mulch clear of trunk to avoid rot. Finish flush with adjacent surfaces.

Top of rootball to finish level with surrounding soil.

Existing soil to be reused with the addition of TERRACOTTOM at manufacturer's specified rate.

Break up base of planting bed to a depth of 150mm.

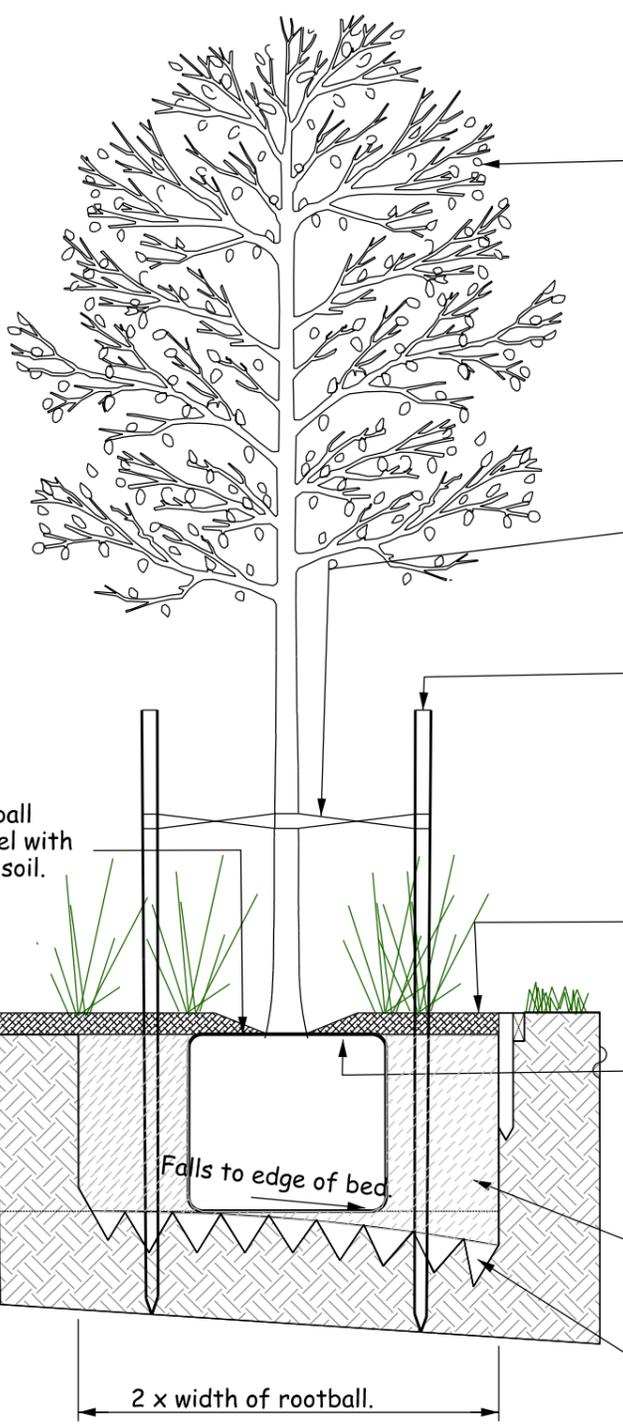


Top of rootball to finish level with surrounding soil.

Depth of rootball

Falls to edge of pit.

2 x width of rootball.



Top of rootball to finish level with surrounding soil.

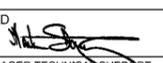
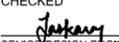
Depth of rootball

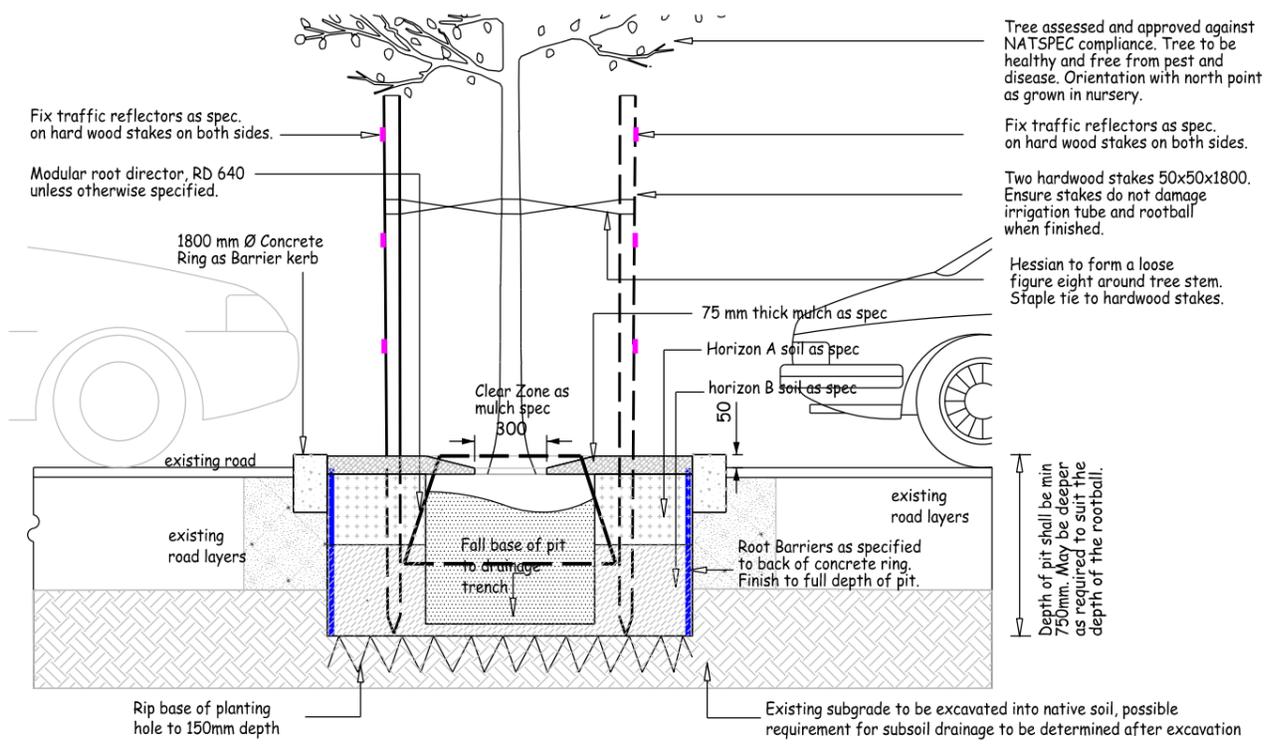
Falls to edge of bed.

2 x width of rootball.

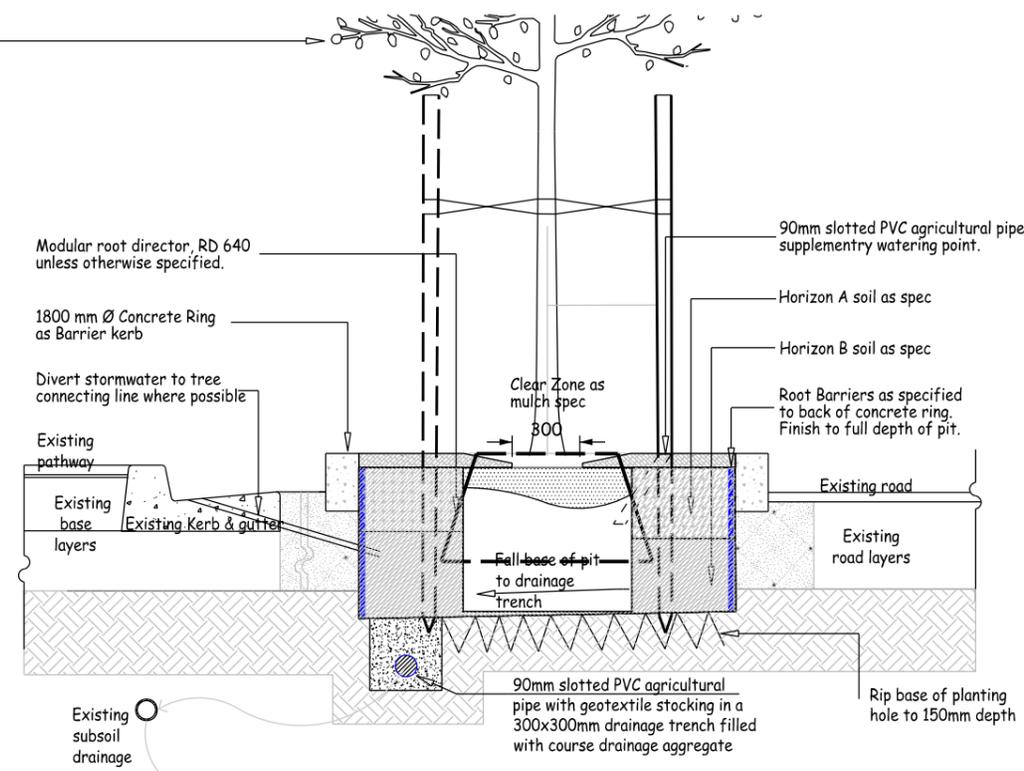
D1 >45L TREE IN MASS PLANTING BED  
NTS

D2 >45L TREE IN TURF  
NTS

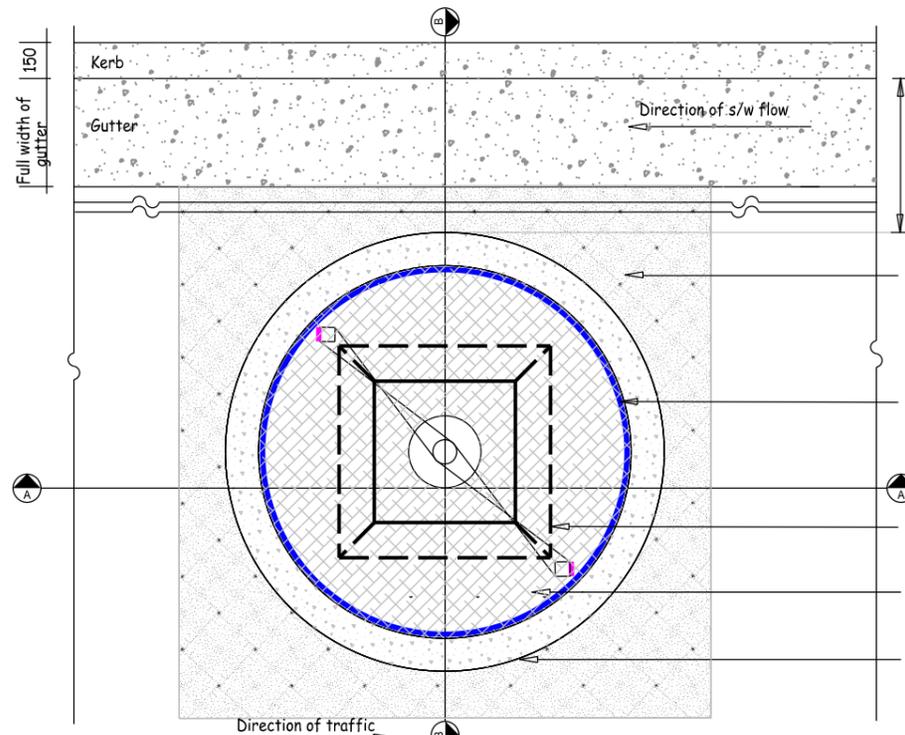
APPROVED:  DATE 21/08/2014 MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING NP DATE 29/05/2014 CHECKED  DATE 21/08/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\S1\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Tree Planting Standards.dgn</small>	SCALES NOT TO SCALE  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 21/08/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>21/08/2014</td> <td>CG</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	21/08/2014	CG	AMENDED	 DUBBO CITY COUNCIL PARKS & LANDCARE DIVISION	DRAWING TITLE TREE > 45 L POT SIZE	JOB TREE PLANTING STANDARDS	SHEET No. 2 OF 9 SHEETS PLAN NO. STD 6639
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																				
1.	29/05/2014	CG	AMENDED																					
2.	19/06/2014	CG	AMENDED																					
3.	21/08/2014	CG	AMENDED																					



D1 SECTION A-A  
NTS



D2 SECTION B-B  
NTS



D3 PLAN  
NTS

Tree assessed and approved against NATSPEC compliance. Tree to be healthy and free from pest and disease. Orientation with north point as grown in nursery.

Fix traffic reflectors as spec. on hard wood stakes on both sides.

Modular root director, RD 640 unless otherwise specified.

1800 mm Ø Concrete Ring as Barrier kerb

75 mm thick mulch as spec

Horizon A soil as spec

horizon B soil as spec

Clear Zone as mulch spec 800

50

existing road layers

existing road

Fall base of pit to drainage trench

Root Barriers as specified to back of concrete ring. Finish to full depth of pit.

Depth of pit shall be min 750mm. May be deeper as required to suit the depth of the rootball.

Rip base of planting hole to 150mm depth

Existing subgrade to be excavated into native soil, possible requirement for subsoil drainage to be determined after excavation

Modular root director, RD 640 unless otherwise specified.

1800 mm Ø Concrete Ring as Barrier kerb

Divert stormwater to tree connecting line where possible

Existing pathway

Existing base

Existing Kerb & gutter

layers

existing road

Existing road layers

Clear Zone as mulch spec 800

90mm slotted PVC agricultural pipe supplementary watering point.

Horizon A soil as spec

Horizon B soil as spec

Root Barriers as specified to back of concrete ring. Finish to full depth of pit.

Fall base of pit to drainage trench

90mm slotted PVC agricultural pipe with geotextile stocking in a 300x300mm drainage trench filled with coarse drainage aggregate

Rip base of planting hole to 150mm depth

existing subsoil drainage

existing SDP

NOTES REFER ALSO TO SHEET 2. - SPECIFICATION

**SUBMISSIONS**  
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:

- Assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and obtain approval prior to accepting the order.
- Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.

**HOLD POINTS**  
Contact Council's Project Manager (02 68014000) at the following hold points and obtain written approval to proceed.

- Setout of pit prior to cutting of A/C and installation of concrete ring.\*
- Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.
- Tree supply to the site, prior to planting.
- Tree planting & tree guard installed

**PRELIMINARIES**  
Erect sediment control barriers to gutters and drains prior to commencing excavation work. Keep the site continuously clear of debris and soil material that may wash into drainage system. Ensure continuous pedestrian access along the footpath pavement and to property entries. Comply with RTA Manual "Traffic Control at Work Sites".

**UTILITIES**  
Contractor shall carry out Dial Before You Dig searches by phoning 1100 prior to excavation. Where services are within the zone of influence highlighted by the utilities. Locate services accurately using an Accredited Service Locator and hand excavate.

**TREE PIT EXCAVATION, PREPARATION AND DRAINAGE**  
Setout the tree pits and seek approval from Council's Project Manager prior to proceeding. Saw cut the road pavement to create a neat and round edge. Remove excavation material & dispose off site. Provide a fall to the base of the pit toward the drainage trench as detailed. Construct the drainage trench and connect to s/w system. Break up the base of the tree pit prior to backfilling. Position the root barrier prior to placement of soils. Note: Where possible link drainage between pits and connect to the s/w system behind the kerb. Minimize connections to the s/w main.

**ROOT BARRIER**  
- Supply a HDPE waterproof flexible cutoff wall root barrier min 0.7mm wall thickness, min height 600mm. Ensure root barrier finishes flush with the top of the pit backfill. Overlap 300mm and heat seal or seal with Butyl tape.  
- A modular root director, RD 640 or similar is to be installed centrally within the concrete ring to manufacturers recommendations.

**SOILS**  
Horizon A soil - Equal to AS4419-2003 'Organic Soil' with texture to AS4419-2003 Table II- Sandy Loam. Place no deeper than 300mm to prevent anaerobic decomposition of organic matter within soil.  
Horizon B soil - Place below a depth of 300mm. Equal to AS4419-2003 'Soil blend' with max 5% organic matter content. Texture to AS4419-2003 Table II- Sandy Loam. Do not incorporate organic matter. to horizon B soil.

**TREE SUPPLY**  
All trees must conform to Clark, R 2003. NATSPEC "Specifying Trees - A Guide to Assessment of Tree Quality". Appendix 2". Time site delivery to minimise storage on site. Ensure root balls are kept watered and store in the shade prior to planting. Inspect immediately upon delivery for NATSPEC compliance and return any trees that do not meet the standard. Cross reference - Inspections and Submissions.

**TREE PLANTING**  
Plant trees after placement of root barrier and soils, and before placing mulch. Do not lift trees by the trunk. Support from under the rootball. Remove the pot or bag and root prune 10mm all round the root ball to encourage root division and remove any girdling. Plant with the rootball flush with the top of soil and plumb.

**MULCH**  
Mulch type shall be a woodchip mulch with NO FINES. Finish mulch layer 10mm below the top of kerb. Do not mound mulch layer.

**REFLECTOR**  
Each traffic reflector shall be 85mm diameter red 'corner cube' delineator (plastic disc) or HV Signs or equal (See Denis V). Screw mount to tree guard on both sides.

**SUBSOIL DRAINAGES**  
If there are no sub-soil lines, new sub-soil drainage must be provided to connect tree pit drainage into the storm water system. Locating existing subsoil lines and/or design of new subsoil and storm water connections must be determined prior to construction commencing to ensure feasibility of tree plantings.

APPROVED	DATE 21/08/2014	MANAGER TECHNICAL SUPPORT
CHECKED	DATE 21/08/2014	SENIOR DESIGN ENGINEER
DRAWING	NP	DATE 29/05/2014
DESIGN		DATE
SURVEY		DATE

FIELD BOOK/SURVEY FILES
DESIGN FILES
DRAWING FILES
UATS/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Tree Planting Standards.dgn

SCALES
NOT TO SCALE
ORIGINAL SIZE A1
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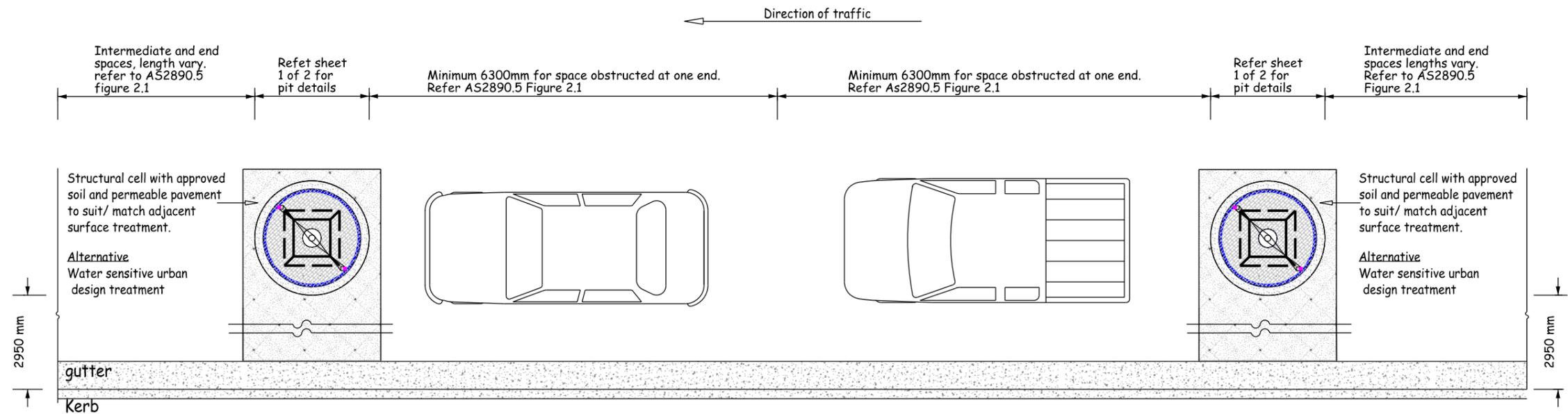
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**DUBBO CITY COUNCIL**  
PARKS & LANDCARE DIVISION

DRAWING TITLE  
**TREES IN ROAD PAVEMENT PART 1**

JOB  
**TREE PLANTING STANDARDS**

SHEET No. **3**  
OF **9** SHEETS  
PLAN No.  
**STD 6639**



**TYPICAL PLAN - TREE IN ROAD PAVEMENT**  
NTS

**DESIGN NOTES**

**GENERAL**-This detail is typical only and may require adjustment for site specific situations. This detail is intended as a design tool to assist designers to setout trees in their site masterplan. It is not intended as a construction detail. For all proposals to plant trees in the street, installation must demonstrate compliance with the following issues:

**HYDRAULIC FLOWS** - seek advice from a civil engineer to check that the setout will not impede hydraulic flows along the gutter. Site specific calculations are required for this purpose and engineering certification shall be submitted with the DA/CC.

**UTILITIES** - The presence and location of underground services varies greatly from site to site and can affect the feasibility and design of tree planting in streetscapes. Many services are not located in accordance with standard allocations. Additional services may be present that are not documented. To check the feasibility of proposed tree locations contact Dial Before You Dig 1100 to determine service locations. Site specific service location shall also be carried out by an accredited service locator to more accurately check the site conditions. Contact council or utilities providers for a list of accredited locaters. Document utilities locations with the DA/CC documentation to demonstrate the feasibility of proposals. Comply with clearances by utilities providers. Do not locate tree pits where they will interfere with power lines or other utilities.

**SUBSOIL DRAINAGE**  
The locations of subsoil drainage and stormwater pits is required to determine suitable connections for pit drainage. If there are no existing sub-soil lines, new sub-soil drainage must be provided to connect tree pit drainage into the storm water system. Locating existing subsoil lines and/or design of new subsoil and storm water connections must be determined prior to construction commencing to ensure feasibility of tree plantings. Ensure that s/w mains are sealed in accordance with the relevant Australia Standard/s. Where possible minimise connections to the stormwater drains.

**TRAFFIC ISSUES** - Do not set out street trees in taxi stands, bus stops, loading zones, and slip lanes, driveways, pedestrian kerb ramps, etc. Do not locate street trees where they may interfere with traffic sight lines eg. on the approach side of pedestrian blisters or driveways. Comply with Figure 3.3 AS2890.2 for sight line clearances. Ensure reflectors are located on both sides of the tree guard adjacent to the travel lane and on both sides of the tree guard. Line markings are desirable to highlight the presence of the tree plantings as traffic obstacles. They may be deleted if approved in consultation with Council's traffic officer.

**PARKING** - Check the setout of carparking spaces before locating street trees and locate tree pits to minimise loss of on-street parking spaces. Where additional space is available without loss of parking or where parking is not a major issue, the length of the tree pit may be increased. Where parking setout is not parallel with the kerb, adjust the detail to provide alternative pit designs and setout to suit the site parking arrangements. Comply with the requirements of AS2890.5 On-street Parking.

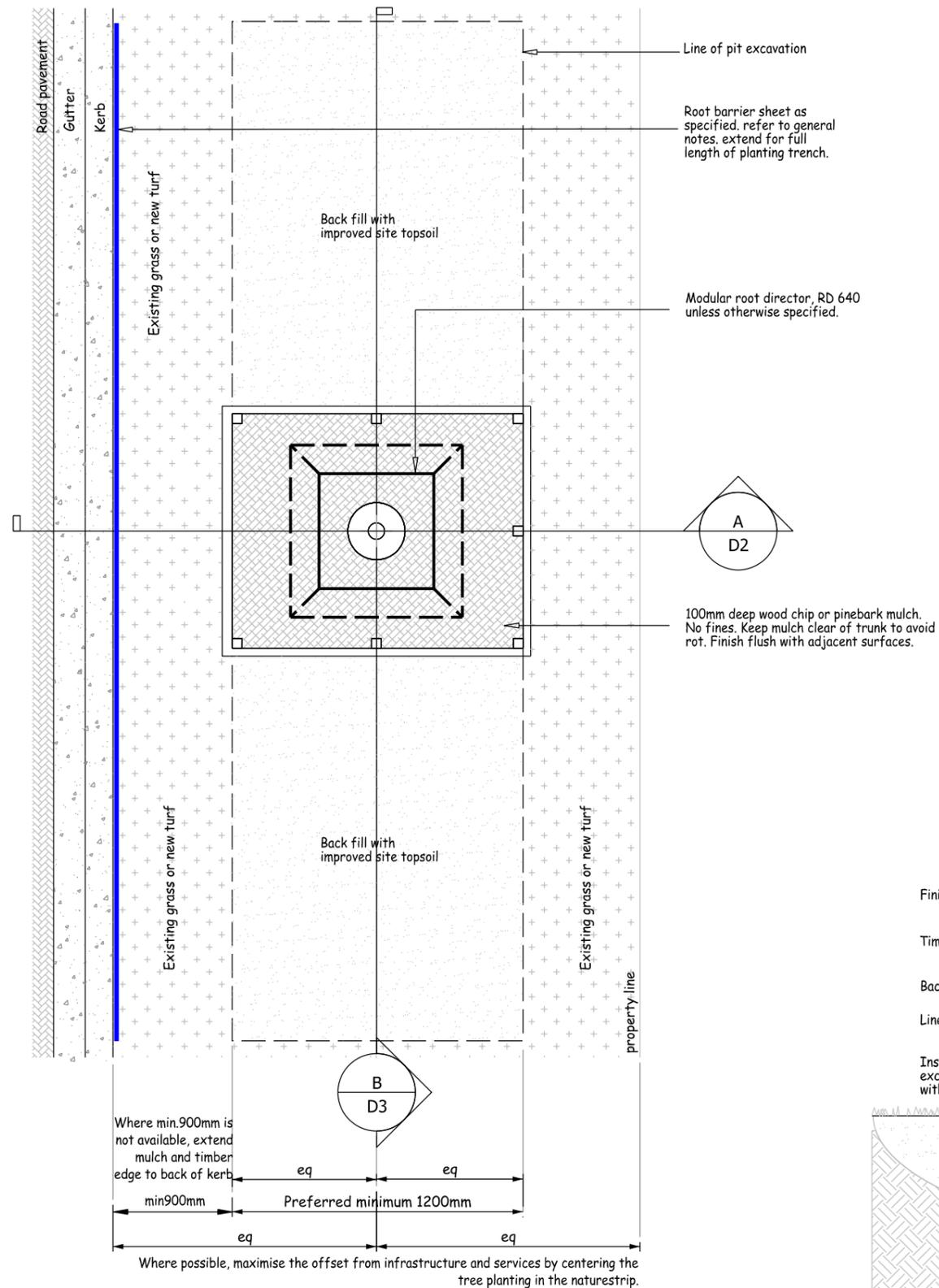
**TREE GUARD ORIENTATION** - Where tree guards with decorative panels are proposed, orientate the tree guard with panels perpendicular to the kerb.

**TREE SPECIES SELECTION NOTES**  
Developer must submit a detailed landscape plan of the proposed sub-division to Dubbo City Council for approval. Species must be identified by botanical nomenclature. Contact DCC Parks and Landcare on 68014000 to determine whether proposed species are relevant to the site. Weed species should always be avoided in any location. Avoid the selection of very large trees for confined streetscape situations unless additional tree pit preparation work is carried out or a large verge area is available, well clear of all infrastructure (eg. kerb and gutter, footpath and services). Avoid the selection of trees that grow in naturally moist situations as these can be shallow rooting, unless pit preparation works are justified in the landscape report.

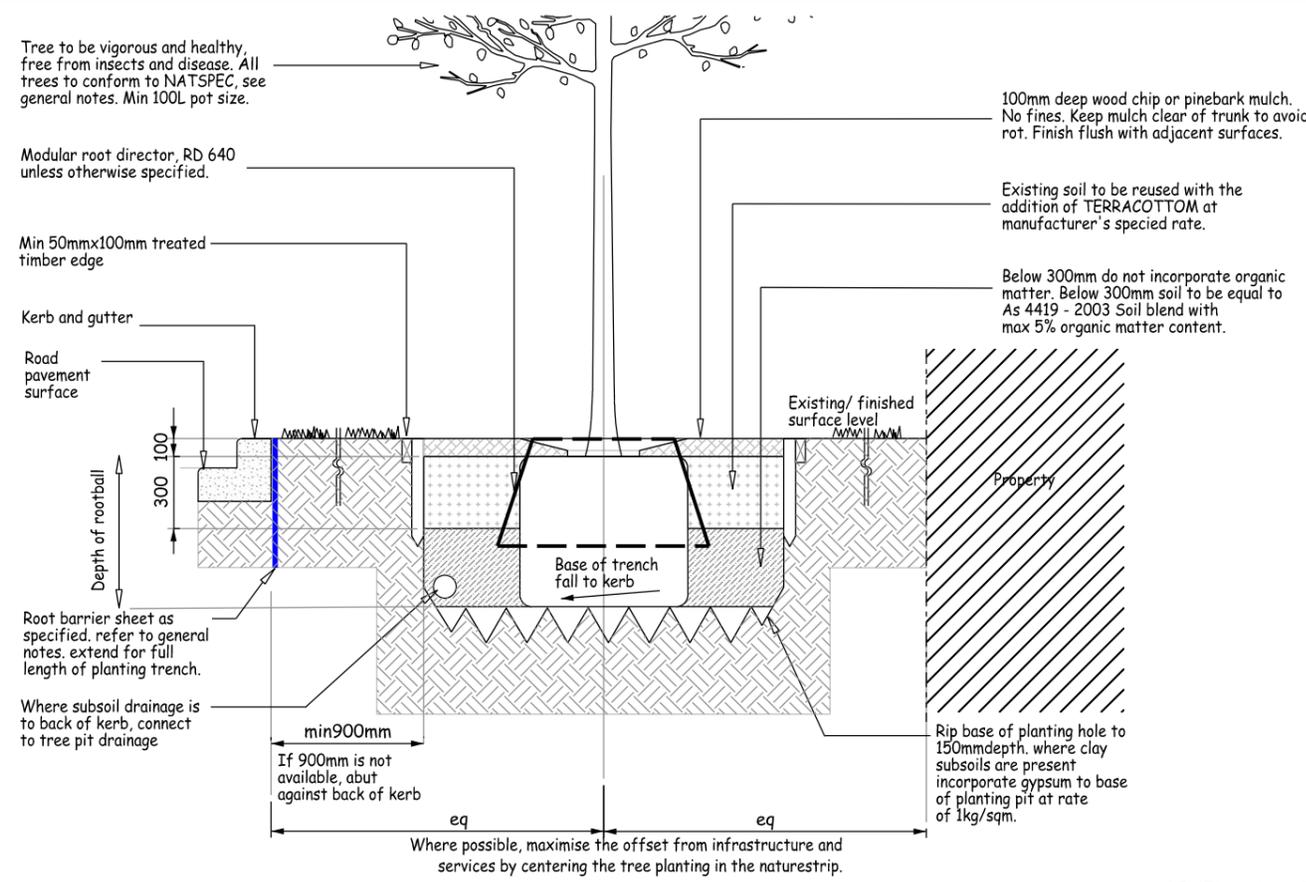
The 2950mm distance between the kerb and the concrete ring edge allows the D.C.C streetsweeper through.

APPROVED  MANAGER TECHNICAL SUPPORT DATE 21/08/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING NP DATE 29/05/2014 CHECKED  DATE 21/08/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U/TS/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Tree Planting Standards.dwg</small>	SCALES NOT TO SCALE  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 21/08/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>21/08/2014</td> <td>CG</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	21/08/2014	CG	AMENDED	 DUBBO CITY COUNCIL PARKS & LANDCARE DIVISION	DRAWING TITLE TREES IN ROAD PAVEMENT PART 2	JOB TREE PLANTING STANDARDS	SHEET No. 4 OF 9 SHEETS PLAN NO. STD 6639
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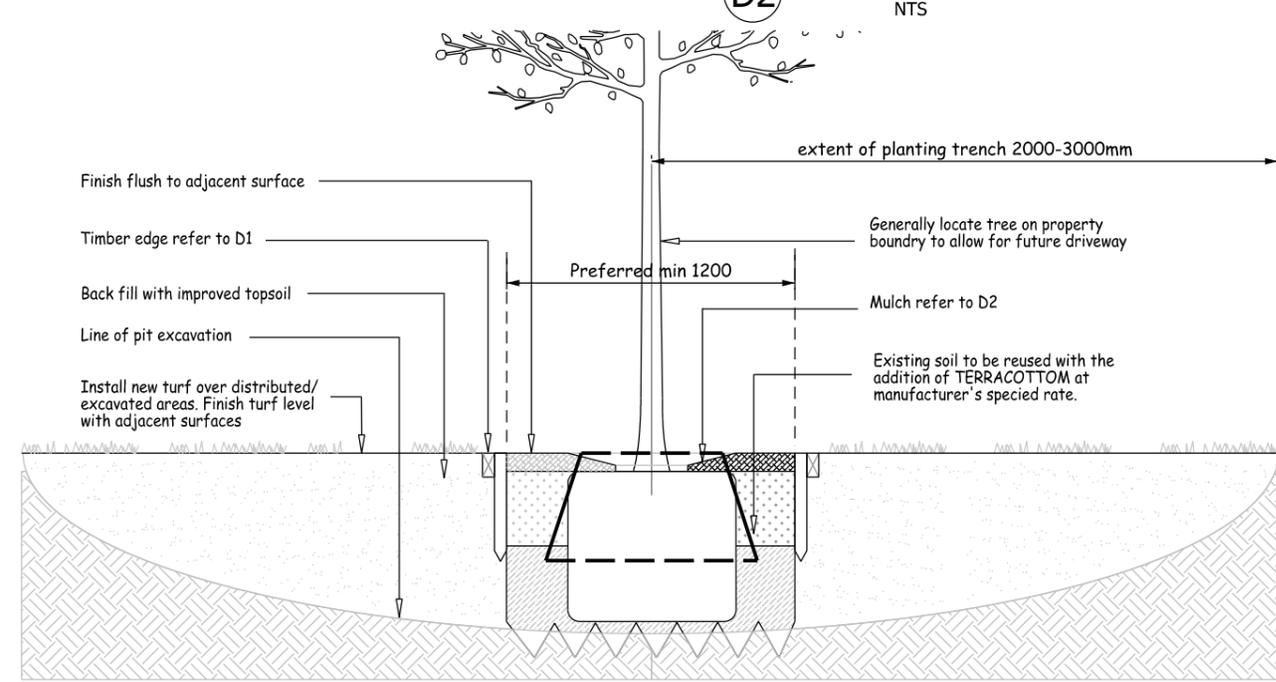




**D1** TYPICAL STREET TREE, NO FOOTPATH  
NTS



**D2** A-A SECTION  
NTS



**D3** B-B SECTION  
NTS

**GENERAL NOTES**

- All trees to be minimum 100L pot size.
- All trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
- Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil
- A modular root director, RD 640 or similar is to be installed centrally within the concrete ring to manufacturers recommendations.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent ACQ treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.

**INSPECTION HOLD POINTS**

Contact Council's Project Manager (02 68014000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk\*.

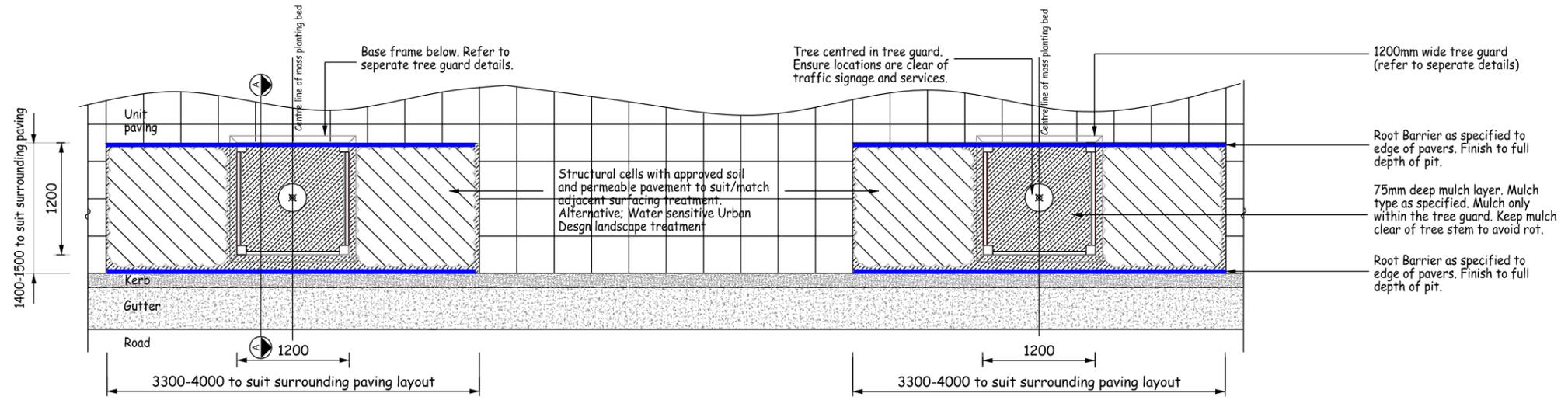
- Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.
- Tree supply to the site, prior to planting.
- Tree planting complete.

**SUBMISSIONS**

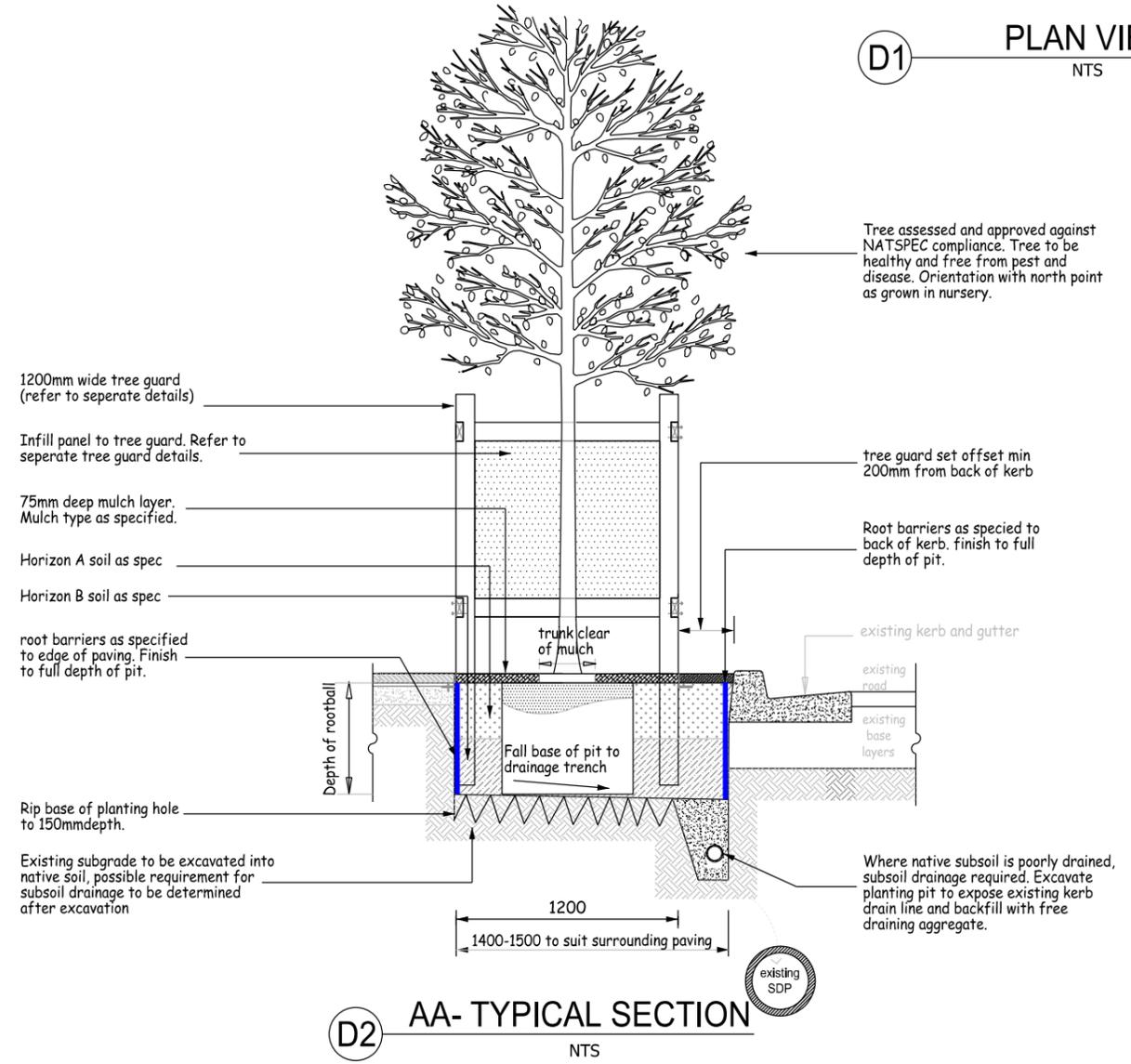
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:

- Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
- Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.

APPROVED  MANAGER TECHNICAL SUPPORT DATE 21/08/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING NP DATE 29/05/2014 CHECKED _____ DATE 21/08/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\S1\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Tree Planting Standards.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 21/08/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APPD</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>21/08/2014</td> <td>CG</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APPD	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	21/08/2014	CG	AMENDED	<b>DUBBO CITY COUNCIL</b> PARKS & LANDCARE DIVISION	DRAWING TITLE <b>TREES IN TURF NO FOOTPATH</b>	JOB <b>TREE PLANTING STANDARDS</b>	SHEET No. <b>6</b> OF <b>9</b> SHEETS PLAN No. <b>STD 6639</b>
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D1 PLAN VIEW  
NTS



D2 AA-TYPICAL SECTION  
NTS

DESIGN NOTES

CONSTRUCTION NOTES

**DIAL BEFORE YOU DIG**  
Contractor shall carry out Dial Before You Dig searches by phoning 1100 prior to excavation. Where planting may be within the zone of influence highlighted by the utilities, locate services accurately using an Accredited Service Locator. Contact Councils Project Manager (02 68014000) if tree locations conflict with services.

**SUBMISSIONS**  
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:  
-Assessment from the supply nursery or horticultural landscape contractor showing compliance against criteria in "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and obtain approval prior to ordering.  
-Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.  
**GENERAL**-This detail is typical only and may require adjustment for site specific situations. Do not scale off the drawing, dimensions take precedence over scaled measurements.

**UTILITIES** - The presence and location of underground services varies greatly from site to site and can affect the feasibility and design of tree planting in streetscapes. Many services are not located in accordance with standard allocations. Additional services may be present that are not documented. The locations of subsoil drainage and stormwater pits are required to determine suitable connections for pit drainage. Designers must check the feasibility of proposed tree locations and contact Dial Before You Dig 1100 to determine service locations. Where planting may be within the zone of influence highlighted by the utilities, locate services accurately using an Accredited Service Locator. Comply with clearances required by utilities providers. Do not locate tree pits where they will interfere with power lines or other utilities.

**TRAFFIC ISSUES** - Do not set out street trees in taxi stands, bus stops, loading zones, and slip lanes, driveways, pedestrian kerb ramps, etc. Do not locate street trees where they may interfere with traffic sight lines eg. on the approach side of pedestrian blisters or driveways. Comply with Figure 3.3 AS2890.2 for sight line clearances. All existing traffic signage to be reinstated at the completion of works to the same location unless otherwise agreed. Contact Council regarding any conflicts with proposed street tree locations and traffic signage.

**TREE GUARDS**- Type of tree guard to be determined by the Project Manager (Parks and Landcare) on a site by site basis. Where tree guards with decorative panels are proposed, orientate the tree guard with panels perpendicular to the kerb.

**TREE SPECIES SELECTION NOTES**  
Plantings must be in accordance with the Greening Plan of Dubbo/Street Tree master plan, but Council will consider alternative species but this option must be well supported with a clear link to site analysis and a landscape report explaining the reasoning. To environmentally sensitive areas, eg. adjoining water courses, the lake, coastal environments or bushland, local indigenous species should always be preferred. Contact D.C.C Landscape Architects on 68014000 to determine whether guidelines are relevant to the site. Weed species should always be avoided in any location. Avoid the selection of very large trees for confined streetscape situations unless additional tree pit preparation work is carried out or a large verge area is available, well clear of all infrastructure (eg. k&g, footpath and services).

WITNESS & HOLD POINTS

Contact Council's Project Manager (02 68014000) at the following hold points. Note: Hold points require written approval to proceed.  
-Tree pit set out  
-Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.\*  
-Tree supply to the site, prior to planting.  
-Tree planting & tree guard installed \*  
**PRELIMINARIES**  
Erect sediment control barriers to gutters and drains prior to commencing excavation work. Keep the site continuously clear of debris and soil material that may wash into drainage system. Ensure continuous pedestrian access along the footpath pavement and to property entries. Comply with RTA Manual "Traffic Control at Work Sites".

TREE PIT EXCAVATION, PREPARATION AND DRAINAGE

Setout the tree pits and seek approval from Council's Project Manager prior to proceeding. Saw cut the road pavement to create a neat and square edge. Remove excavation material & dispose off site. Provide a fall to the base of the pit toward the drainage trench as detailed. Construct the drainage trench and connect to s/w system. Break up the base of the tree pit prior to backfilling. Position the root barrier prior to placement of soils. Note: Where possible link drainage between pits and connect to the s/w system behind the kerb. Minimize connections to the s/w main.

ROOT BARRIER

Supply a MDPE UV stabilised root barrier min 0.7mm wall thickness, min height 600mm. Ensure root barrier finishes flush with the top of the pit backfill and peg to ensure the barrier finishes minimum 100mm above the base of the pit. Overlap 300mm and heat seal or seal with Butyl tape.

SOILS

Horizon A soil - Equal to AS4419-2003 'Organic Soil' with texture to AS4419-2003 Table I1- Sandy Loam. Place no deeper than 300mm to prevent anaerobic decomposition of organic matter within soil.  
Horizon B soil - Place below a depth of 300mm. Equal to AS4419-2003 'Soil blend' with max 5% organic matter content. Texture to AS4419-2003 Table I1- Sandy Loam. Do not incorporate organic matter to horizon B soil.

TREE SUPPLY

All trees must conform to Clark, R 2003. NATSPEC "Specifying Trees - A Guide to Assessment of Tree Quality". Appendix 2". Time site delivery to minimise storage on site. Ensure root balls are kept watered and store in the shade prior to planting. Inspect immediately upon delivery for NATSPEC compliance and return any trees that do not meet the standard. Cross reference - Inspections and Submissions.

TREE PLANTING

Plant trees after placement of root director and soils, and before placing mulch. Do not lift trees by the trunk. Support from under the rootball. Remove the pot or bag and root prune 10mm all round the root ball to encourage root division. Plant with the rootball flush with the top of soil and plumb.

MULCH

Mulch type shall be a woodchip mulch with NO FINES. Finish mulch to be flush with surrounding pavement. Do not mound mulch layer.

APPROVED	DATE 21/08/2014
MANAGER TECHNICAL SUPPORT	
CHECKED	DATE 21/08/2014
SENIOR DESIGN ENGINEER	

FIELD BOOK/SURVEY FILES
DESIGN FILES
DRAWING FILES

SCALES
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ORIGINAL SIZE A1
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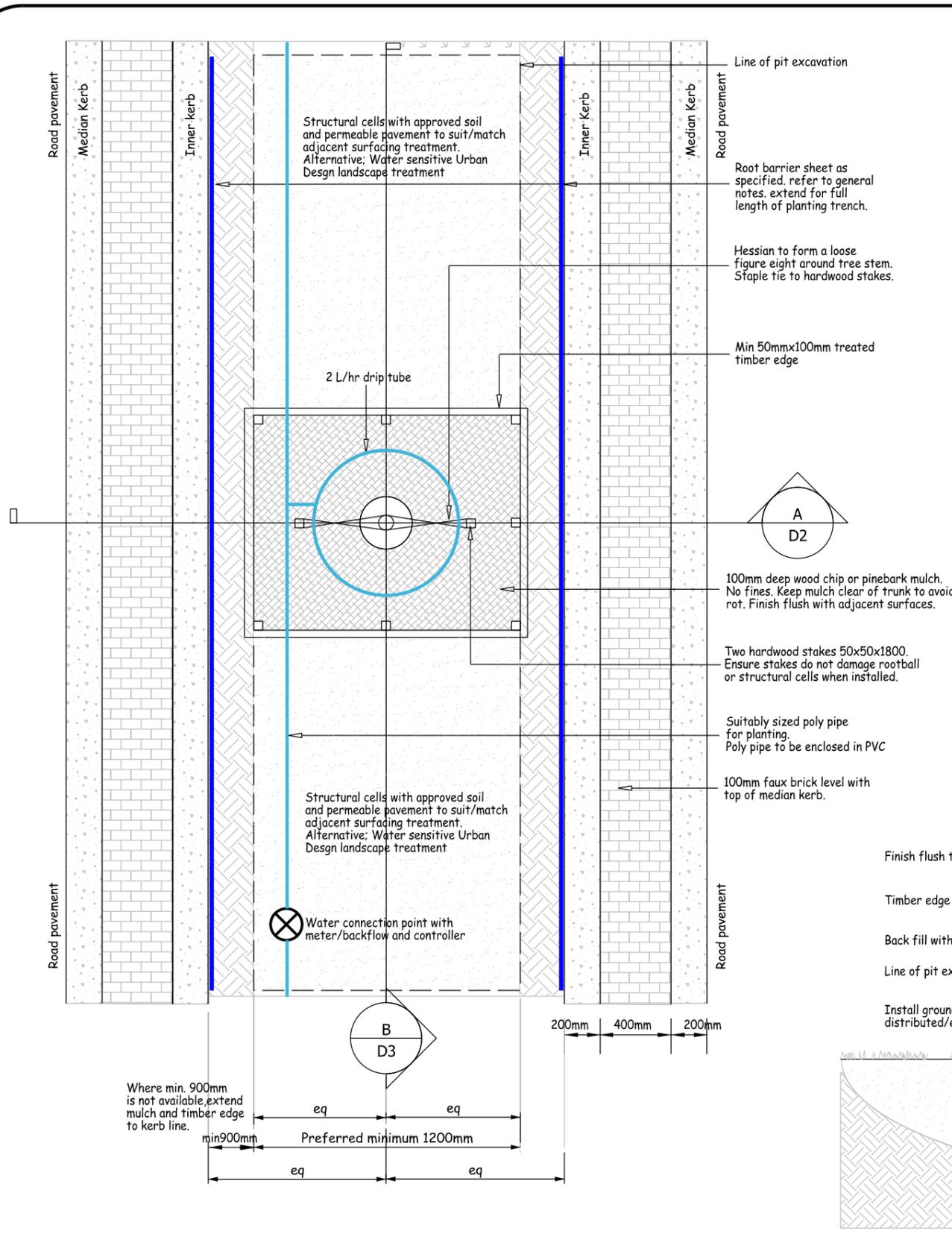
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**DUBBO CITY COUNCIL**  
PARKS & LANDCARE DIVISION

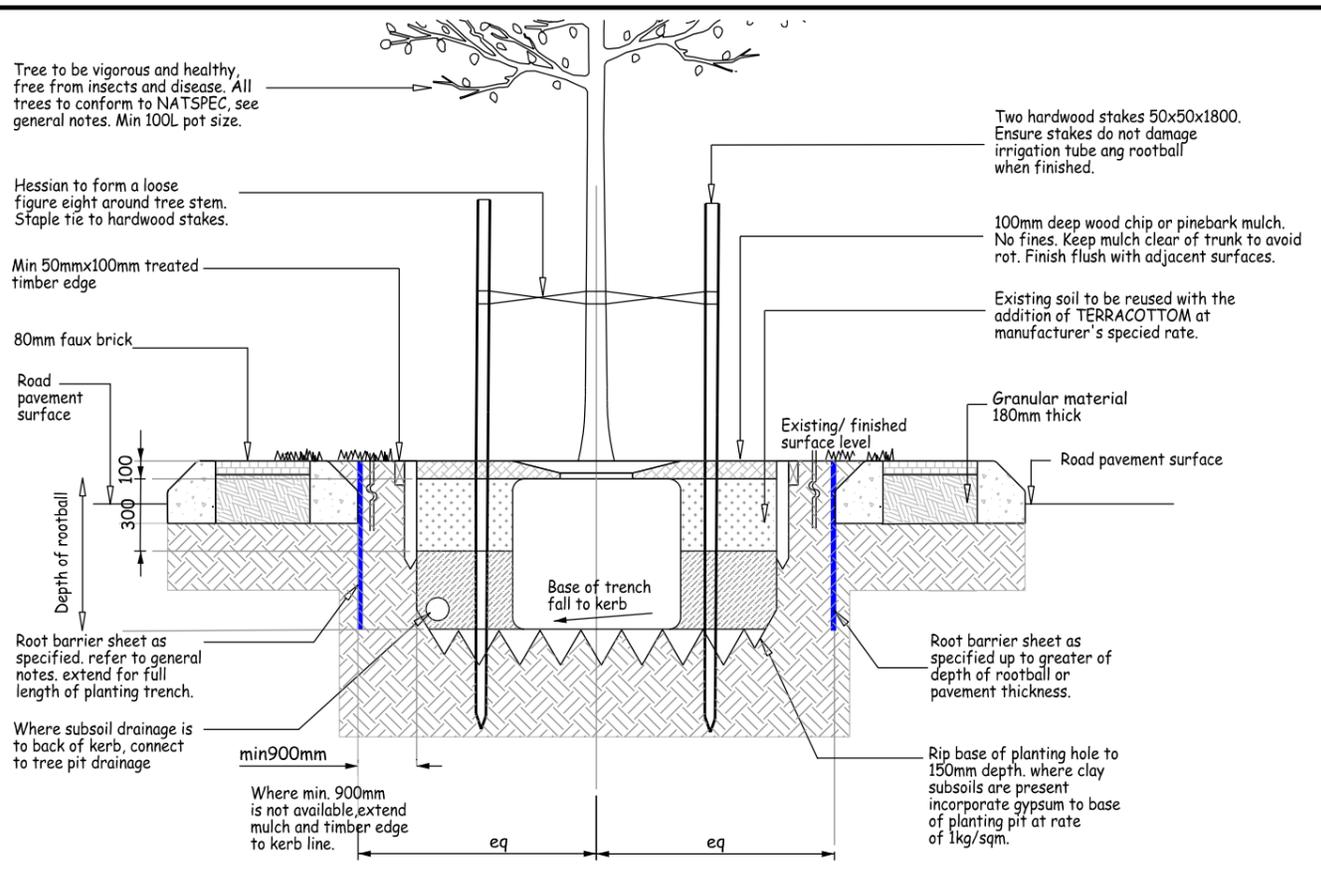
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**STREET TREES IN MASS PLANTING & MALLS**

JOB  
**TREE PLANTING STANDARDS**

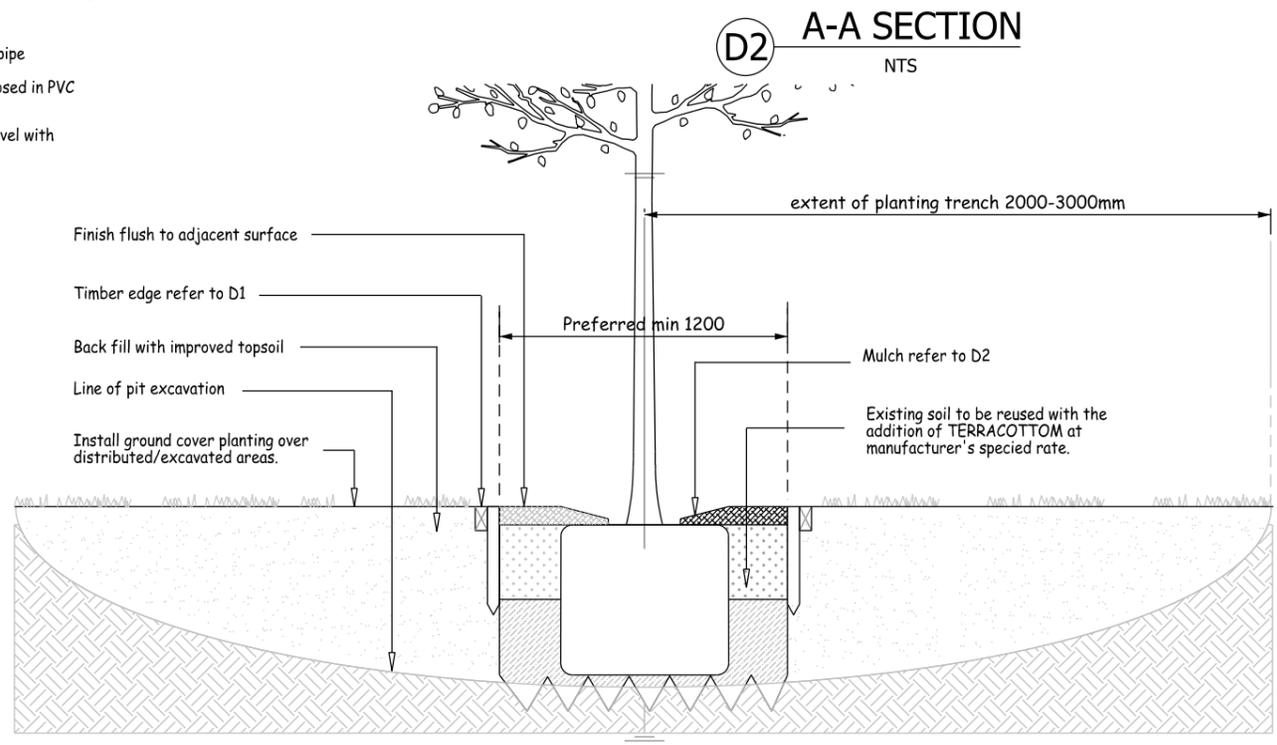
SHEET No.	7
OF	9 SHEETS
PLAN No.	STD 6639



**D1** TYPICAL STREET TREE- CENTRAL MEDIAN STRIP  
NTS



**D2** A-A SECTION  
NTS



**D3** B-B SECTION  
NTS

**GENERAL NOTES**

- all trees to be minimum 100L pot size.
- all trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
- all stakes and hessian ties to be removed at the end of 13 week landscape establishment period.
- Install root barrier sheet equal to Arboreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil to be covered by mulch.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent H4 treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.

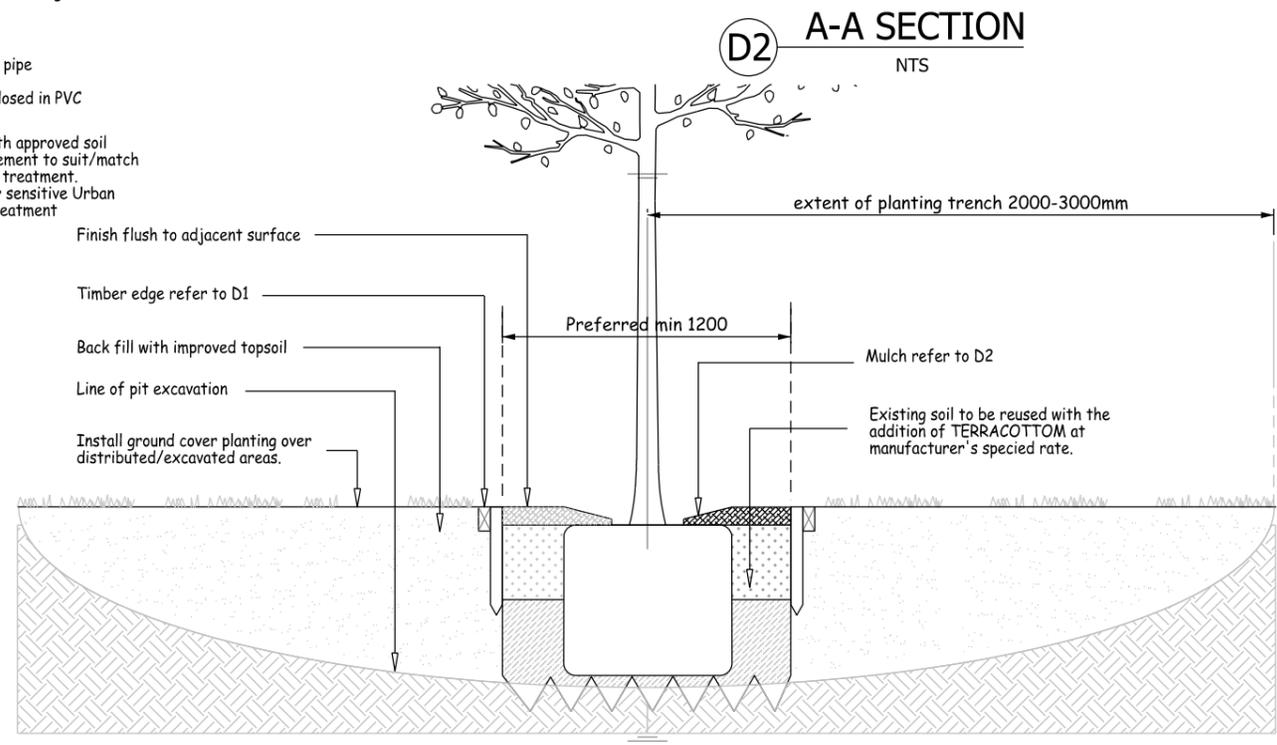
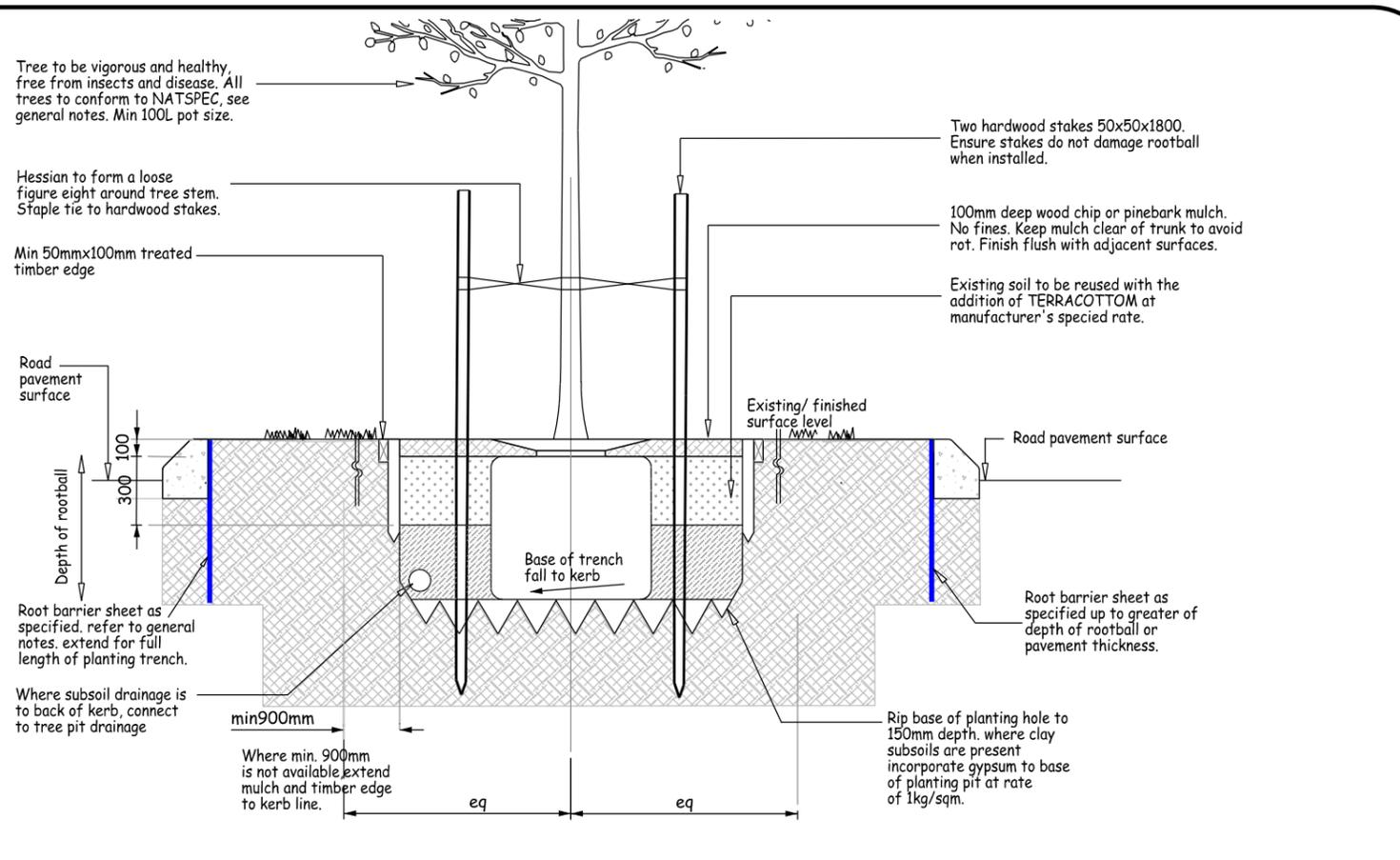
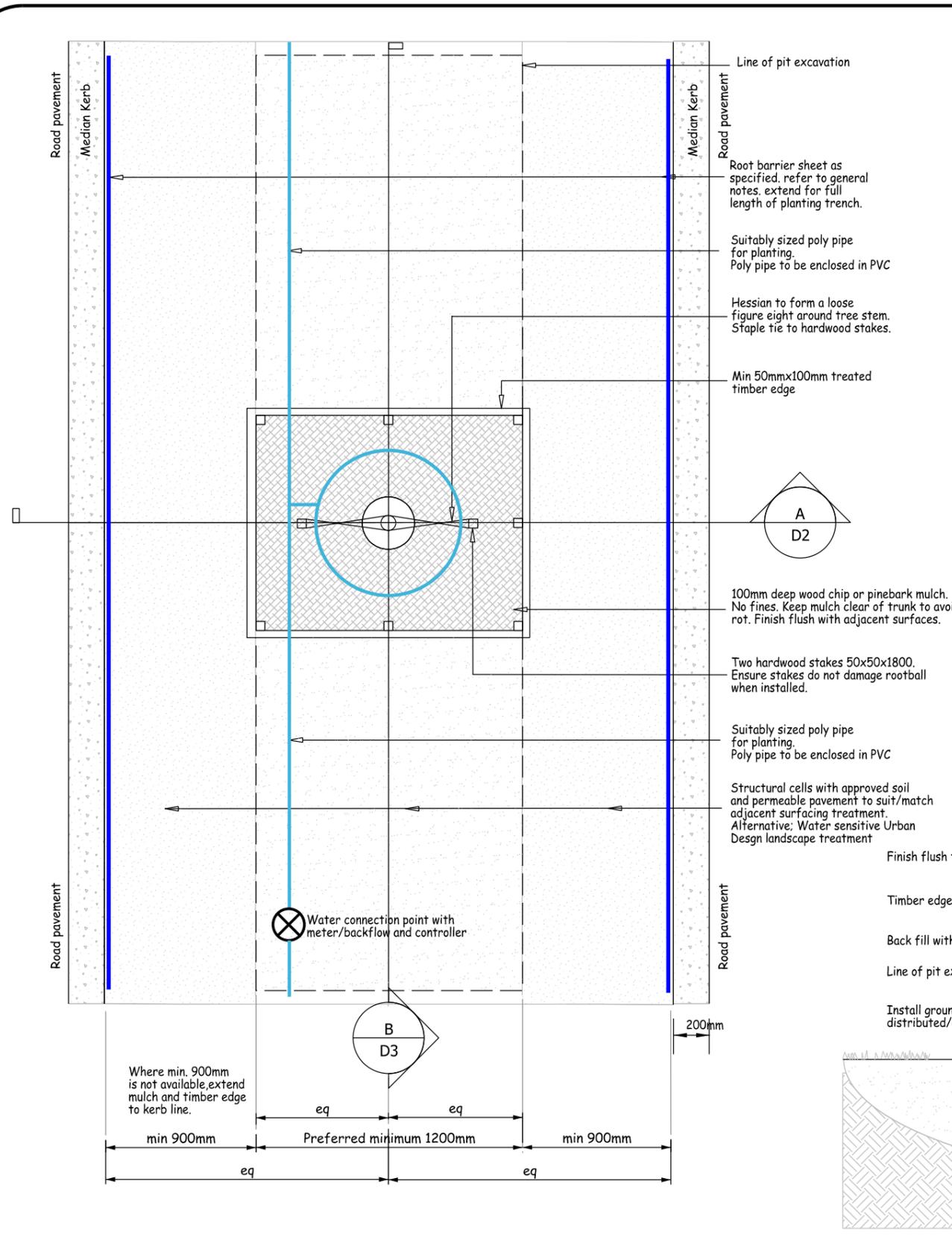
**INSPECTION HOLD POINTS**  
Contact Council's Project Manager (02 68014000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk.\*

- Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.\*
- Tree supply to the site, prior to planting.
- Tree planting complete.

**SUBMISSIONS**  
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:

- Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
- Certificate of compliance from the soil supplier providing laboratory testing to demonstrate compliance with the specification for each type of soil.

APPROVED:  DATE: 21/08/2014 MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING NP DATE 29/05/2014 CHECKED:  DATE 21/08/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>UATS/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Tree Planting Standards.dgn</small>	SCALES NOT TO SCALE ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 21/08/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APPD</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>21/08/2014</td> <td>CG</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APPD	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	21/08/2014	CG	AMENDED	<b>DUBBO CITY COUNCIL</b> PARKS & LANDCARE DIVISION	DRAWING TITLE <b>TREES IN CENTRAL MEDIAN STRIPS WITH INNER KERB</b>	JOB <b>TREE PLANTING STANDARDS</b>	SHEET No. <b>8</b> OF <b>9</b> SHEETS PLAN No. <b>STD 6639</b>
	No.	DATE	APPD	DETAILS OF AMENDMENTS																				
1.	29/05/2014	CG	AMENDED																					
2.	19/06/2014	CG	AMENDED																					
3.	21/08/2014	CG	AMENDED																					



**GENERAL NOTES**

- all trees to be minimum 100L pot size.
- all trees must conform to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality". Provide assessment of conformance to "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" from supplier.
- all stakes and hessian ties to be removed at the end of 13 week landscape establishment period.
- Install root barrier sheet equal to Arborgreen Re-Route 600 linear root barrier. Top of rootbarrier to sit flush with surrounding soil to be covered by mulch.
- All timber in contact with ground to be Class 1 durability hardwood or equivalent H4 treated pine.
- Do not locate tree within 4m of streetlights or where the mature canopy may interfere with lighting performance.
- Do not locate trees within 2.5m of s/w kerb inlet pits.

**INSPECTION HOLD POINTS**  
Contact Council's Project Manager (02 68014000) at the following hold/witness points. Note: Hold points require written approval to proceed. Witness points require verbal approval to proceed and approvals dates and contacts shall be diarised as evidence of approval. Hold points are noted with an asterisk.

- Pits excavated, drainage installed and root barrier installed ready for backfilling with soils.\*
- Tree supply to the site, prior to planting.
- Tree planting complete.

**SUBMISSIONS**  
Submit the following certificates to Council's Project Manager (02 68014000) at the following times:

- Assessment from the supply nursery or horticultural contractor indicating compliance with "NATSPEC Guide to Specifying Trees - Assessment of Tree Quality" requirements, including a checklist of the key points. Supply to Council and seek approval prior to planting.
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APPROVED: DATE 21/08/2014  
MANAGER TECHNICAL SUPPORT

CHECKED: DATE 21/08/2014  
SENIOR DESIGN ENGINEER

FIELD BOOK/SURVEY FILES

DESIGN FILES

DRAWING FILES

U:\ATS\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Tree Planting Standards.dwg

SCALES

NOT TO SCALE

ORIGINAL SIZE A1

0 1 2 3 4 5 cm

PERMANENT MARK:	N/A	RL:	N/A	DATUM:	AHD & MGA
STATUS:	STANDARD DRAWING		PRINT DATE: 21/08/2014		
No.	DATE	APP'D	DETAILS OF AMENDMENTS		
1.	29/05/2014	CG	AMENDED		
2.	19/06/2014	CG	AMENDED		
3.	21/08/2014	CG	AMENDED		

**DUBBO CITY COUNCIL**

PARKS & LANDCARE DIVISION

DRAWING TITLE

**TREES IN CENTRAL MEDIAN STRIPS WITH GARDEN**

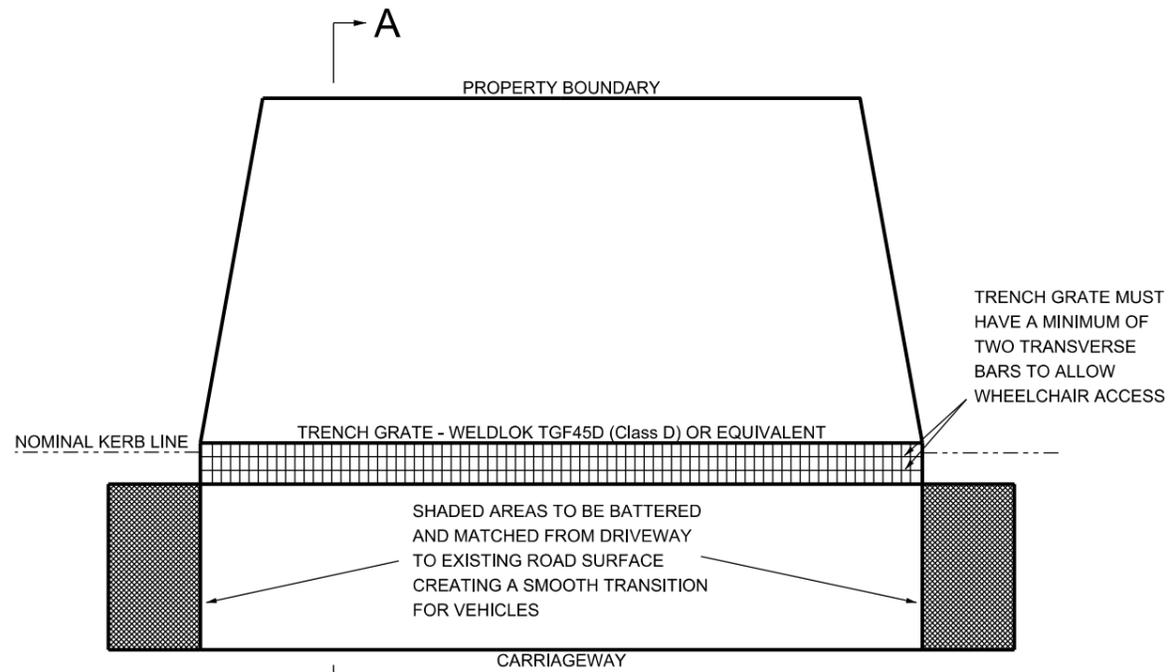
JOB

**TREE PLANTING STANDARDS**

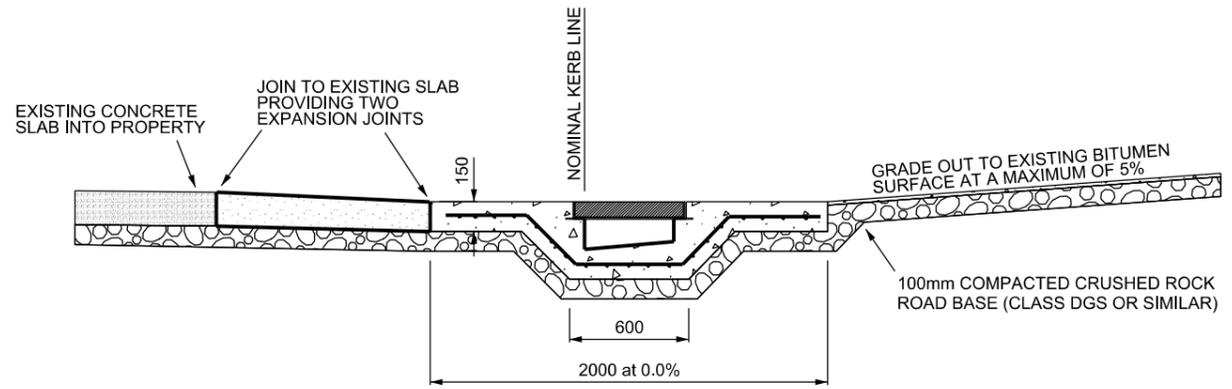
SHEET No. **9**

OF **9** SHEETS

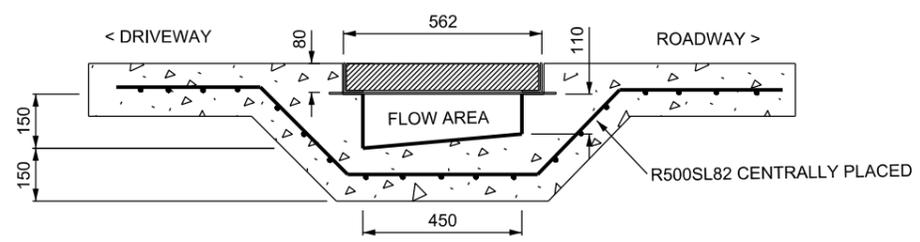
PLAN No. **STD 6639**



**PLAN**



**SECTION A-A**



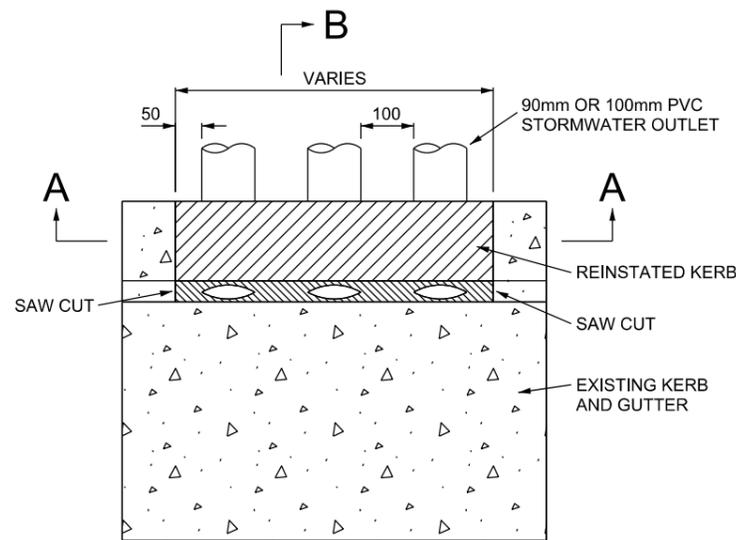
**TRENCH GRATE AND SLAB DETAIL**  
 NOTE: SLAB DETAIL SHOWN IS FOR RESIDENTIAL CLASS SLAB. FOR COMMERCIAL AND INDUSTRIAL SLAB SPECIFICATIONS, SEE STD 5211

**NOTES**

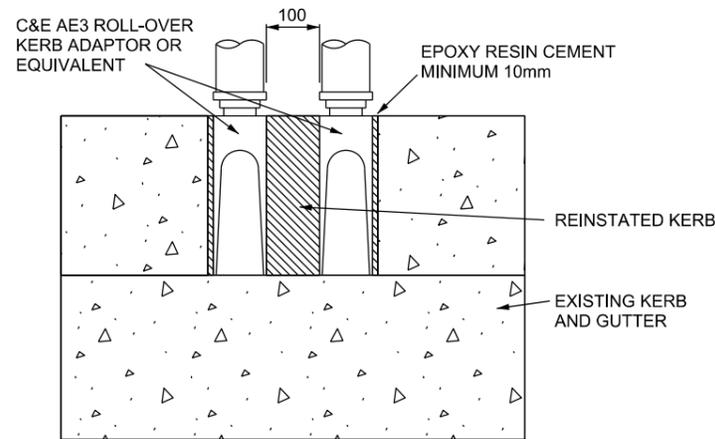
1. Construction of vehicular crossings is to be carried out strictly in accordance with Dubbo City Council's Road Opening Policy and relevant Aus-Spec documentation. These documents are available from Council's Customer Service area.
2. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
3. The vehicular crossing is to be constructed to the dimensions and specifications as shown on this drawing. The compressive strength of the concrete is to be 25MPa at 28 days. All exposed edges are to be 10mm radius. Additionally, all poor subgrade material shall be removed and replaced with suitable base material. All subgrades are to be well compacted before the placement of the base material. Formwork must extend from finished concrete height to the base material for the total area of the driveway slab.
4. Careful consideration should be given when opting to construct a bridge style driveway slab. Bridge style driveway slabs should only be used where it has been determined that the construction of a more traditional driveway slab (STD 5211) would be inappropriate and cause vehicles to scrape and or bottom out or where steep grades may pose a hazard for pedestrians.  
  
 Bridge style driveway slabs have the potential to constrict the flow of water in the surrounding guttering. In the event that the channel becomes blocked, the slab should be designed in such a way that water can still pass over the ramp section without flowing into the property. The grate should also be easily removable to allow cleaning of the channel.  
  
 The use of bridge style slabs to provide access to properties with high crossfall road shoulders will be assessed on an individual basis and will only be allowed with the specific approval of Dubbo City Council.
5. The driveway slab is to be classed as Industrial, Commercial or Residential depending on the type of building on the property. The slab will therefore be constructed according to the specifications for each class in Standard Drawing 5211.
6. A full separation joint is to be provided at the back of the new vehicular crossing and the driveway slab using bituminous jointing (Jointex) or similar.
7. The finished surface should be kept from drying out too rapidly by covering with wet sand or plastic sheeting.
8. An approved Traffic and Pedestrian Control Plan completed by an appropriately qualified person in accordance with AS 1742.3-2009 is to be in place prior to any construction works commencing and during any construction works.
9. The potential for sediment to enter Council's underground stormwater system is to be addressed. Appropriate measures are to be put in place to prevent this from happening.
10. The Contractor/Owner/Developer is responsible for the removal of all formwork and rubbish associated with the construction from the site and the reinstatement of the surface adjacent to the works upon completion.
11. The area in front of the replacement kerb and gutter or vehicular crossing shall be neatly saw cut, and the material removed and replaced with AC10 (Asphaltic Concrete). Minimum dimension of the restoration work is to be 600mm wide and a depth of 50mm. All AC material is to be placed on a thoroughly compacted base of DGB.
12. The following inspections are to be carried out prior to and during construction. In this regard 24 hours notice is to be given by phoning 6801 4000. The inspections required are as follows:  
  
 Site inspection prior to commencement of work.  
 When the formwork and compacted base are in place and prior to the mesh being placed.  
 When the mesh has been placed.  
 Prior to the bitumen sealing or asphaltic works.  
 At the completion of all works including restoration of the site.

Failure to have the above inspections carried out may result in the rejection of the crossing.

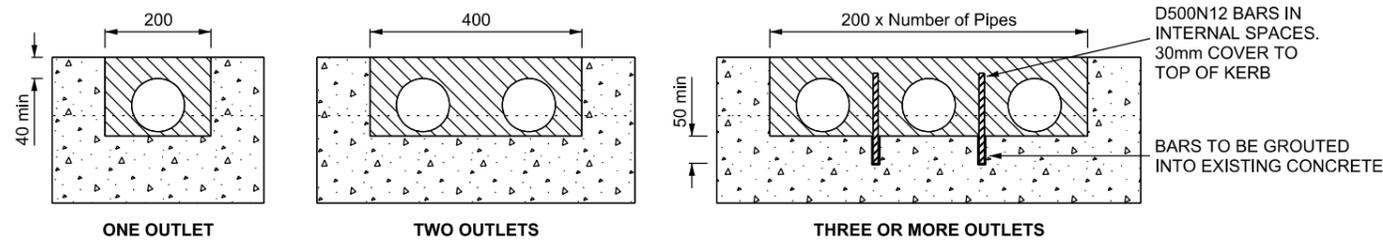
APPROVED  MANAGER TECHNICAL SUPPORT DATE 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING CG DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U/S/Technical Support/Design Section/Standards and Design Guides/DCC Standard Engineering Drawings/Control/DCC Standard Drawings.dgn</small>	SCALES NOT TO SCALE  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 TECHNICAL SERVICES DIVISION	DRAWING TITLE BRIDGE STYLE VEHICULAR CROSSING SLAB	JOB STANDARD DRAWING	SHEET No. 1 OF 1 SHEETS PLAN NO. STD 6659
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																								
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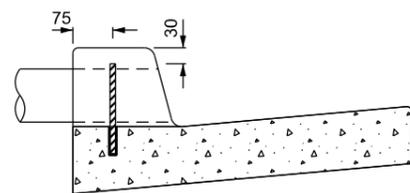
**PLAN OF STANDARD KERB PROFILE**



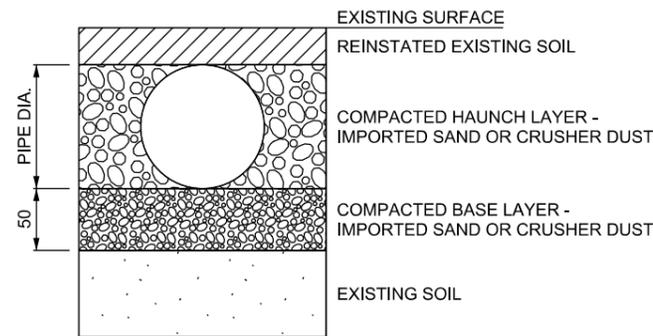
**PLAN OF ROLL OVER KERB PROFILE**



**SECTION A-A**



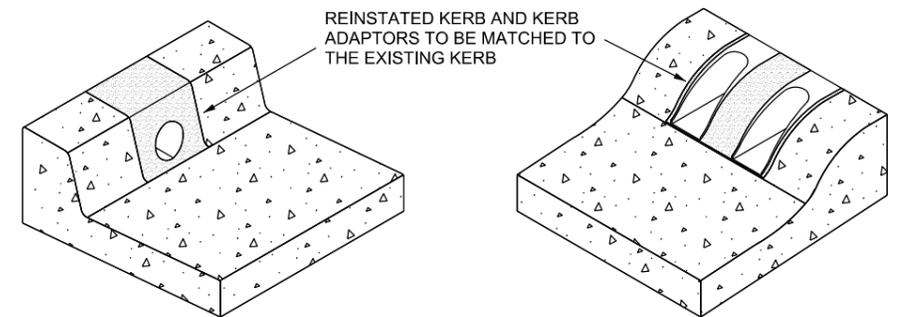
**SECTION B-B**



**PIPE TRENCH DETAIL**

**NOTES**

- The following notes refer to the Roll Over and Standard kerb profiles outlined in Standard Drawing STD 5235.
- Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
- Where the proposed building works necessitate the cutting-in of new stormwater outlets into the existing street kerb, the Contractor/Owner/Developer shall ensure that the following procedures are adopted:
  - If a kerb adaptor is required, it shall be capable of withstanding vehicular loadings.
  - Create the opening in the kerb by use of either a saw cut or bored hole only. Breaking out of the kerb by impact methods such as jackhammering is not permitted.
  - If a kerb adaptor is utilised, any exposed faces must be kept flush with the adjacent surfaces of the kerb.
 If a pipe is used, it must be kept flush with the face of the kerb.
  - The fixing of the kerb adaptor and filling in of any gaps is to be undertaken by the use of an epoxy resin cement. Mortar or concrete is not to be used as these materials have a tendency to crack and chip away over time and exhibit poor flexibility.
  - The fixing of a pipe and the reinstatement of the kerb is to be done with an epoxy resin cement. The kerb is to be reinstated to its original condition and profile.
- Kerb adaptors (C&E AE3 Roll-Over Adaptor or similar) are to be utilised for all Roll Over style kerb profiles. Round stormwater pipe is not to be installed through the Roll Over kerb face.
- Kerb adaptors are not to be used with either 150mm or 200mm high Standard Kerb profiles except within the CBD area. In this case, the Council approved CBD Kerb Adaptor shown in STD 6763 is to be used.
- Stormwater pipes outside the property boundary and passing through the kerb face are to be made of PVC only. Pipes are to have a pipe stiffness class of SN4 or greater as specified in AS/NZS 1254-2010, Table 3.2. Pipes are to have a minimum diameter of 90mm and a maximum diameter of 100mm. Pipe sizes exceeding these limitations are to be converted on private property using either a reducer coupling or a drainage junction pit.
- To reduce risk of pipe crushing under heavy loads (eg. vehicular loads) in the footpath area, pipe is to be installed in accordance with Pipe Trench Detail shown on this sheet.



APPROVED: MANAGER TECHNICAL SUPPORT DATE: 19/06/2014	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR DATE 29/05/2014 CHECKED  DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>INSTALLATION OF STORMWATER OUTLETS THROUGH KERB FACE</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 6720</b>
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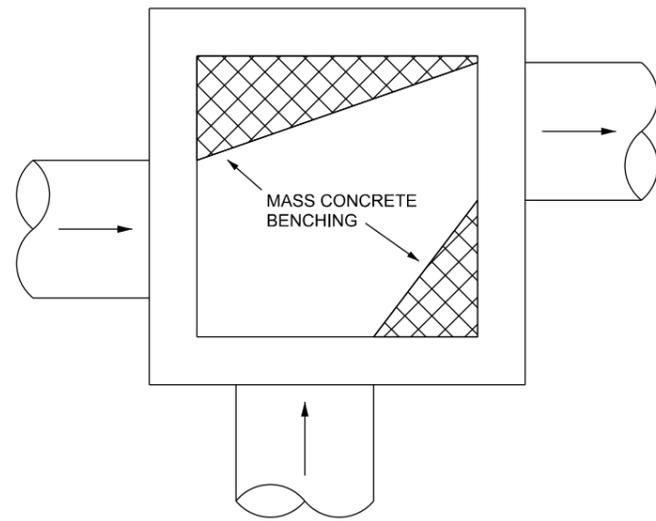
**NOTES**

1. Where possible, intersection of pipe centrelines should occur on the downstream face of the pit. The layouts shown on this drawing illustrate the arrangements to be used in situations where this is not possible.

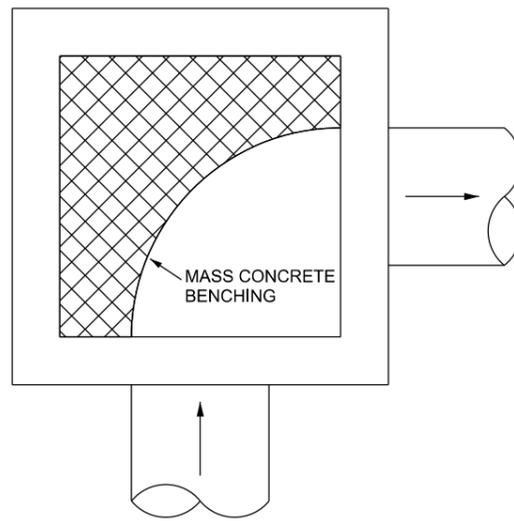
2. The layouts shown on this drawing are applicable to the following standard drawings:

- STD 1270 - Stormwater Gully Pit
- STD 1271 - Stormwater Junction Pit
- STD 1620 - Grated Inlet Pit in Roll Over Kerb
- STD 5090 - Grate Letter Opening Stormwater Pit

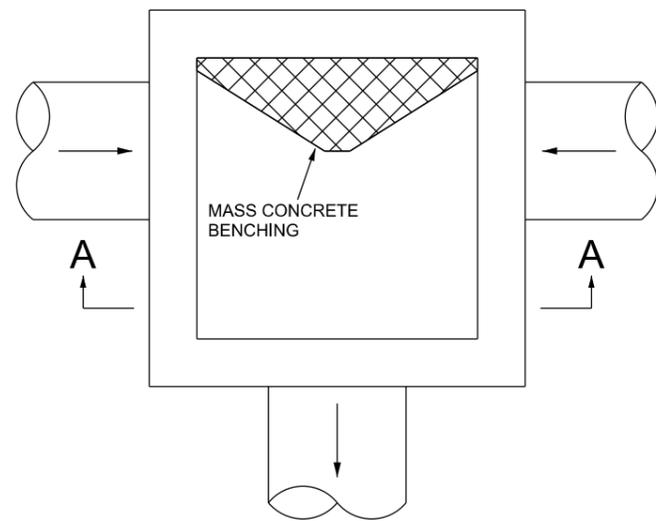
3. Mass concrete benching shown on this drawing is in addition to any other benching specified in the relevant standard drawing and should extend to the obvert of the outflow pipe or higher.



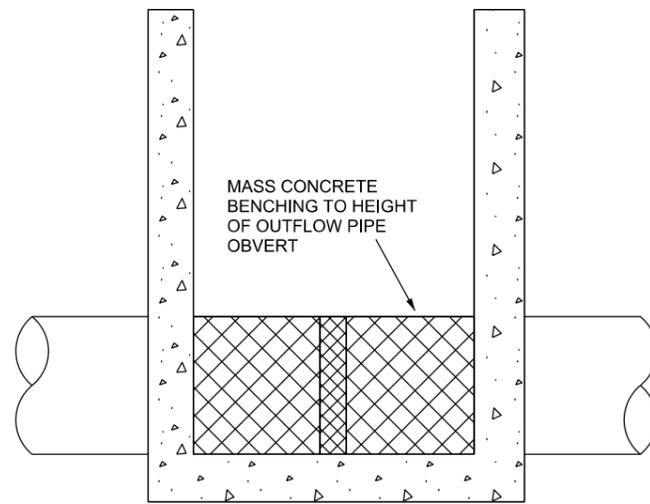
**LAYOUT 1 - TWO INLETS ON PERPENDICULAR FACES**



**LAYOUT 2 - 90° BEND**



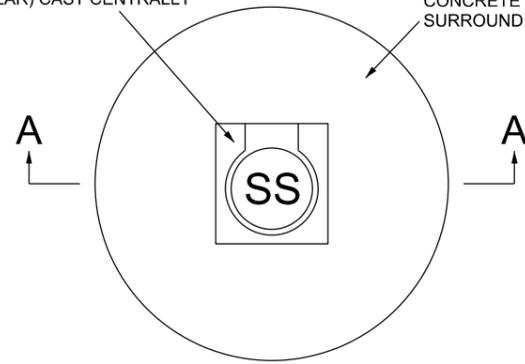
**LAYOUT 3 - TWO INLETS ON OPPOSITE FACES**



**SECTION A-A**

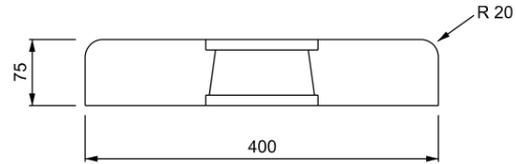
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RTA SUB SURFACE FLUSHING POINT COVER (DURHAM RTASS OR SIMILAR) CAST CENTRALLY



**SUBSOIL DRAIN COVER**

CONCRETE SURROUND

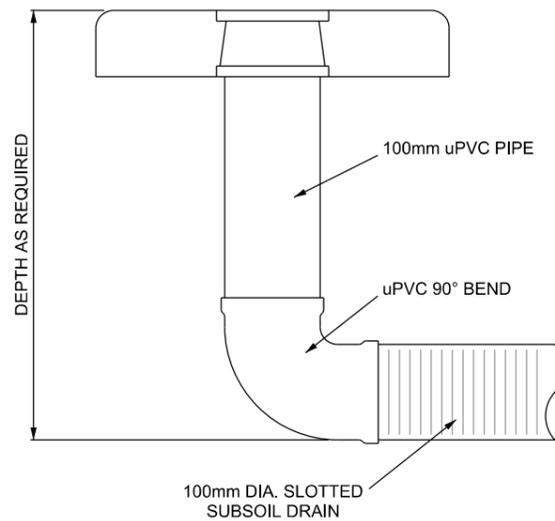
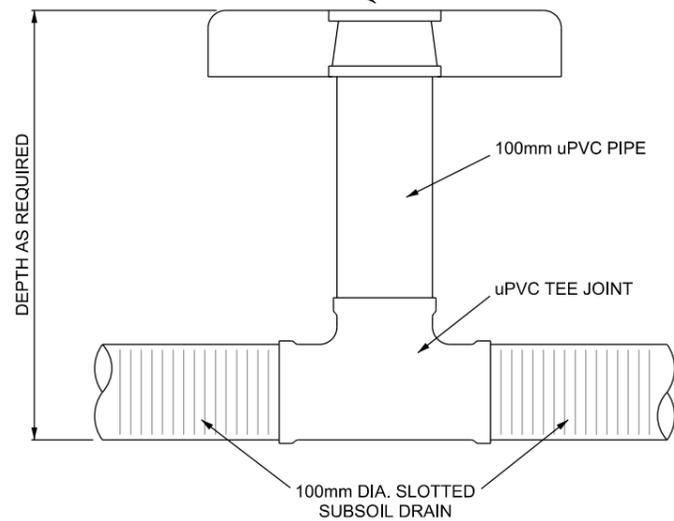


**SECTION A-A**

**NOTES**

1. Subsoil drains are to be constructed in accordance with Dubbo City Council's Development Construction Specifications: C230 - Sub-Surface Drainage General, C231 - Subsoil and Foundation Drains and C232 - Pavement Drains.
2. Subsoil drains are to be laid at a minimum grade of 0.5% and have flushing points at the upstream end and at a maximum spacing of 60 metres.
3. Subsoil drains are to be connected into stormwater pits at the base of the pit.
4. uPVC pipes and fittings are to have a pipe stiffness class of SN4 or greater as specified in AS/NZS 1254-2010, Table 3.2.

RTA SUB SURFACE FLUSHING POINT COVER AND SURROUND



**TYPICAL SUBSOIL DRAIN FLUSHING POINTS**

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING AR DATE 29/05/2014 CHECKED _____ DATE 19/06/2014 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b>  ORIGINAL SIZE A1	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 20/06/2014 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	-	-	-	-	-	-	-	-	 <b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>SUBSOIL DRAINAGE FLUSHING POINT</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>1</b> OF <b>1</b> SHEETS PLAN NO. <b>STD 6750</b>
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DATE 19/06/2014																												

**NOTES**

1. The CBD kerb adaptor is to be used only in the following locations:

- (a) Macquarie Street from Cobra Street to Erskine Street
- (b) Talbragar Street from Bligh Street to Darling Street
- (c) Any other location at the discretion of Dubbo City Council

2. For installation of stormwater outlets outside of the above locations refer to STD 6720

3. The front, top and back of the kerb adaptor is to be constructed from a single sheet of 3mm thick checker-plated steel bent into shape. The sides are to be cut from plain 3mm thick steel.

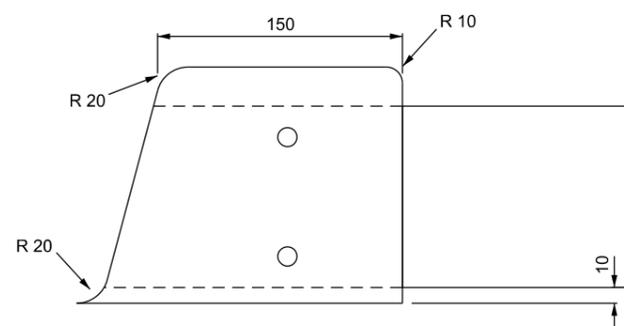
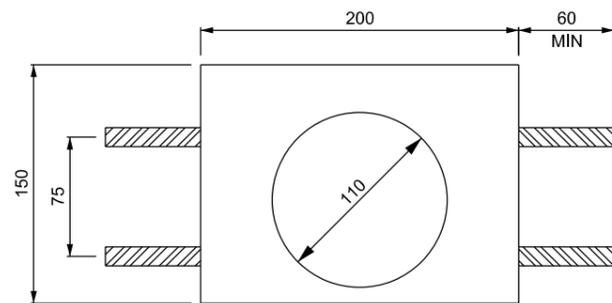
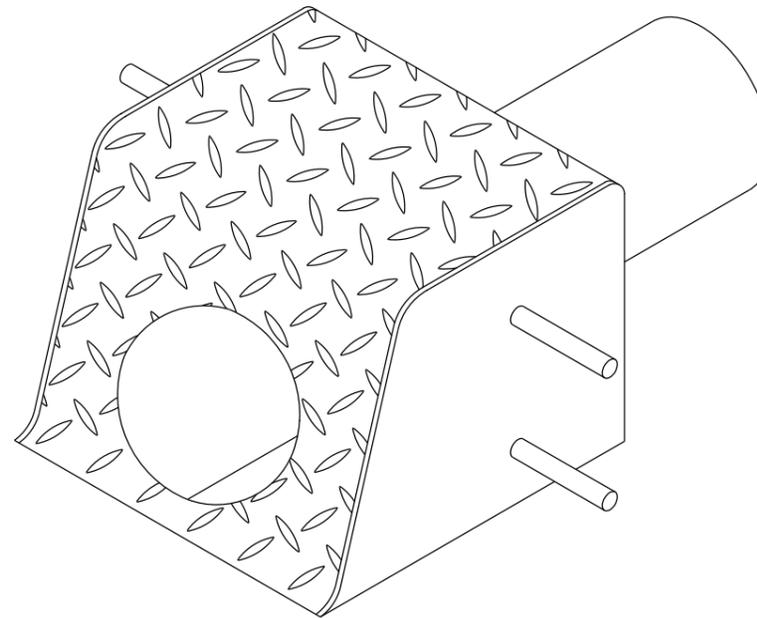
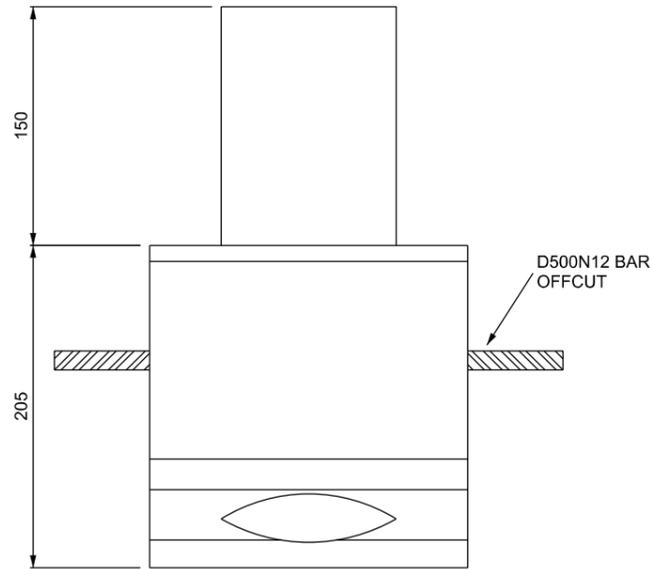
4. Pipe sleeve is to be a steel CHS with an internal diameter of 110mm. 90mm stormwater pipes may be fitted to the adaptor using a concentric reducer.

5. All joints and seams are to be welded.

6. The finished kerb adaptor is to be hot-dip galvanised.

7. The width of the kerb adaptor may be increased to accommodate multiple stormwater outlets. In this case the spacing between each pipe sleeve should be 50mm (160mm centre to centre).

8. The kerb adaptor is intended for installation in new (uncured) kerb only.



APPROVED: *[Signature]* DATE 19/06/2014  
MANAGER TECHNICAL SUPPORT

CHECKED: *[Signature]* DATE 19/06/2014  
SENIOR DESIGN ENGINEER

FIELD BOOK/SURVEY FILES  
DESIGN FILES  
DRAWING FILES  
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SCALES  
**NOT TO SCALE**  
ORIGINAL SIZE A1  
0 1 2 3 4 5 cm

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STATUS: STANDARD DRAWING		PRINT DATE: 20/06/2014	
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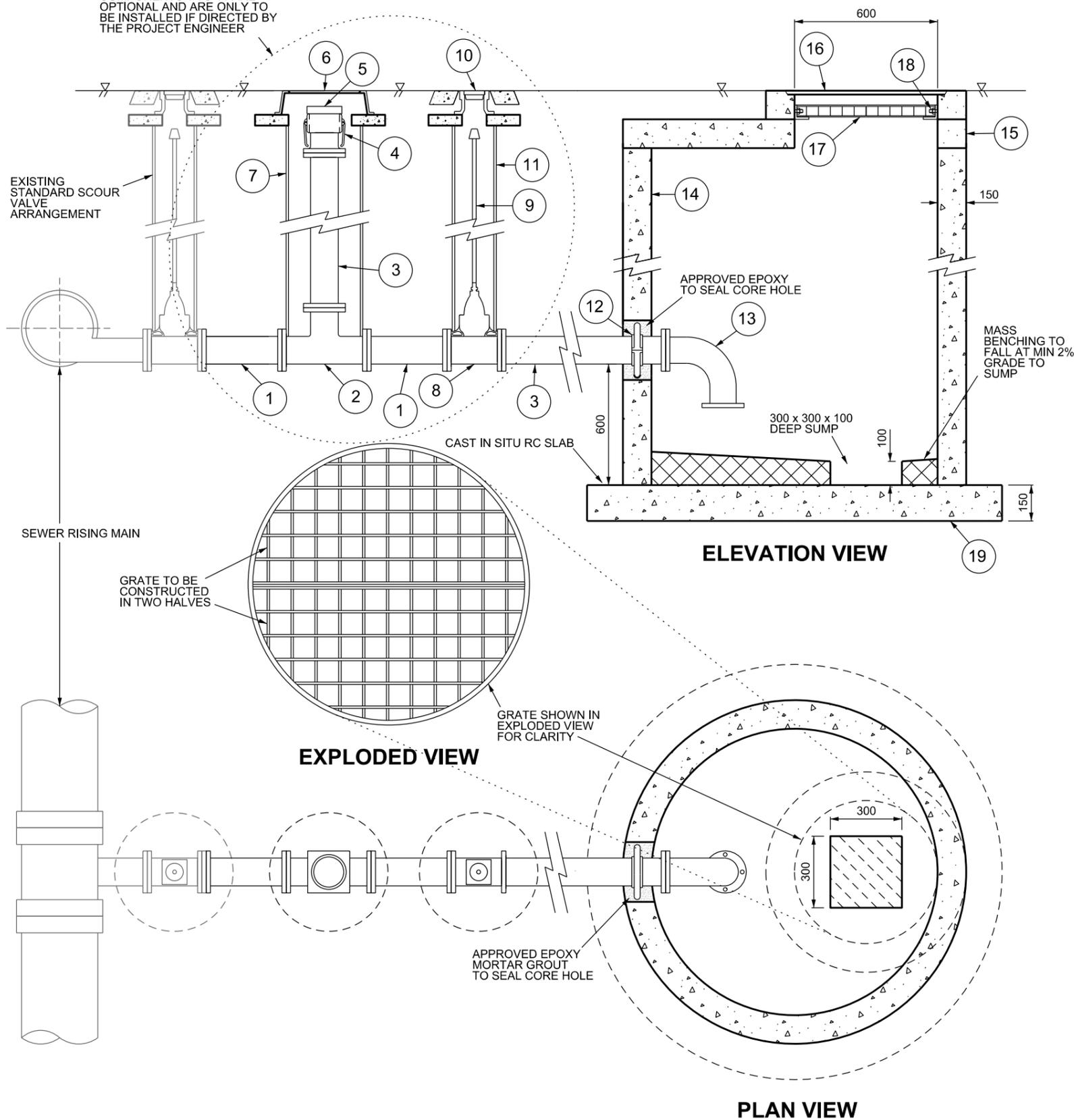
**DUBBO CITY COUNCIL**  
TECHNICAL SERVICES DIVISION

DRAWING TITLE  
**CBD STORMWATER KERB ADAPTOR**

JOB  
**STANDARD DRAWING**

SHEET No. **1**  
OF **1** SHEETS  
PLAN NO.  
**STD 6763**

COMPONENTS 1 TO 11 ARE OPTIONAL AND ARE ONLY TO BE INSTALLED IF DIRECTED BY THE PROJECT ENGINEER



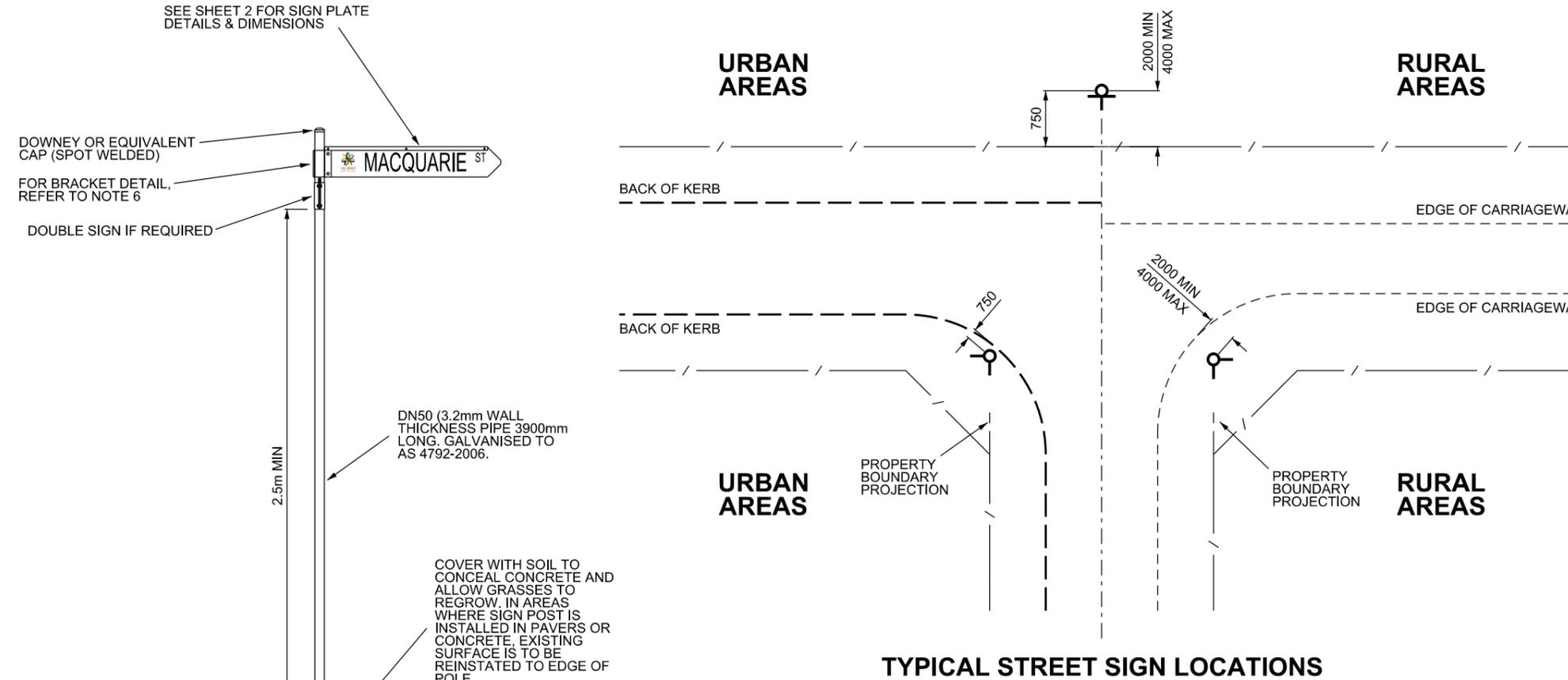
### COMPONENT SCHEDULE

No.	DESCRIPTION	DIA (mm)
1	DICL FL-FL PIPE (MIN LENGTH 300mm) - OPTIONAL	100
2	DICL FL-FLxFL TEE - OPTIONAL	100
3	DICL FL-FL PIPE (LENGTH TO SUIT) - OPTIONAL	100
4	FLANGED FEMALE CAMLOK FITTING - OPTIONAL	100
5	DUST PLUG (MALE CAMLOK FITTING) - OPTIONAL	100
6	SEWER ACCESS LID & SURROUND - OPTIONAL	100
7	PVC PIPE (LENGTH TO SUIT) - OPTIONAL	300
8	DICL FL-FL STOP VALVE (RESILIENT SEATED) - OPTIONAL	100
9	STOP VALVE EXTENSION SPINDLE (LENGTH TO SUIT) - OPTIONAL	N/A
10	STOP VALVE SURROUND & LID - OPTIONAL	N/A
11	PVC PIPE (LENGTH TO SUIT) - OPTIONAL	225
12	DICL PUDDLE FLANGE	100
13	90° FL-FL BEND	100
14	RC SHAFT (LENGTH TO SUIT)	1200 MIN
15	RC CONVERSION SLAB	1200 MIN
16	"GATIC" OR EQUIVALENT SURROUND & LID	600
17	ALUMINIUM GRATE	600
18	M10 x 98mm STAINLESS DYNABOLT (8 NEEDED)	N/A
19	RC BASE SLAB	1800

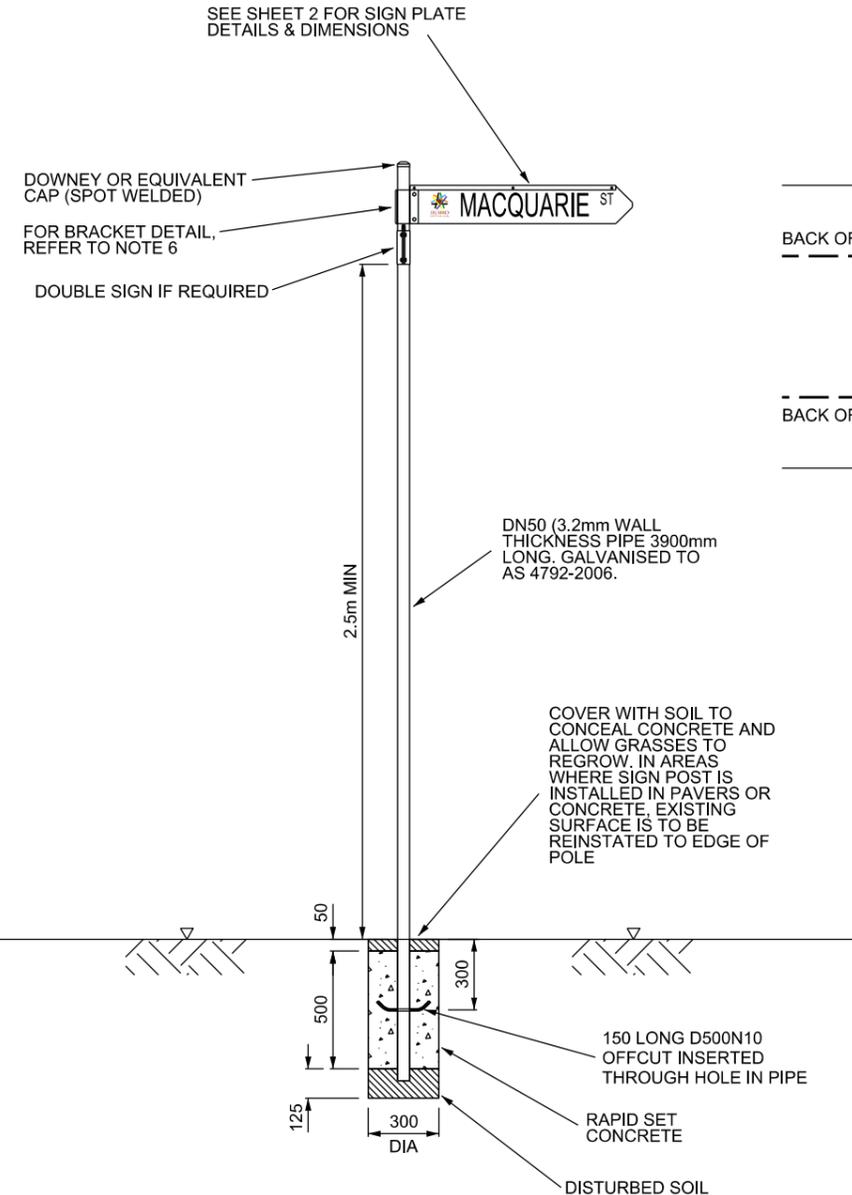
### NOTES

- During construction refer to the Pressure Sewerage Code of Australia Part 3 Version 1.1 by Water Services Association of Australia.
- Pipe lengths leading up to the pit may vary with each site location and must be confirmed with the supervisor prior to construction.
- All pipe fittings both entering and within the scour valve pit must be ductile iron. All ductile iron flanges are to be in accordance with AS 2129-2000.
- All concrete to be 32MPa and in accordance with AS 1379-2007 and AS 3600-2009.
- All concrete reinforcement to be in accordance with AS 1304-1991.
- Precast concrete components are to be in accordance with AS 4198-1994.
- All precast components to be jointed with an approved mastic sealant. Core hole to be filled with an approved epoxy once the ductile pipe is in place.
- Cast iron lids are to be in accordance with AS 3996-2006 and are to be Class C for slow moving trafficable areas or Class D in roadways or faster moving trafficable areas. The scour pit access lid must also be sealable.
- Form a 300mm x 500mm x 100mm deep sump at the base of the pit centred with the access lid. Provide mass benching over the entire base of pit with minimum 2% grade to the sump.
- The aluminium grate used in the scour pit must conform to the specifications outlined in AS 1657-1992. It is to be constructed in two halves that are easy to remove from the sewer access lid. The grate is to be supported on 4 galvanised steel brackets that are each supported with 2 x M10 stainless steel dynabolts. The brackets are to be fixed to the side of the concrete surround as shown in the drawing.
- Provide a polyurethane lining or equivalent to the scour chamber unless otherwise specified by the project engineer. Reactamine 760 or other approved products may be used. Reactamine 760 has an expected useful life of 20 years.

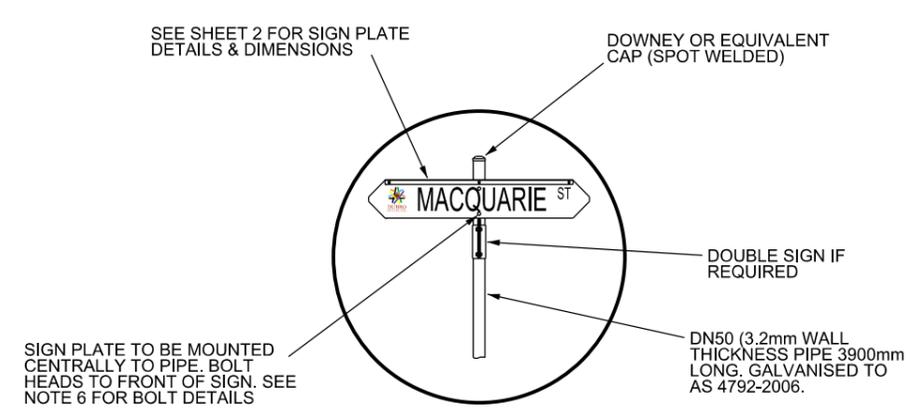
APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING MJ DATE 29/05/2014 CHECKED _____ DATE 29/01/2015 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\S1\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Standard Drawings.dgn</small>	SCALES NOT TO SCALE 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 29/01/2015 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>29/05/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>2.</td> <td>19/06/2014</td> <td>CG</td> <td>AMENDED</td> </tr> <tr> <td>3.</td> <td>29/01/2015</td> <td>MJ</td> <td>AMENDED</td> </tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS	1.	29/05/2014	CG	AMENDED	2.	19/06/2014	CG	AMENDED	3.	29/01/2015	MJ	AMENDED	 TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>SCOUR VALVE PIT &amp; FITTINGS ARRANGEMENT</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. 1 OF 1 SHEETS PLAN No. <b>STD 6818</b>
	No.	DATE	APP'D	DETAILS OF AMENDMENTS																				
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2.	19/06/2014	CG	AMENDED																					
3.	29/01/2015	MJ	AMENDED																					



**TYPICAL STREET SIGN LOCATIONS**



**STANDARD POLE ARRANGEMENT**

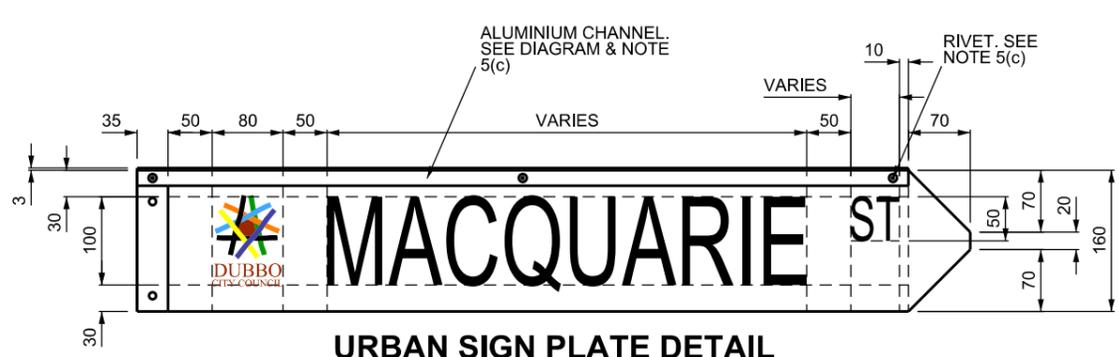


**ALTERNATIVE TEE INTERSECTION POLE ARRANGEMENT**

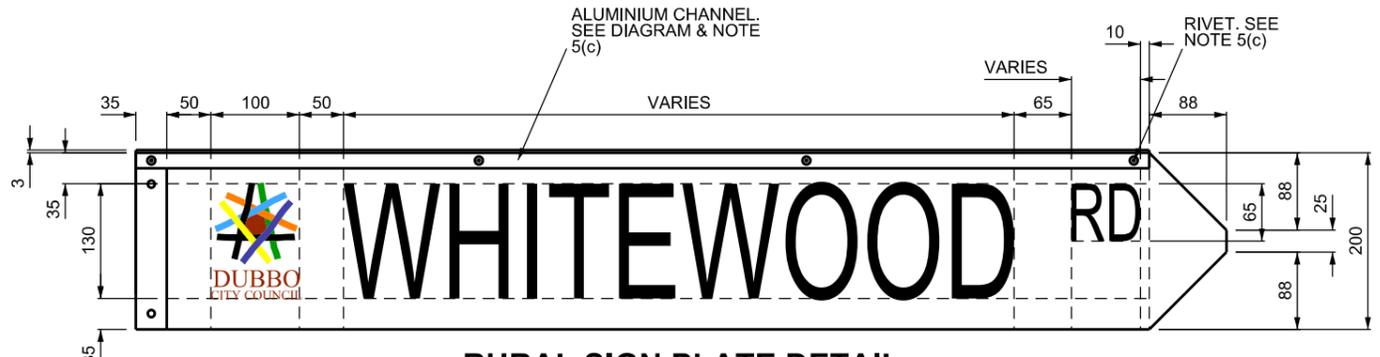
**NOTES**

1. Contractors/Owners/Developers are responsible for the locating of all underground services and the arranging and completion of repairs with the appropriate authority should they be broken or damaged during construction.
2. Street names must be approved by Dubbo City Council.
3. All signs are to be approved prior to erection.
4. Dubbo City Council sign plate details:
  - (a) Letters: Reverse cut out Black Opaque Electrocut film overlay over Class 1 White High Intensity Prismatic reflectorised background (both sides) to AS 1743.2-2001.
  - (b) Urban signs: Letters 100mm high, series B, medium spacing. Road abbreviations to be 50mm high, series B, medium spacing. All text to conform with AS 1744-1975.
  - (c) Rural signs: Letters 130mm high, series B, medium spacing. Road abbreviations to be 65mm high, series B, medium spacing. All text to conform with AS 1744-1975.
  - (d) Dubbo City Council logo to have a Class 1 High Intensity Prismatic reflectorised background (both sides) to AS 1743.2-2001.
  - (e) For both Urban & Rural tee intersection sign plates, the reverse of the sign is to be left blank (bare aluminium).
5. Sign plate material:
  - (a) Urban areas: 160mm wide, 5mm thick extruded aluminium.
  - (b) Rural areas: 200mm wide, 5mm thick extruded aluminium.
  - (c) An extruded aluminium channel is to be provided along the top edge of the sign plate for additional rigidity. 5mm Ø dome head blind rivets to be utilised. Channel to be attached with a minimum of 2 rivets with a maximum spacing of 500mm centre to centre.
6. Standard 3mm thick aluminium extruded bracket of a suitable width & 2 x 8mm Ø CAD bolts and nuts to be utilised to mount sign to pipe. Bolt heads to front of sign.
7. Signs to be positioned on the side of the street/road that provides best visibility.
8. Where side and main road names are mounted on one post, the side road name shall be mounted below the main road name.
9. All pipes to be galvanised. Steel pipe to AS 1163-2009. Galvanising to AS 4792-2006.
10. Dubbo City Council's Manager of Civil Infrastructure may approve alternative materials or anchoring systems on application.
11. For road type abbreviations, refer to AS 1742.5-1997, section 2.5.

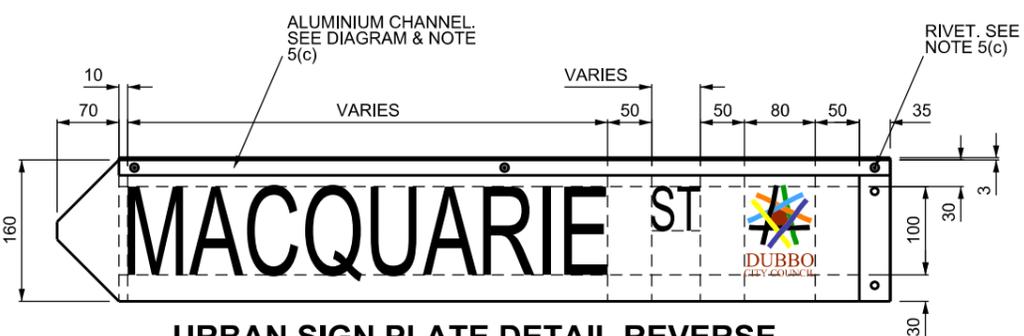
APPROVED:  DATE: 05/02/2015 MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING CG DATE 05/02/2015 CHECKED:  DATE 05/02/2015 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\S1\Technical Support\Design Section\Standards and Design Guides\DCC Standard Engineering Drawings\Control\DCC Standard Drawings.dgn</small>	SCALES <p style="text-align: center;">NOT TO SCALE</p>	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 5/02/2015 <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS																	<p style="text-align: center;"><b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION</p>	DRAWING TITLE <p style="text-align: center;">STREET NAME SIGNS</p>	JOB <p style="text-align: center;">STANDARD DRAWING</p>	SHEET No. 1 OF 2 SHEETS PLAN No. STD 6882
No.	DATE	APP'D	DETAILS OF AMENDMENTS																									



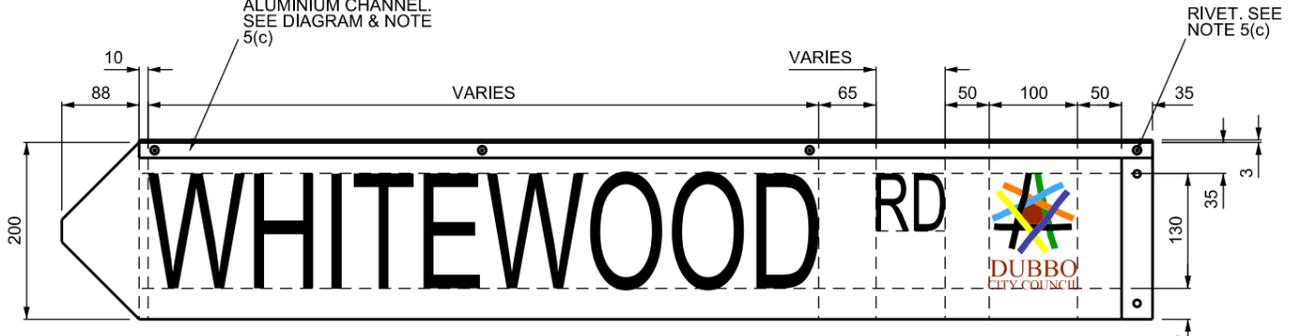
**URBAN SIGN PLATE DETAIL**



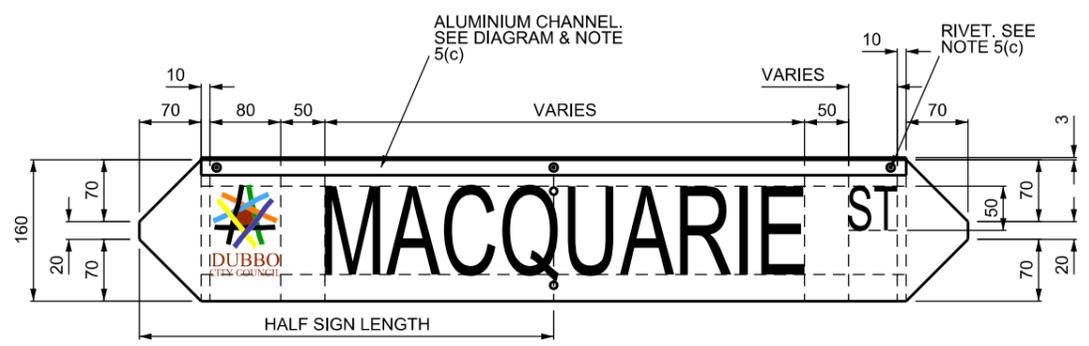
**RURAL SIGN PLATE DETAIL**



**URBAN SIGN PLATE DETAIL REVERSE**

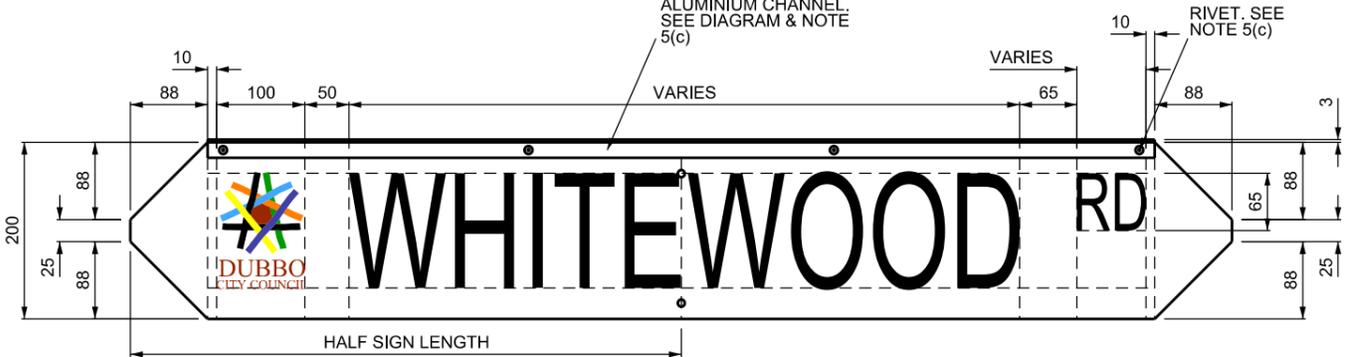


**RURAL SIGN PLATE DETAIL REVERSE**



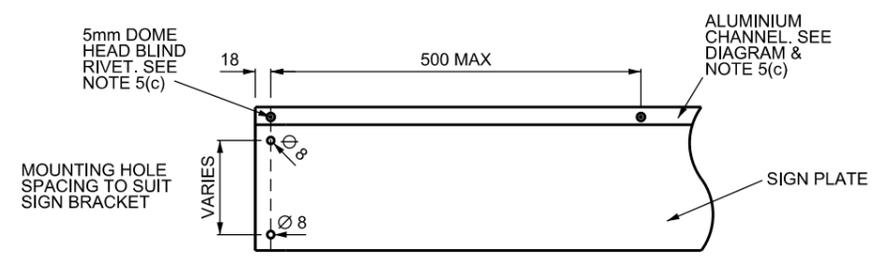
**URBAN SIGN TEE INTERSECTION DETAIL**

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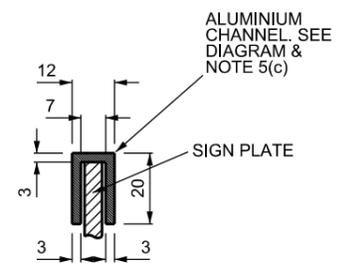


**RURAL SIGN TEE INTERSECTION DETAIL**

REVERSE OF SIGN IS BLANK



**RIVET SPACING & MOUNTING HOLES**



**ALUMINIUM CHANNEL**

**NOTES**

See Sheet 1 for all technical notes.

APPROVED  MANAGER TECHNICAL SUPPORT	SURVEY _____ DATE _____ DESIGN _____ DATE _____ DRAWING CG DATE 05/02/2015 CHECKED _____ DATE 05/02/2015 SENIOR DESIGN ENGINEER	FIELD BOOK/SURVEY FILES DESIGN FILES DRAWING FILES <small>U:\TS\Technical Support\Design Section\Standards and Design Guides\DCS Standard Engineering Drawings\Control\DCS Standard Drawings.dgn</small>	SCALES <b>NOT TO SCALE</b> 	PERMANENT MARK: N/A RL: N/A DATUM: AHD & MGA STATUS: STANDARD DRAWING PRINT DATE: 5/02/2015 <table border="1"> <thead> <tr> <th>No.</th> <th>DATE</th> <th>APP'D</th> <th>DETAILS OF AMENDMENTS</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	No.	DATE	APP'D	DETAILS OF AMENDMENTS																	 <b>DUBBO CITY COUNCIL</b> TECHNICAL SERVICES DIVISION	DRAWING TITLE <b>STREET NAME SIGNS</b>	JOB <b>STANDARD DRAWING</b>	SHEET No. <b>2</b> OF <b>2</b> SHEETS PLAN NO. <b>STD 6882</b>
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