



STANDARD DRAWINGS

November 2012

PREFACE

DESCRIPTION OF REVISION

This revision, which supersedes the City of Casey *Standards Drawings July 2006*, is intended to update and reflect the latest construction techniques and practices adopted by Council.

The following is a summary of the principal changes and improvements incorporated in this issue:

- a. General upgrade to drawing format text, dimensions, layout, etc
- b. Modification to drawing to reflect new construction techniques, changes to materials etc.
- c. Improved placement of views on Types of Drawings samples to prevent unnecessary rework of drawings at a later date.
- d. Additional notes on various topics added to further clarify drawing.
- e. Removal of specific drawings which are now included within the **Engineering Design and Construction Manual for Subdivisions in Growth Areas** (published by Growth Areas Authority).

CITY OF CASEY STANDARD DRAWINGS INDEX

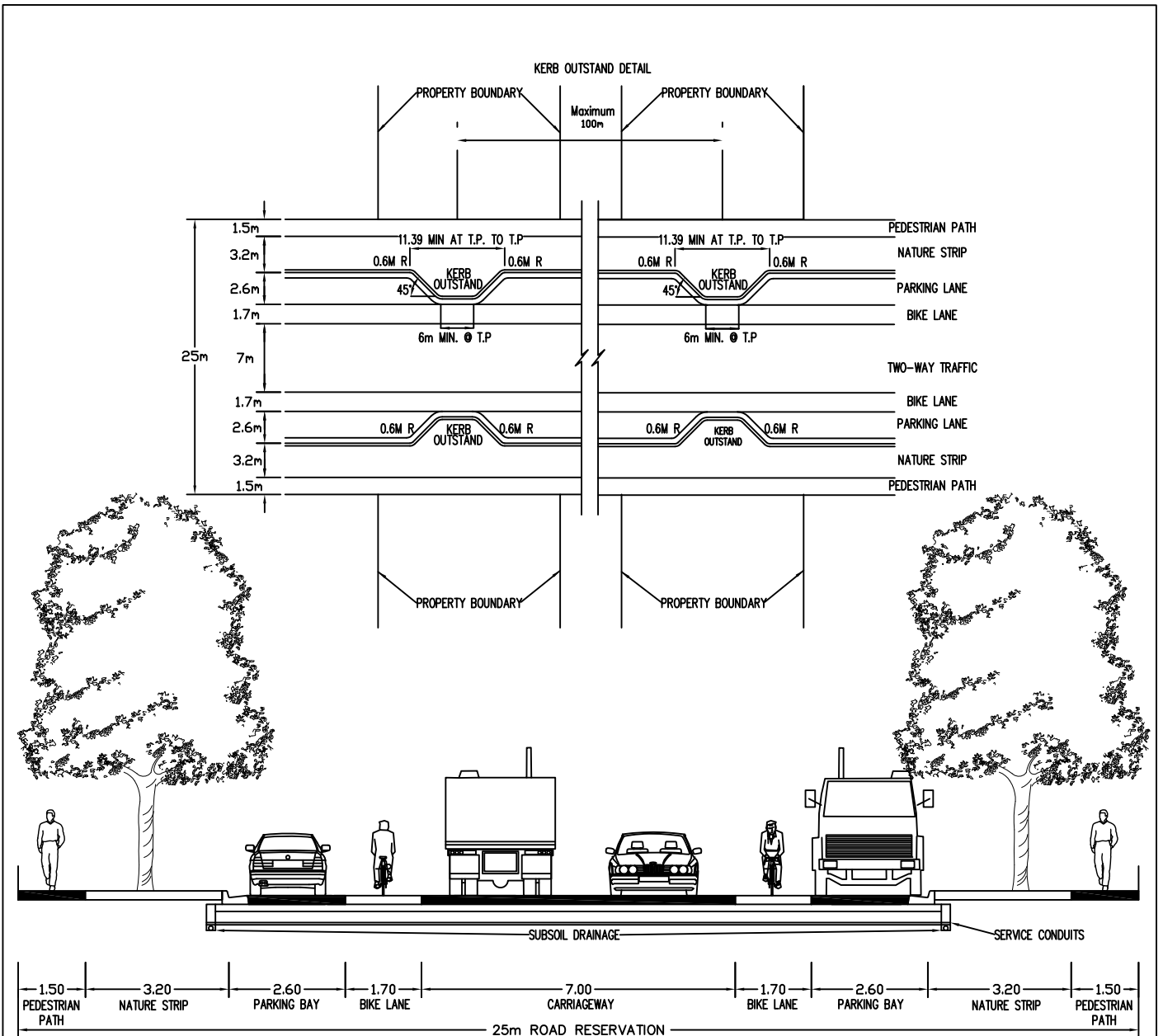
DRAWING NUMBER	DRAWING TITLE	REVISION NUMBER	LAST UPDATED
SECTION 1	STREET CROSS SECTIONS		
S 101	Industrial Local – 23m	V4	09.11.2012
S101A	Industrial Connector – 25m	V2	09.11.2012
S 103	Roundabout Central Island General	V2	09.11.2012
S 111	Low Speed Rural Road	V1	09.11.2012
S 111A	High Speed Rural Road - Collector	V1	09.11.2012
S 111B	High Speed Rural Road – Secondary Arterial	V1	09.11.2012
S 111C	High Speed Rural Road – With Concrete Kerb and Channel	BLANK	09.11.2012
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S 311	Easment Pit 600mm x 600m and 900 x 600mm	V2	09.11.2012
S 313	Precast Concrete Endwall	V2	09.11.2012
S 314	Roadside Catch Pit 900 x 600mm	V2	09.11.2012
S 320	Off Road Grated Pit	V2	09.11.2012
S 322	Conditions for Installation of Services under Sealed Road Pavements & Concrete Paving by Approved Open Cutting	V3	09.11.2012
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S 1003	Hard Landscaping – Shed Slab Detail	BLANK	09.11.2012
S 1004	Soft Landscaping – Advanced Street Planting Detail	BLANK	09.11.2012
S 1005	Soft Landscaping – Shrub Planting Detail	BLANK	09.11.2012
S 1006	Soft Landscaping – Tubestock Planting Detail	BLANK	09.11.2012
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S 1102	Median Swale at Grade – Collector Roads (31.00m Road Reserve)	BLANK	09.11.2012
S 1103	Median Retention Swale – Collector Roads (31.00m Road Reserve)	BLANK	09.11.2012
S 1104	Nodal Bioretention Systems	BLANK	09.11.2012
S 1105	Ephemeral Swale – For use in Subdivisions	BLANK	09.11.2012
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S 1107	Bioretention Trench – Standard Elements	BLANK	09.11.2012
S 1108	Bioretention Tree Planter System – For use in Local Streets	BLANK	09.11.2012

SECTION 1

**STREET CROSS
SECTIONS**



NOTES

1. MINIMUM VEHICLE VOLUME 1000 VPD.
2. KERB AND CHANNEL TO BE BARRIER KERB
3. REFER TO CODE OF PRACTICE FOR COORDINATION OF STREET WORKS, VICTORIA FOR SERVICE LOCATION.

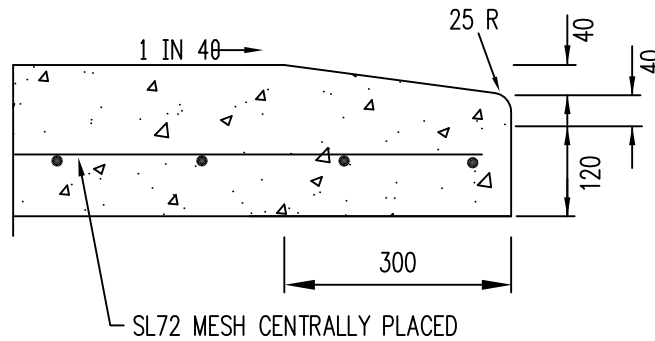
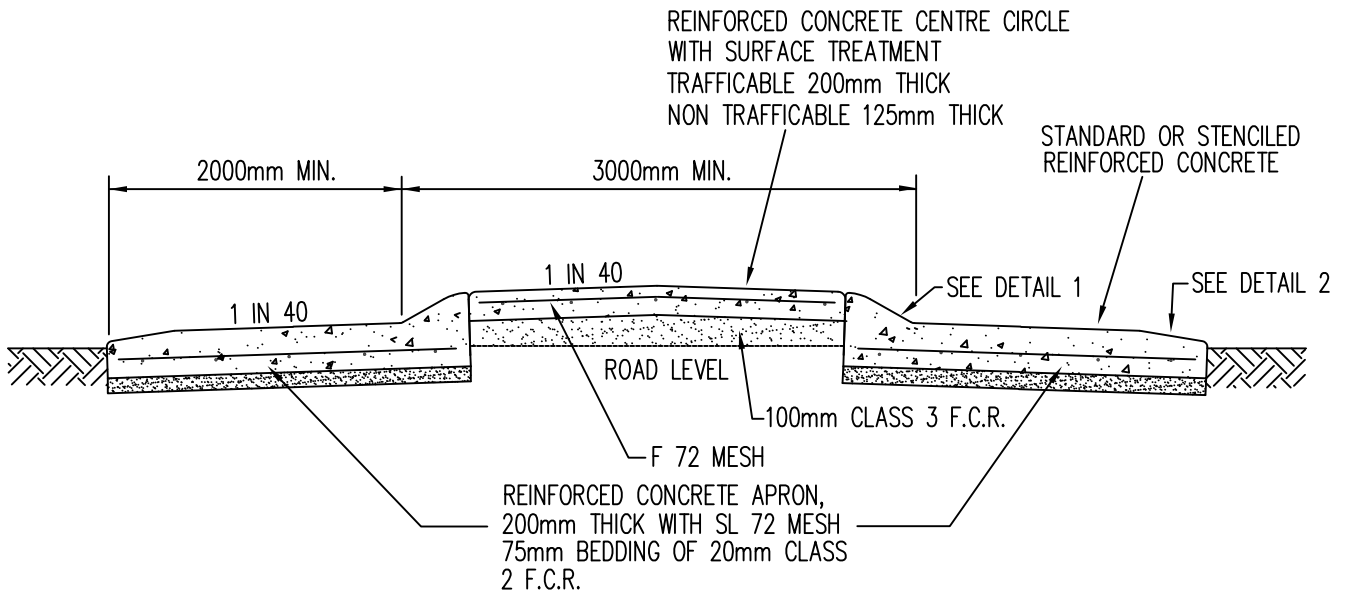
CITY OF CASEY

INDUSTRIAL CONNECTOR - 25m
TYPICAL GEOMETRIC CROSS SECTION

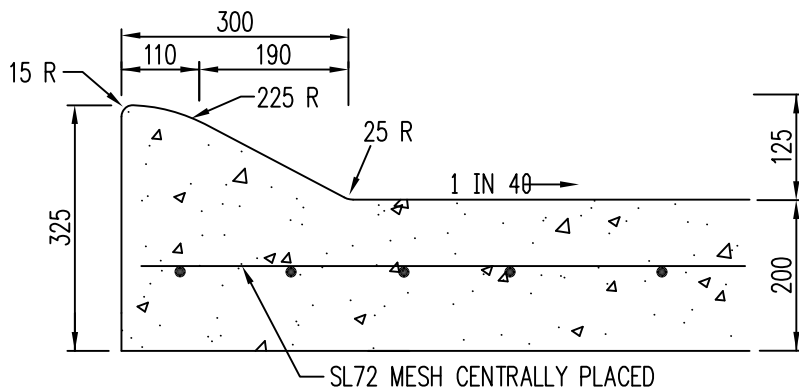
MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

S-101A

V2



DETAIL 2



DETAIL 1

NOTES:

1. MINIMUM REINFORCING COVER 100mm.
2. CONCRETE STRENGTH OF F'C = 25 MPa
3. CONCRETE STRENGTH OF F'C = 30 MPa IF COLOURED CONCRETE IS USED

CITY OF CASEY

ROUNDABOUT CENTRAL ISLAND GENERAL

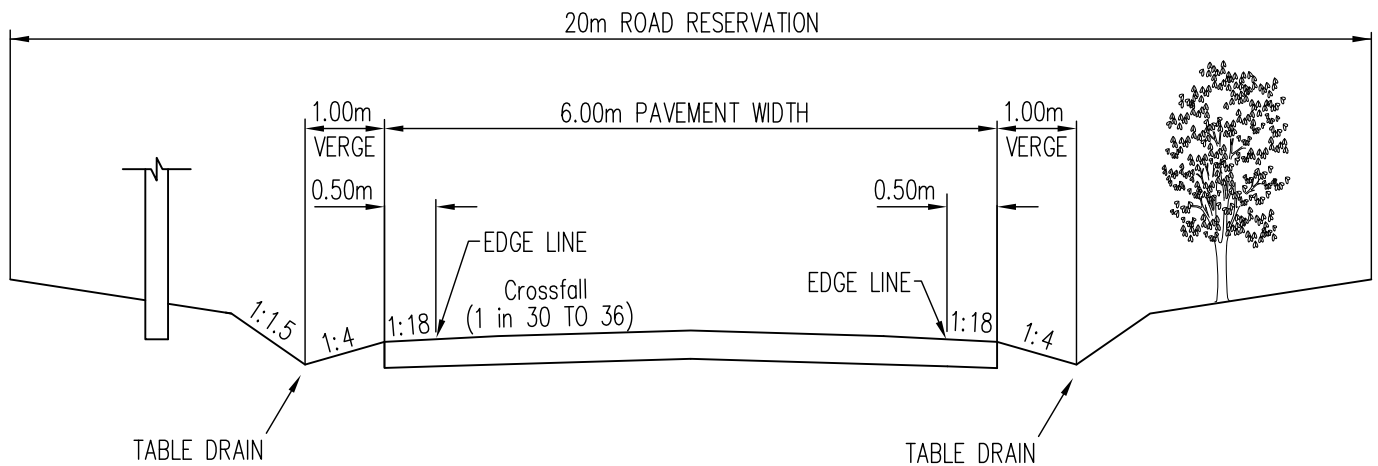
AMENDMENTS: GENERAL UPGRADE

MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

S-103

V2



TYPICAL CROSS SECTION FOR LOW SPEED RURAL ROADS
(LOCAL ACCESS, RURAL/RESIDENTIAL)

NOTES

TYPICAL PARAMETERS FOR LOWSPEED RURAL ROADS

1. LOW TRAFFIC VOLUMES (< 500 VEHICLES PER DAY)
2. NO THROUGH ROADS
3. LOW SPEEDS (OPERATING SPEEDS UP TO 50km/h)
4. NO CENTRELINES OR RRPM'S
5. NO GUIDE POSTS
6. CLEAR ZONE AS PER AUSTRROADS GUILDLINES
7. DRAINAGE

CITY OF CASEY

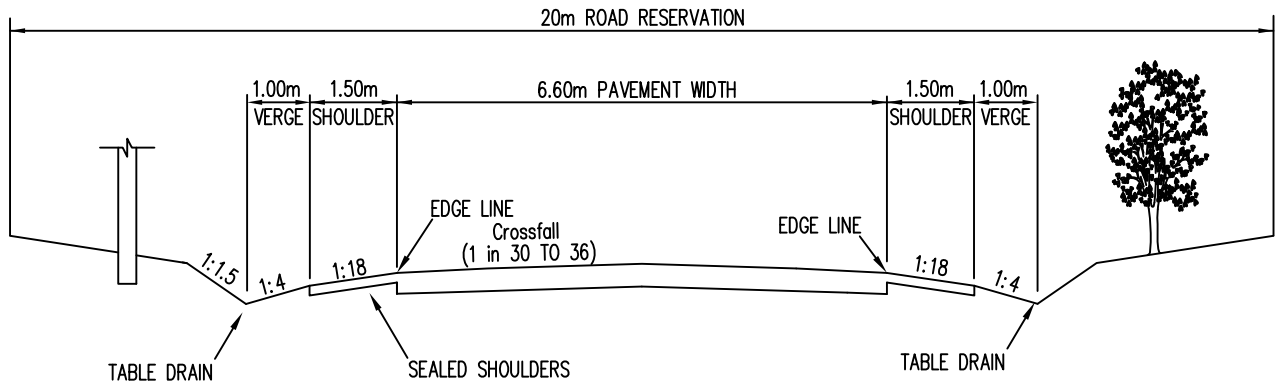
LOW SPEED – RURAL ROADS
TYPICAL GEOMETRIC CROSS SECTIONS

AMENDMENTS: GENERAL UPGRADE

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

S-111

V1



TYPICAL CROSS SECTION FOR HIGH SPEED RURAL ROADS
(COLLECTOR)

NOTES

- TYPICAL PARAMETERS FOR HIGH SPEED RURAL ROADS
1. TRAFFIC VOLUMES (OVER 1000 VEHICLES PER DAY)
 2. THROUGH ROADS
 3. HIGH SPEEDS (80Km/h, OPERATING SPEED LIMIT)
 4. CENTRELINE, EDGE LINEMARKING AND RRPM'S
 5. GUIDE POSTS
 6. CLEAR ZONE AS PER AUSTRROADS GUIDELINES
 7. DRAINAGE

CITY OF CASEY

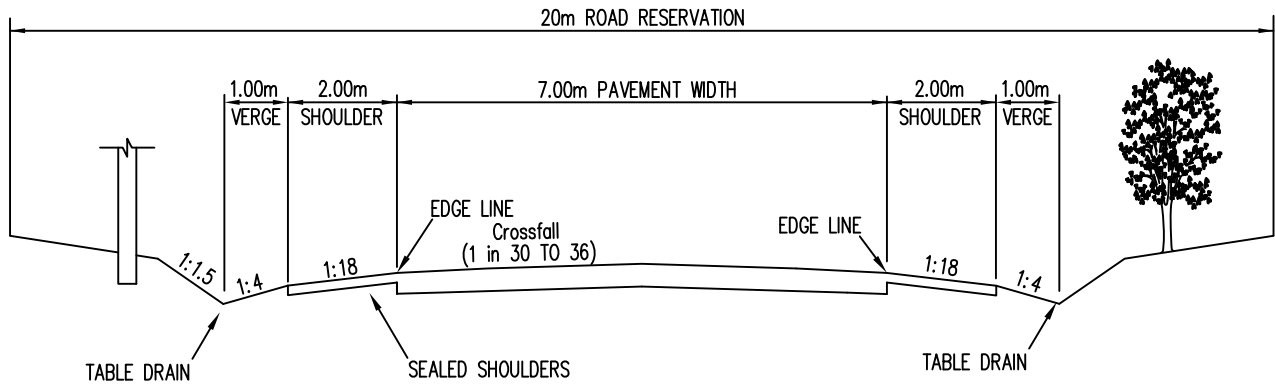
HIGH SPEED RURAL ROADS
(COLLECTOR ROADS)
TYPICAL GEOMETRIC CROSS SECTIONS

AMENDMENTS: GENERAL UPGRADE

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

S-111A

V1



TYPICAL CROSS SECTION FOR HIGH SPEED RURAL ROADS
(SECONDARY ARTERIAL)

NOTES

- TYPICAL PARAMETERS FOR HIGH SPEED RURAL ROADS
1. TRAFFIC VOLUMES (OVER 1000 VEHICLES PER DAY)
 2. THROUGH ROADS
 3. HIGH SPEEDS (100km/h, OPERATING SPEED LIMIT)
 4. CENTRELINE, EDGE LINEMARKING AND RRPM'S
 5. GUIDE POSTS
 6. CLEAR ZONE AS PER AUSTRROADS GUIDELINES
 7. DRAINAGE

CITY OF CASEY

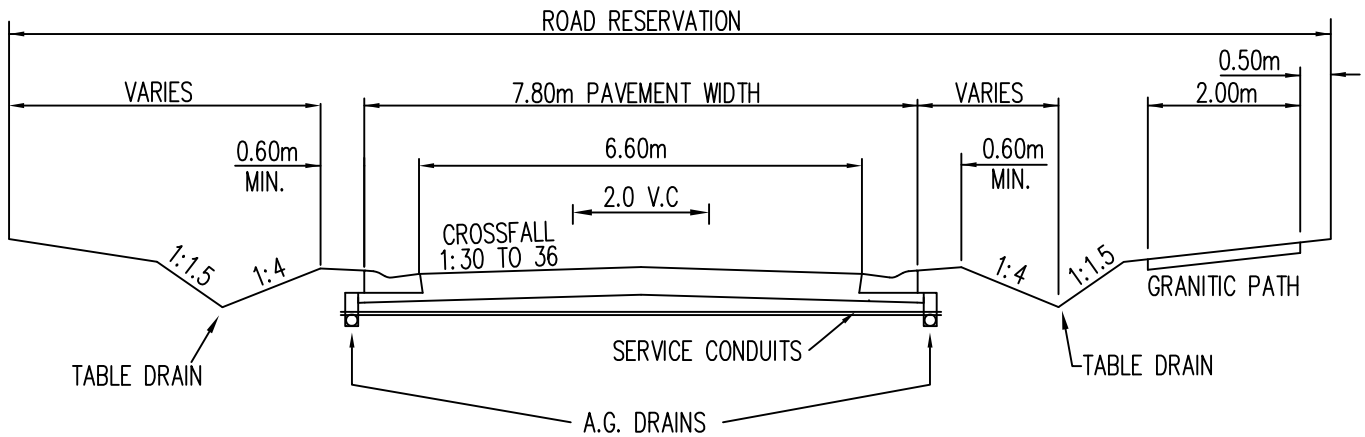
HIGH SPEED – RURAL ROADS
(SECONDARY ARTERIAL ROADS)
TYPICAL GEOMETRIC CROSS SECTIONS

AMENDMENTS: GENERAL UPGRADE

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

S-111B

V1



TYPICAL CROSS SECTION FOR HIGH SPEED RURAL ROADS
(WITH CONCRETE KERB AND CHANNEL)

NOTES

TYPICAL PARAMETERS FOR HIGH SPEED RURAL ROADS

1. TRAFFIC VOLUMES (OVER 1000 VEHICLES PER DAY)
2. THROUGH ROADS
3. HIGH SPEEDS (80km/h, OPERATING SPEED LIMIT)
4. CENTRELINE, EDGE LINEMARKING AND RRPM'S
5. GUIDE POSTS
6. CLEAR ZONE AS PER AUSTRROADS GUIDELINES
7. DRAINAGE – INCORPORATING KERB AND CHANNEL WITH ROCK BEACHED OUTLETS DISCHARGING TO TABLE DRAINS (TO VICROADS STANDARD SD 2051)

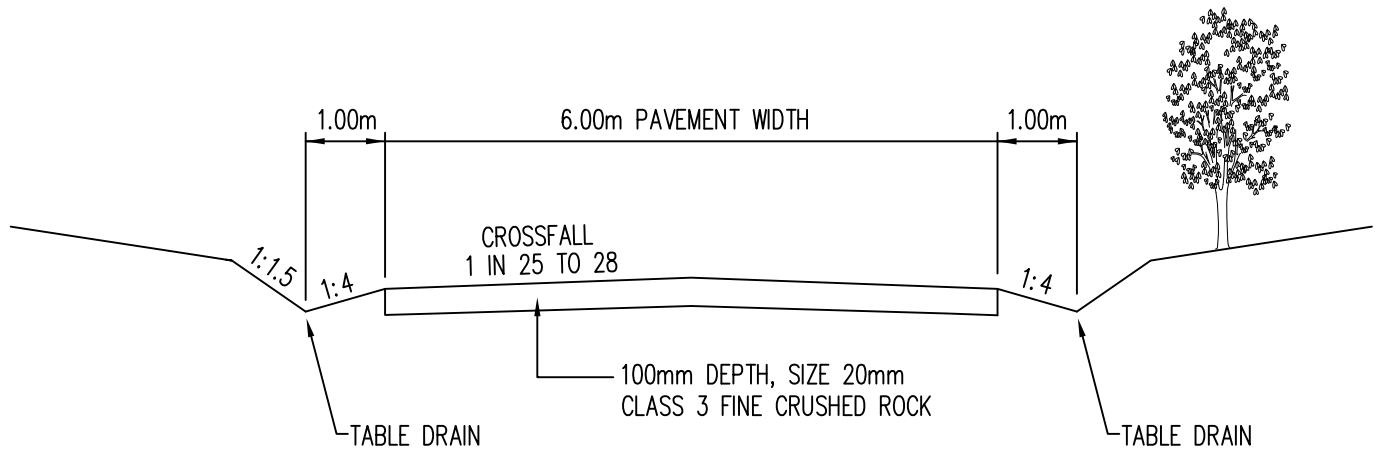
CITY OF CASEY

HIGH SPEED RURAL ROADS
(WITH CONCRETE KERB AND CHANNEL)
TYPICAL GEOMETRIC CROSS SECTIONS

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS:

S-111C



TYPICAL CROSS SECTION FOR
GRAVEL ACCESS ROADS
(LOCAL ACCESS IN RURAL AREAS)

NOTES

TYPICAL PARAMETERS FOR GRAVEL ACCESS ROADS

1. LOCAL ACCESS ONLY
2. NO THROUGH ROADS
3. LOW SPEEDS (OPERATING SPEED UP TO 50 Km/h)
4. NO GUIDE POSTS
5. CLEAR ZONE AS PER AUSTRROADS GUIDLINES
6. DRAINAGE

CITY OF CASEY

NEW GRAVEL ACCESS ROADS
TYPICAL GEOMETRIC CROSS SECTION

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS:

S-112

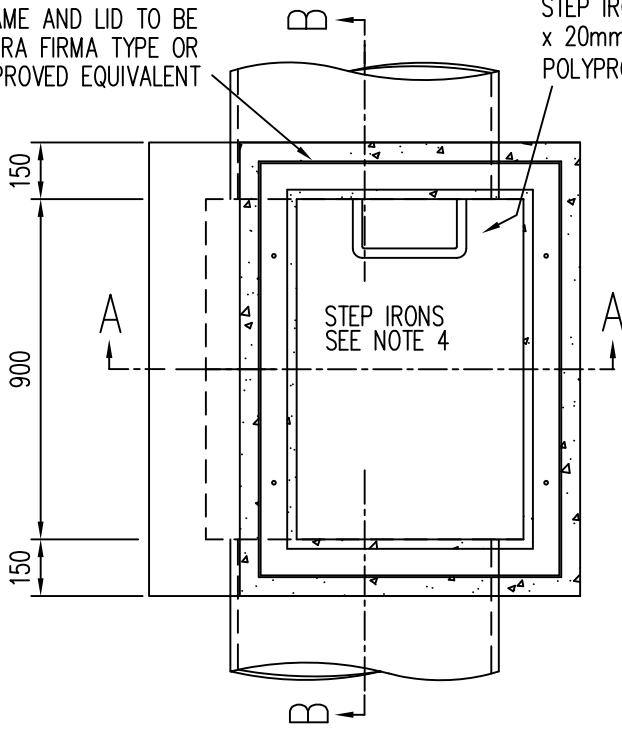
SECTION 2

ROAD OPENING DRAWINGS

DRAINAGE

FRAME AND LID TO BE TERRA FIRMA TYPE OR APPROVED EQUIVALENT

STEP IRONS 250mm x 230mm x 20mm DIA GALV. MS, GATIC POLYPROPELENE STEPS (OR EQUIV.)



PLAN

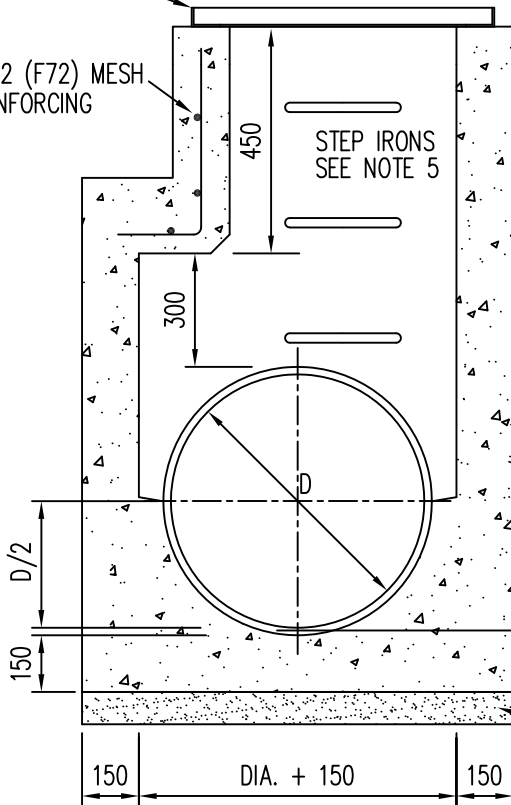
SCALE 1:20

NOTES:

1. FOR FRAME FIXING DETAILS SEE MANUFACTURERS SPECIFICATIONS
2. IN NATURE STRIPS PIT LIDS TO BE KHAKI GREEN. IN NATURAL COLOUR CONCRETE PAVING PIT LIDS TO BE STORM GREY COLOUR. IN OTHER PAVED AREAS COLOUR OF PIT LIDS SHALL BE MATCHED TO COLOUR OF PROPOSED FINISHED SURFACE. CONTACT PIT LID MANUFACTURER TO ARRANGE A SUITABLE CUSTOM COLOUR MATCH.
3. ALL MEASUREMENTS ARE IN MILLIMETERS.
4. FOR PITS MORE THAN 1.5m DEEP, MINIMUM WALL AND BASE THICKNESS SHALL BE 200mm
5. STEP IRONS TO BE PROVIDED IN ALL PITS OVER 900mm DEEP.
6. WHERE PITS ARE BEHIND BACK OF KERB, 100mm DIA STUBS ARE TO BE PLACED ON BOTH SIDES OF PIT FOR SUBSOIL DRAINAGE CONNECTION.
7. CONCRETE STRENGTH F'C = 25MPa.

FRAME AND LID TO BE TERRA FIRMA TYPE OR APPROVED EQUIVALENT

SL72 (F72) MESH REINFORCING

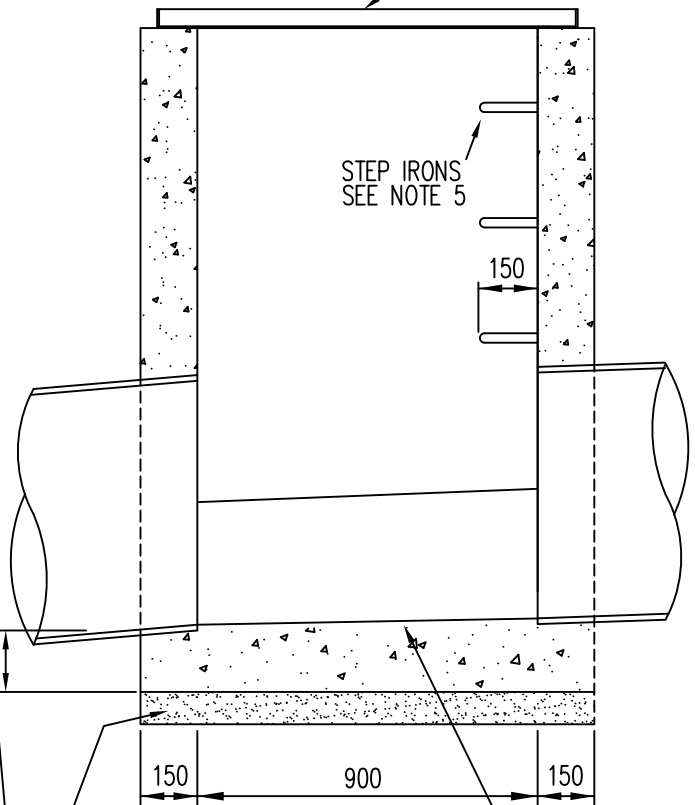


SECTION A-A

SCALE 1:20

FRAME AND LID TO BE TERRA FIRMA TYPE OR APPROVED EQUIVALENT

STEP IRONS SEE NOTE 5



SECTION B-B

SCALE 1:20

50mm COMPACTED DEPTH OF 20mm CLASS 3 F.C.R. BEDDING

SHAPE BOTTOM OF PIT AS SHOWN

CITY OF CASEY

ROAD RESERVE JUNCTION PIT TYPE 3
PIPE DIAMETER EXCEEDS 450mm

Robert

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: REINFORCING TYPE AMENDED, GENERAL UPGRADE

S-309

V2

RECTANGULAR PRE-CAST PITS INSTALLATION PROCEDURE

1. Excavation

The excavation shall provide a clearance from all external faces of the pit to each face of the *excavation* of not less than 300mm.

2. Bedding

Bedding shall be 20mm class 3 F.C.R, placed and compacted to a thickness not less than 75mm.

3. Backfilling

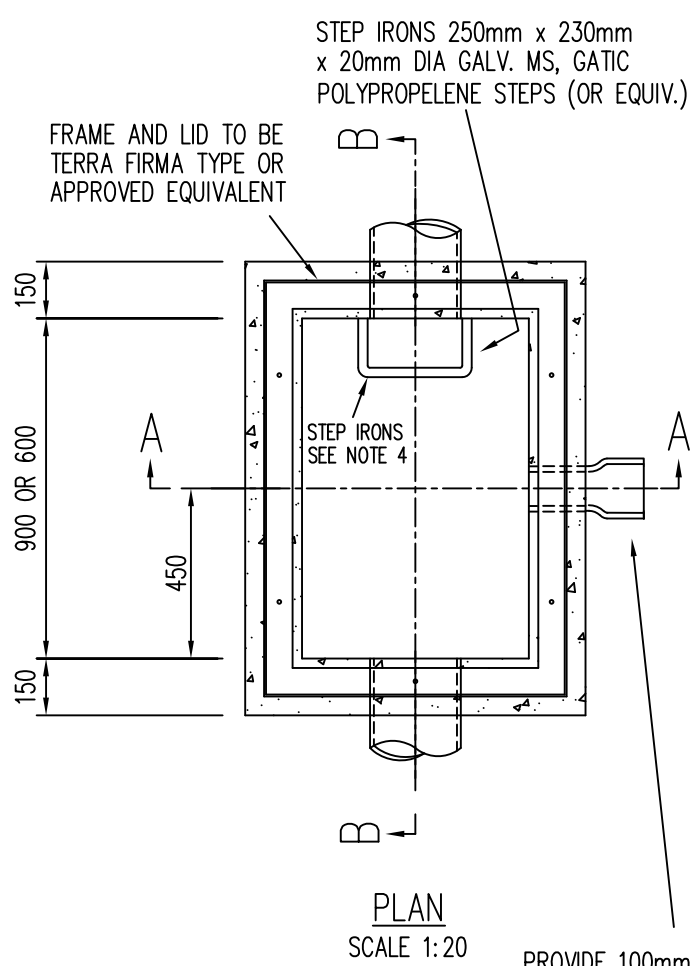
All pits are to be backfilled with clean granular or friable material. The backfilling shall be placed in layers not exceeding 300mm loose in thickness and compacted to refusal using hand held mechanical equipment.

4. Pipe Connections

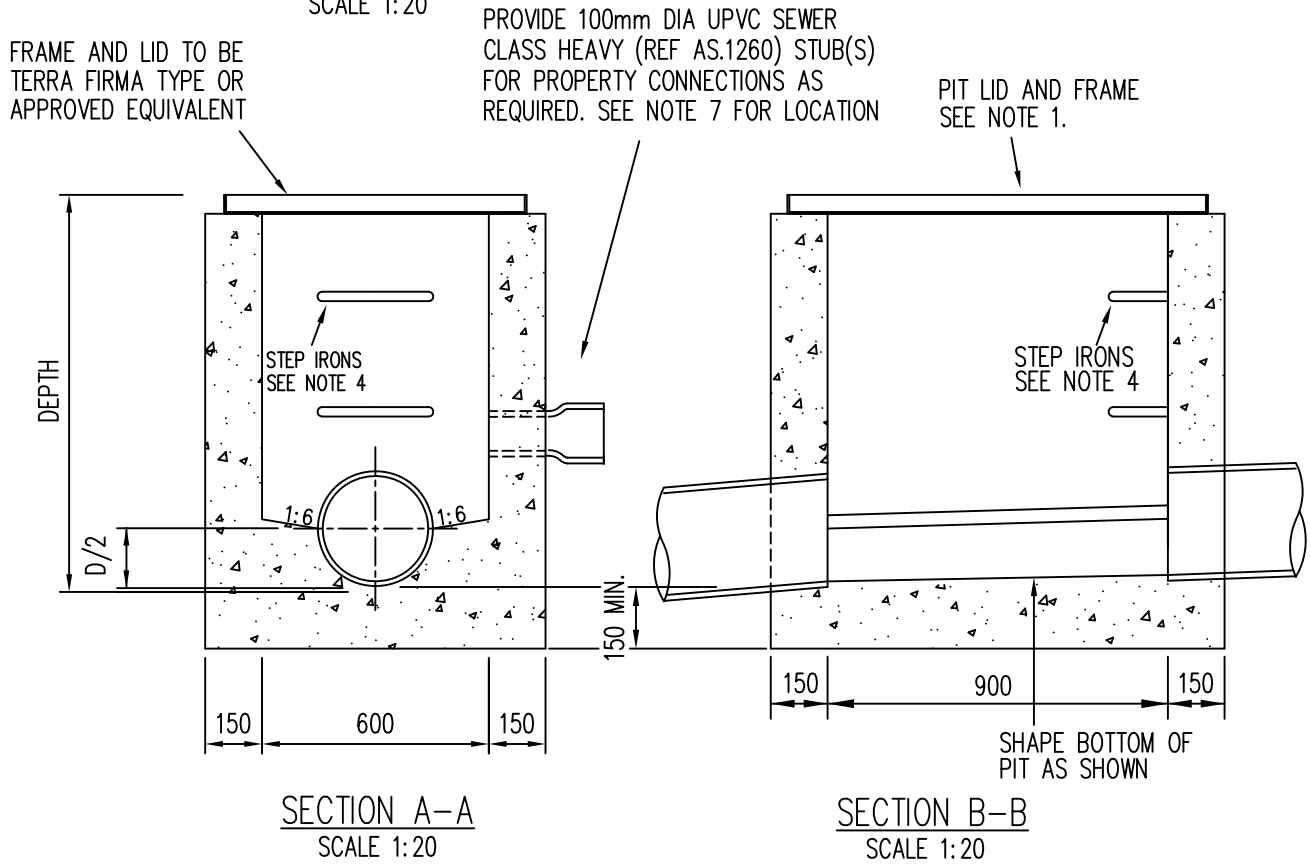
A concrete bandage is to be placed for the full circumference of the pipe on the external walls of the pit. A cement mortar mix is to be used on the internal walls.

5. Shaping of Floor

A semi circular section transitioning from the size of the outlet pipe to the size of the inlet pipe shall be constructed in all pits using mass concrete. Generally the shape shall be the same as specified for insitu pits.



- NOTES:**
1. FOR FRAME FIXING DETAILS SEE MANUFACTURES SPECIFICATIONS
 2. ALL MEASUREMENTS ARE IN MILLIMETRES.
 3. FOR PITS MORE THAN 1.5m DEEP, MINIMUM WALL AND BASE THICKNESS SHALL BE 200mm
 4. STEP IRONS TO BE PROVIDED IN ALL PITS OVER 900mm DEEP.
 5. WHERE PIPE DIAMETER EXCEEDS 450mm PIT IS TO BE CORBELLED AS PER S-309.
 6. CONCRETE STRENGTH F'C = 25MPa.
 7. 100mm DIA SEWER CLASS UPVC STUB(S) FOR PROPERTY INLET CONNECTIONS TO BE PROVIDED AS REQUIRED LOCATE STUBS AS APPROPRIATE FOR CONNECTIONS OF PROPERTY INLETS AND HOUSE DRAINS AS DETAILED ON DESIGN CONSTRUCTION PLANS. STUBS TO BE PLACED AT AN APPROPRIATE DEPTH TO ALLOW FOR ACCEPTABLE GRADES AND COVER ON HOUSE DRAINS. (DESIRABLE MINIMUM COVER 500 - 600mm)
 8. 600mm x 600mm JUNCTION PIT TO BE USED FOR PIPE DRAINS UP TO 450 DIA AND TO HAVE A MAXIMUM DEPTH OF 900mm



CITY OF CASEY

EASEMENT PIT
600mm x 600mm AND 900mm x 600mm

Robert

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-311

V2

RECTANGULAR PRE-CAST PITS INSTALLATION PROCEDURE

1. Excavation

The excavation shall provide a clearance from all external faces of the pit to each face of the *excavation* of not less than 300mm.

2. Bedding

Bedding shall be 20mm class 3 F.C.R, placed and compacted to a thickness not less than 75mm.

3. Backfilling

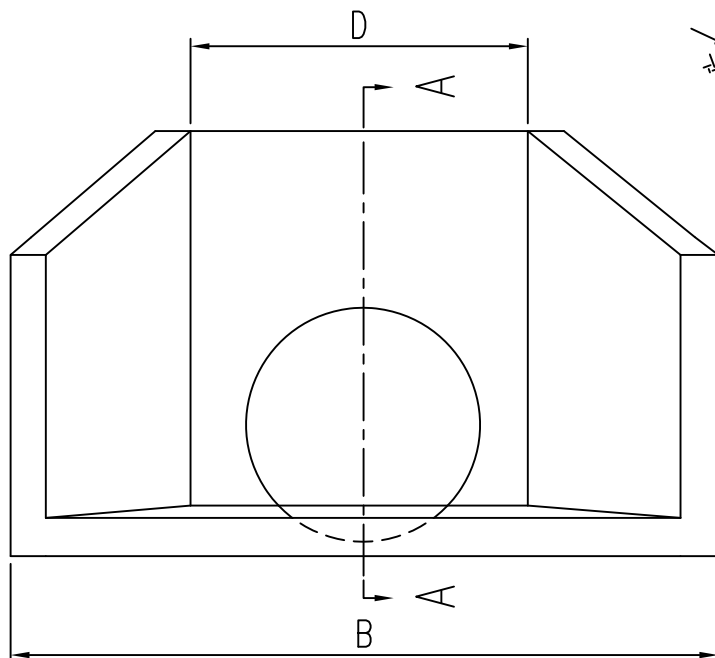
All pits are to be backfilled with clean granular or friable material. The backfilling shall be placed in layers not exceeding 300mm loose in thickness and compacted to refusal using hand held mechanical equipment.

4. Pipe Connections

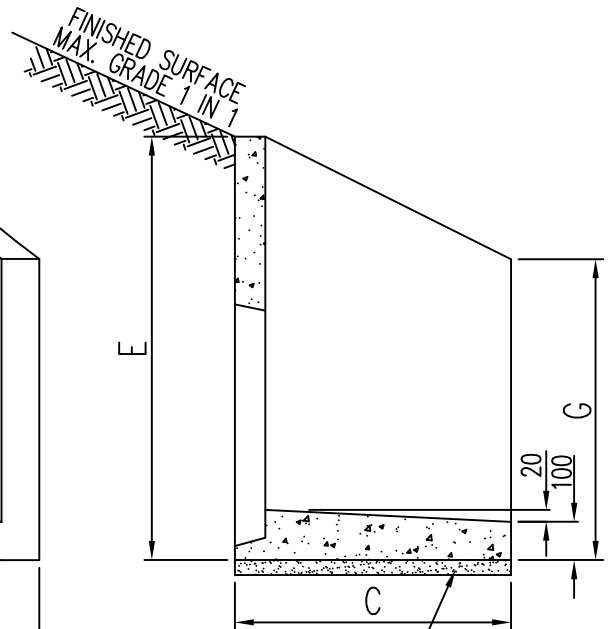
A concrete bandage is to be placed for the full circumference of the pipe on the external walls of the pit. A cement mortar mix is to be used on the internal walls.

5. Shaping of Floor

A semi circular section transitioning from the size of the outlet pipe to the size of the inlet pipe shall be constructed in all pits using mass concrete. Generally the shape shall be the same as specified for insitu pits.

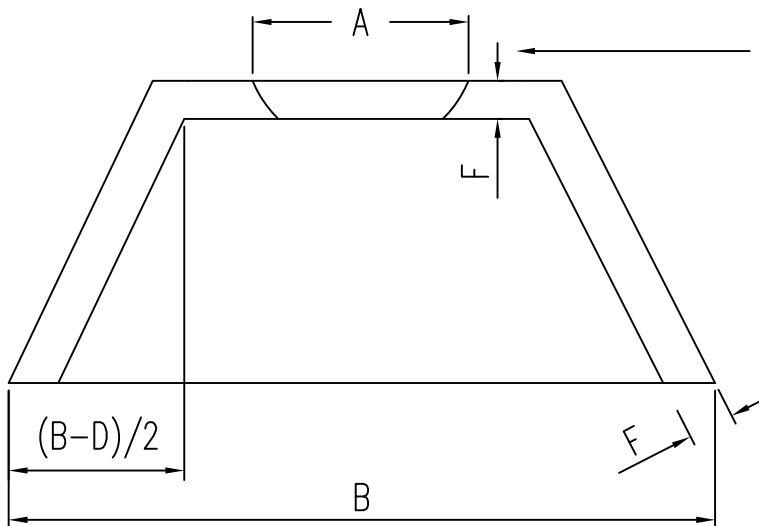


FRONT ELEVATION



50mm COMPACTED DEPTH OF 20MM CLASS 3 F.C.R. BEDDING

SECTION A-A



PLAN

SPIGOT MAX LENGTH:
 450 MM FOR PIPE $\leq 375\phi$
 600MM FOR PIPE $\geq 450\phi$
 SPIGOT TO BE FIXED TO CONCRETE COLLAR

NOTE:
 WHEN USING CONCRETE ENDWALL MAKE SURE THAT THERE IS SUFFICIENT CLEAR ZONE. IF CLEAR ZONE IS NOT ACHIEVABLE USE VICROADS TYPE DRIVEABLE ENDWALL SEE S-804A

NOM. PIPE SIZE	NOMINAL DIMENSIONS IN MM						
	A	B	C	D	E	F	G
300	385	1600	640	750	915	95	710
375	475	1600	640	750	915	95	710
450	550	1600	640	750	915	95	710
525	640	1700	685	800	1035	95	775
600	730	1700	685	800	1035	95	775
675	775	2040	1015	1195	1410	92	1095
750	905	2040	1015	1195	1410	92	1095
825	950	2000	1050	1195	1400	92	1095
900	1055	2040	1015	1195	1410	92	1095

CITY OF CASEY

PRECAST CONCRETE ENDWALL
 PIPE SIZES 300 TO 900

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-313

V2

RECTANGULAR PRE-CAST PITS INSTALLATION PROCEDURE

1. Excavation

The excavation shall provide a clearance from all external faces of the pit to each face of the *excavation* of not less than 300mm.

2. Bedding

Bedding shall be 20mm class 3 F.C.R, placed and compacted to a thickness not less than 75mm.

3. Backfilling

All pits are to be backfilled with clean granular or friable material. The backfilling shall be placed in layers not exceeding 300mm loose in thickness and compacted to refusal using hand held mechanical equipment.

4. Pipe Connections

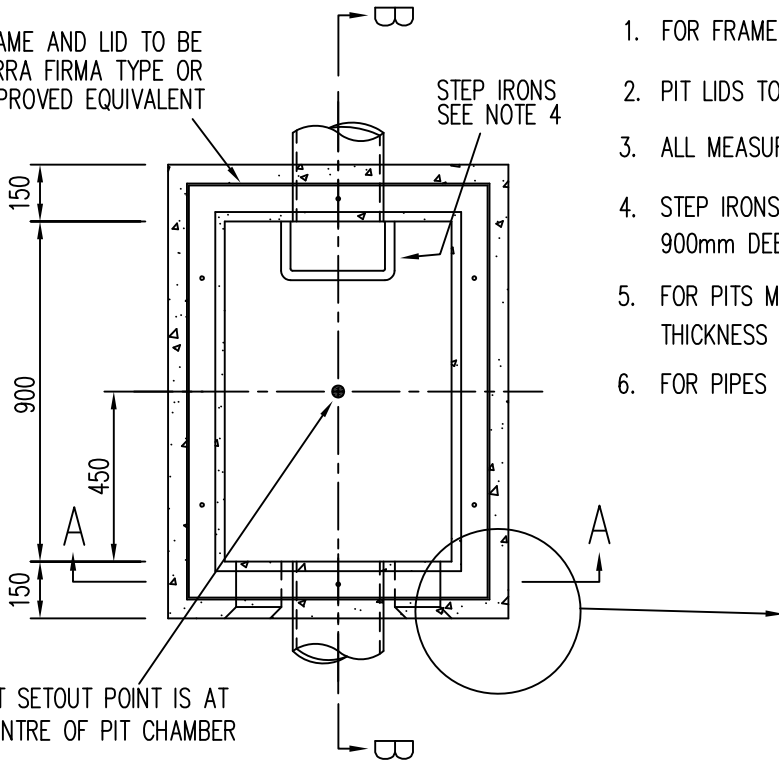
A concrete bandage is to be placed for the full circumference of the pipe on the external walls of the pit. A cement mortar mix is to be used on the internal walls.

5. Shaping of Floor

A semi circular section transitioning from the size of the outlet pipe to the size of the inlet pipe shall be constructed in all pits using mass concrete. Generally the shape shall be the same as specified for insitu pits.

FRAME AND LID TO BE TERRA FIRMA TYPE OR APPROVED EQUIVALENT

STEP IRONS SEE NOTE 4

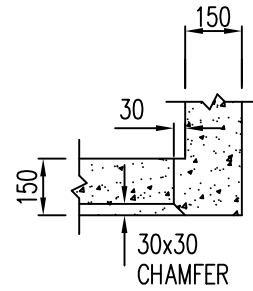


PIT SETOUT POINT IS AT CENTRE OF PIT CHAMBER

PLAN
SCALE 1:20

NOTES:

1. FOR FRAME FIXING DETAILS SEE MANUFACTURES SPECIFICATIONS
2. PIT LIDS TO BE KHAKI GREEN.
3. ALL MEASUREMENTS ARE IN MILLIMETRES.
4. STEP IRONS TO BE PROVIDED IN ALL PITS OVER 900mm DEEP.
5. FOR PITS MORE THAN 1.5m DEEP, MINIMUM WALL AND BASE THICKNESS SHALL BE 200mm
6. FOR PIPES UP TO 450mm DIA.



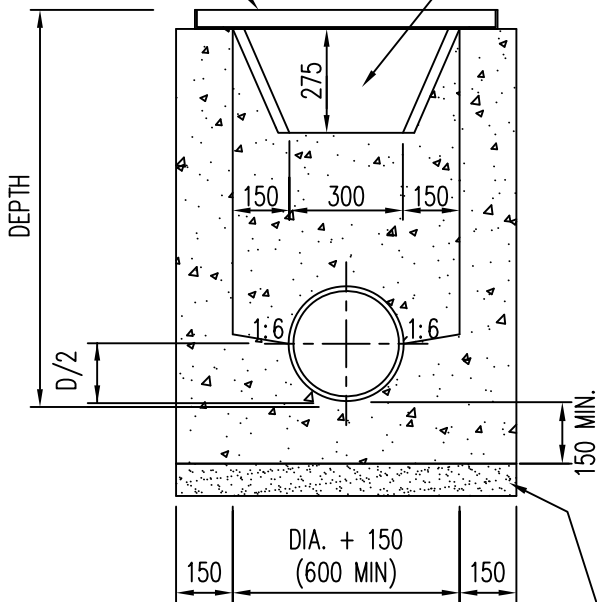
CORNER DETAIL

SCALE 1:20
NOTE: LID NOT SHOWN

FRAME AND LID TO BE TERRA FIRMA TYPE OR APPROVED EQUIVALENT

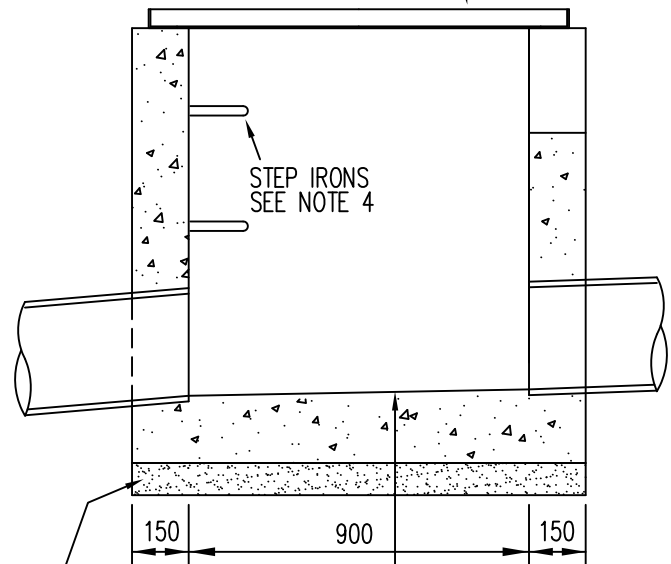
DEPTH OF V-NOTCH TO BE SET TO MATCH DEPTH OF TABLE DRAIN

PIT LID AND FRAME TO BE. SEE NOTE 1.



SECTION A-A
SCALE 1:20

50mm COMPACTED DEPTH OF 20mm CLASS 3 F.C.R. BEDDING



SECTION B-B
SCALE 1:20

SHAPE BOTTOM OF PIT AS SHOWN

CITY OF CASEY

ROADSIDE CATCH PIT
900mm x 600mm

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: OPENING TO TABLE DRAIN AMENDED

S-314

V2

RECTANGULAR PRE-CAST PITS INSTALLATION PROCEDURE

1. Excavation

The excavation shall provide a clearance from all external faces of the pit to each face of the *excavation* of not less than 300mm.

2. Bedding

Bedding shall be 20mm class 3 F.C.R, placed and compacted to a thickness not less than 75mm.

3. Backfilling

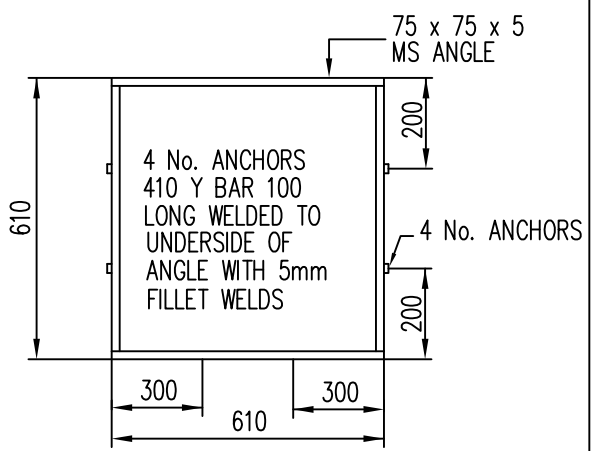
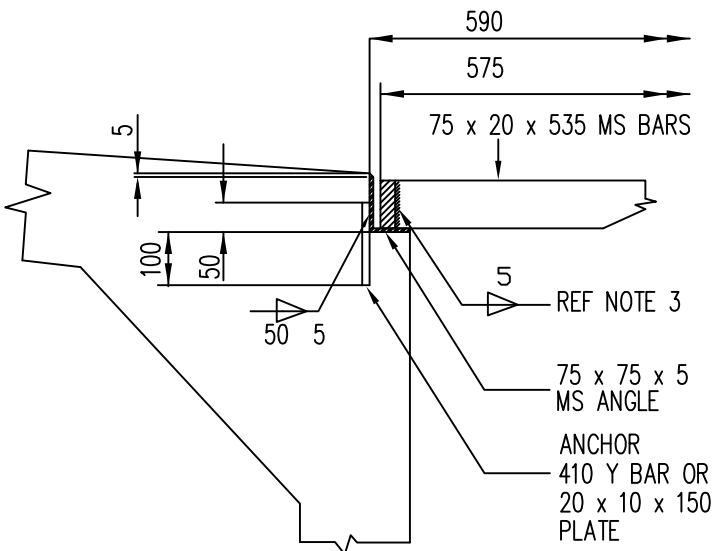
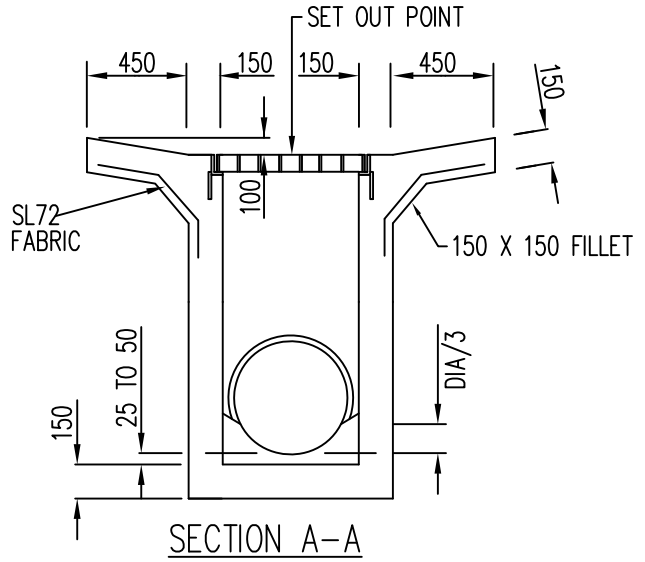
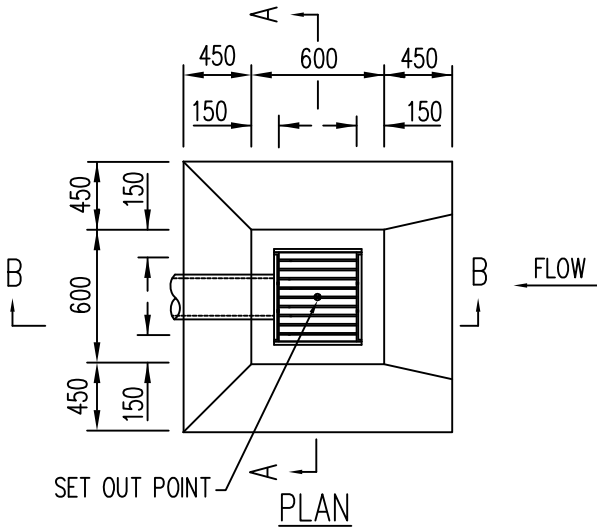
All pits are to be backfilled with clean granular or friable material. The backfilling shall be placed in layers not exceeding 300mm loose in thickness and compacted to refusal using hand held mechanical equipment.

4. Pipe Connections

A concrete bandage is to be placed for the full circumference of the pipe on the external walls of the pit. A cement mortar mix is to be used on the internal walls.

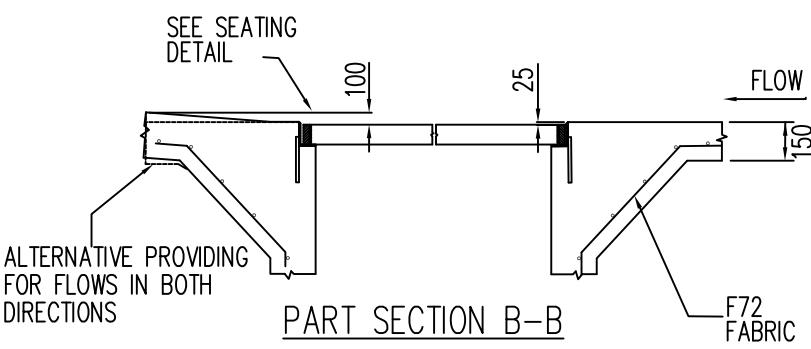
5. Shaping of Floor

A semi circular section transitioning from the size of the outlet pipe to the size of the inlet pipe shall be constructed in all pits using mass concrete. Generally the shape shall be the same as specified for insitu pits.

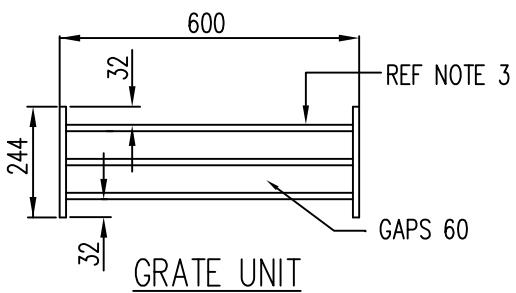


FRAME SEATING DETAIL

GRATE FRAME



PART SECTION B-B



GRATE UNIT

NOTES:

1. GRATE FRAME SHALL BE CONSTRUCTED FROM 75X50X5 MS ANGLE. CORNER JOINTS SHALL BE WELDED ON UNDERSIDE OF HORIZONTAL LEG AND ON THE INSIDE OF THE VERTICAL LEG WITH SIZE 5 FILLETS. GRATE FRAME TO BE FASTENED DOWN BY SUITABLE BOLTS.
2. EXPOSED CONCRETE EDGES SHALL HAVE 10X10 CHAMFERS.
3. WHERE GALVANIZING OF THE GRATE UNITS IS SPECIFIED, THE TOP AND BOTTOM EDGES OF THE BAR ENDS SHALL BE CHAMFERED 5mm x 5mm BEFORE CONTINUOUSLY WELDING ALL AROUND AND GROUND FLUSH BEFORE GALVANIZING.
4. CONCRETE STRENGTH F'C = 25MPa.
5. MINIMUM REINFORCING COVER TO BE 60-mm.

CITY OF CASEY

OFF ROAD GRATED PIT

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-320

V2

RECTANGULAR PRE-CAST PITS INSTALLATION PROCEDURE

1. Excavation

The excavation shall provide a clearance from all external faces of the pit to each face of the *excavation* of not less than 300mm.

2. Bedding

Bedding shall be 20mm class 3 F.C.R, placed and compacted to a thickness not less than 75mm.

3. Backfilling

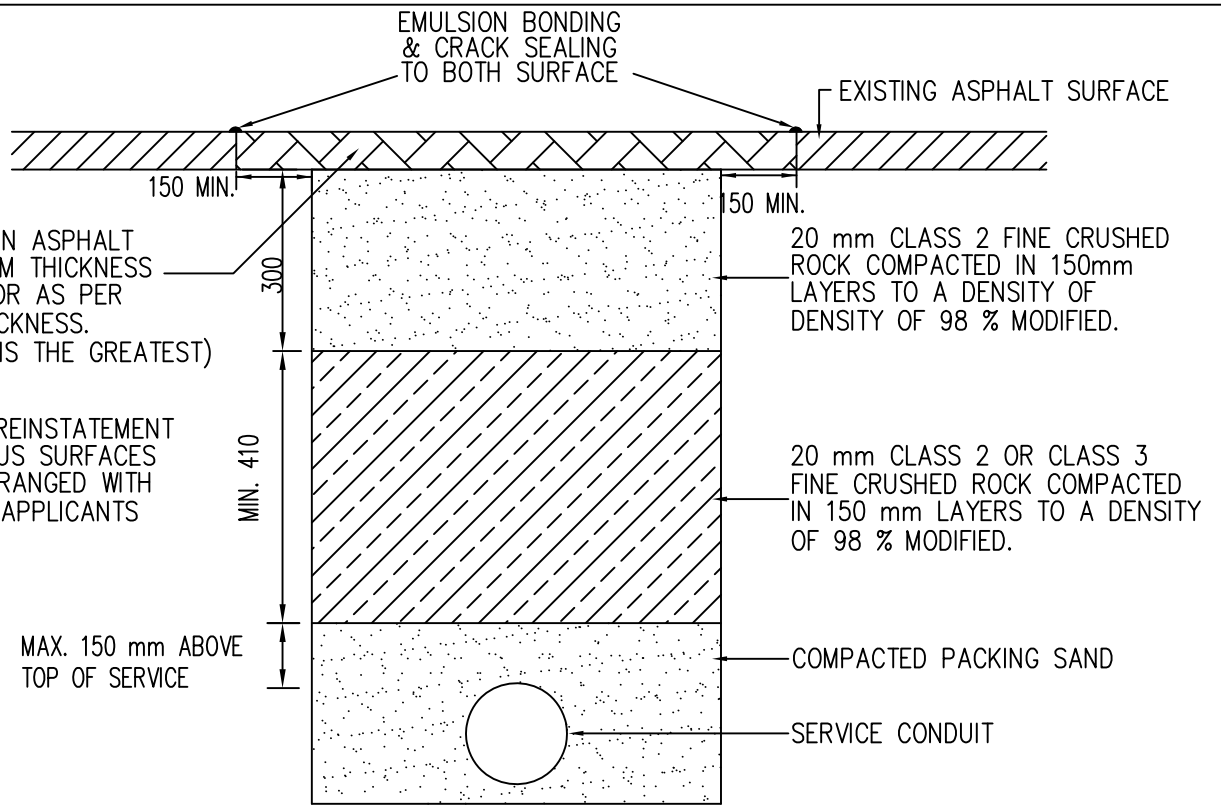
All pits are to be backfilled with clean granular or friable material. The backfilling shall be placed in layers not exceeding 300mm loose in thickness and compacted to refusal using hand held mechanical equipment.

4. Pipe Connections

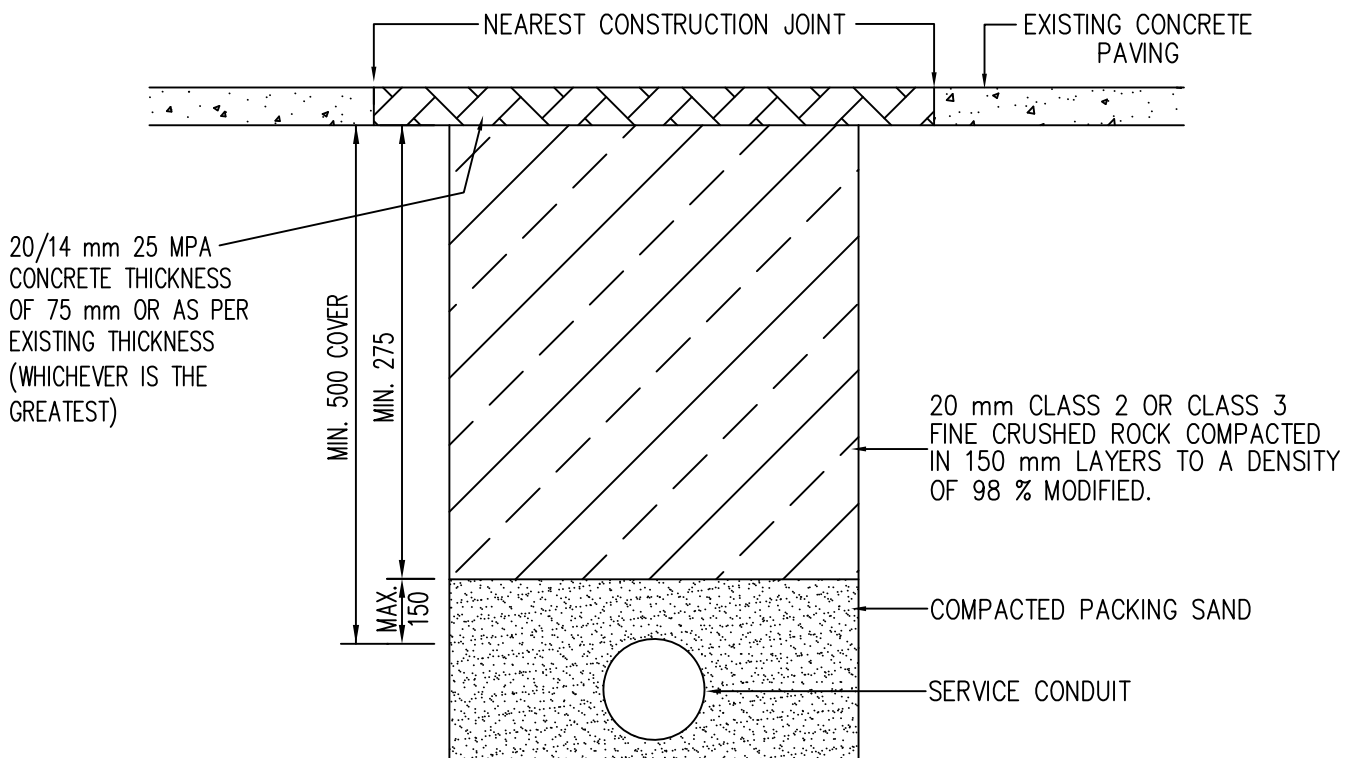
A concrete bandage is to be placed for the full circumference of the pipe on the external walls of the pit. A cement mortar mix is to be used on the internal walls.

5. Shaping of Floor

A semi circular section transitioning from the size of the outlet pipe to the size of the inlet pipe shall be constructed in all pits using mass concrete. Generally the shape shall be the same as specified for insitu pits.



BACKFILLING REQUIREMENT FOR SEALED ROAD PAVEMENT



BACKFILLING REQUIREMENTS FOR CONCRETE PAVING

CITY OF CASEY

CONDITIONS FOR INSTALLATION OF SERVICES UNDER SEALED ROAD PAVEMENTS AND CONCRETE PAVING BY APPROVED OPEN CUTTING

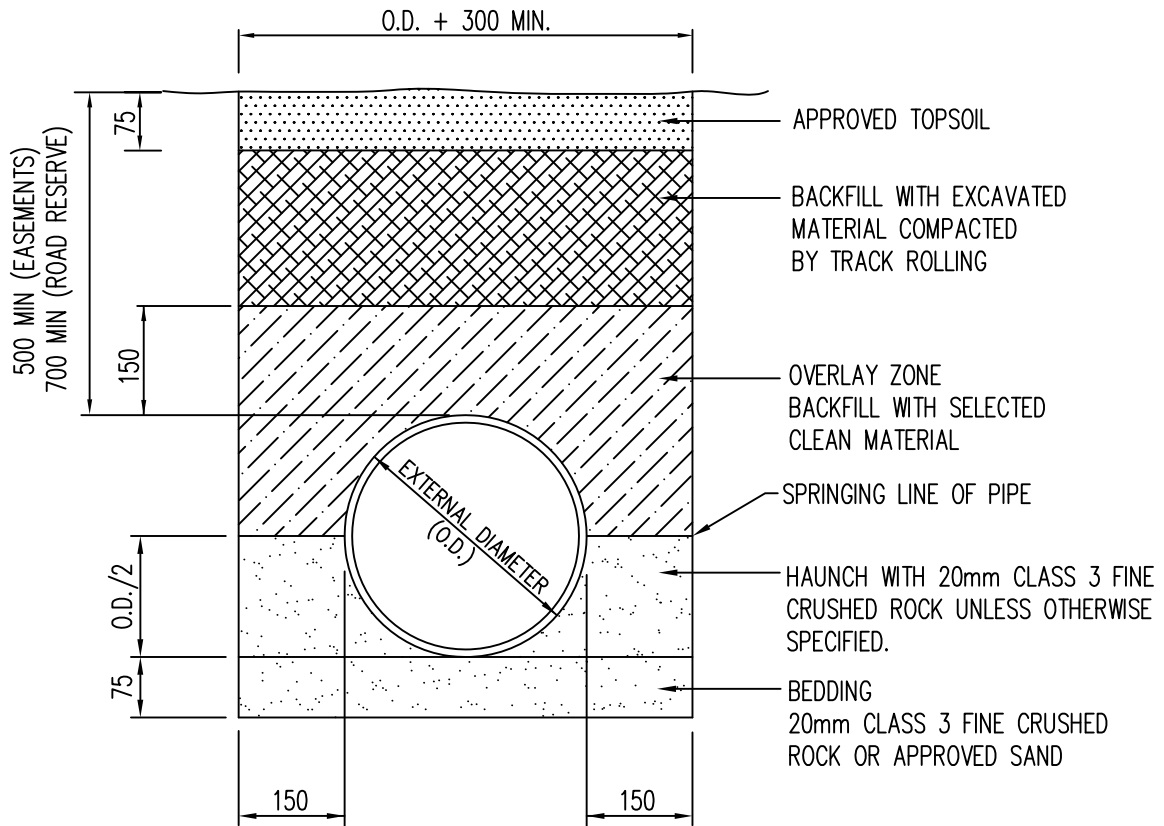
Robert

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-322

V3



PIPE BEDDING DETAIL

SCALE 1:10

NOTES

1. ALL TRENCHES UNDER KERB AND CHANNEL, DRIVEWAYS, FOOTPATHS AND ROAD PAVEMENT SHOULD BE BACKFILLED AS PER COUNCIL'S SPECIFICATION, SECTION 18
2. ALL 150 PIPES TO BE PVC (SH), 225 TO BE PVC (SH) OR RRJ R.C./FRC, PIPES > 300 TO 600 INCLUSIVE TO BE RRJ WITH COLLAR, R.C / F.C.R.
3. ALL R.C./ F.R.C. PIPES TO BE CLASS 2 UNLESS SPECIFIED DIFFERENTLY.
4. EASEMENT DRAINS TO BE LOCATED TO ENSURE 500mm MINIMUM FROM EDGE OF PIPE TO EDGE OF EASEMENT. REINSTATEMENT WORKS REFER TO NOTE 1.
5. IF TRENCH IS WITHIN 150mm OF KERB THEN TRENCH IS TO BE BACKFILLED WITH SELECT BACKFILL FROM SITE AS DIRECTED. FOR NEW WORKS OR REINSTATEMENT WORKS REFER TO NOTE 1.
6. MINIMUM PIPE REQUIREMENTS UNDER ROAD PAVEMENTS AND TAKING ROAD RUNOFF TO BE 300MM DIA. RRJ R.C.

CITY OF CASEY

PIPE LAYING DETAIL
NOT UNDER ROAD PAVEMENT

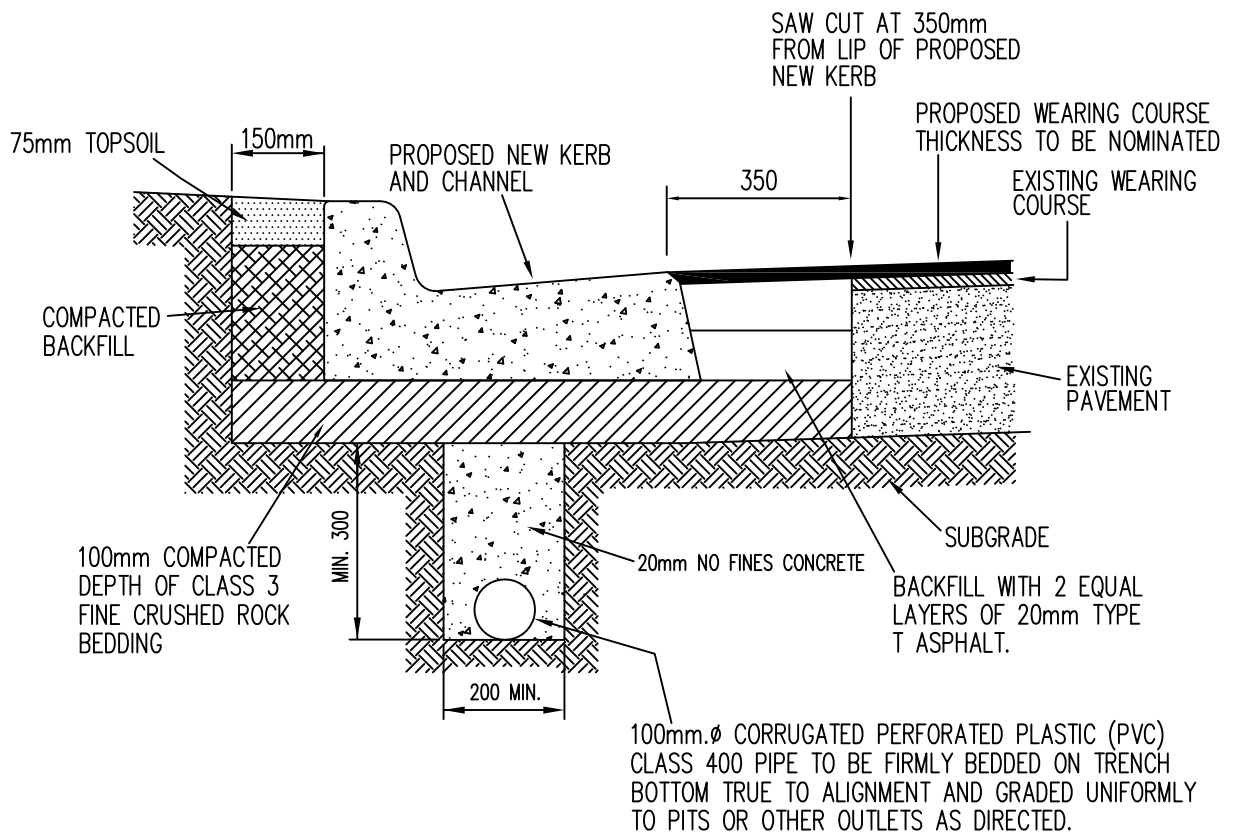
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-323

V2



NOTES

1. DEFLECT TRENCH OVER LAST 2.0m TO CONNECT TO PITS
2. SUBSOIL DRAIN TO BE A MINIMUM OF 25mm CLEAR BELOW SERVICE CONDUITS ON BOTH SIDES OF ROAD
3. SUBSOIL DRAINS TO BE LOCATED UNDER KERB AND CHANNEL, WHERE CONSTRAINTS PREVENT PLACEMENT BEHIND KERB AND CHANNEL

CITY OF CASEY

KERB AND CHANNEL RECONSTRUCTION
SUBSOIL DRAINAGE DETAIL

Robert

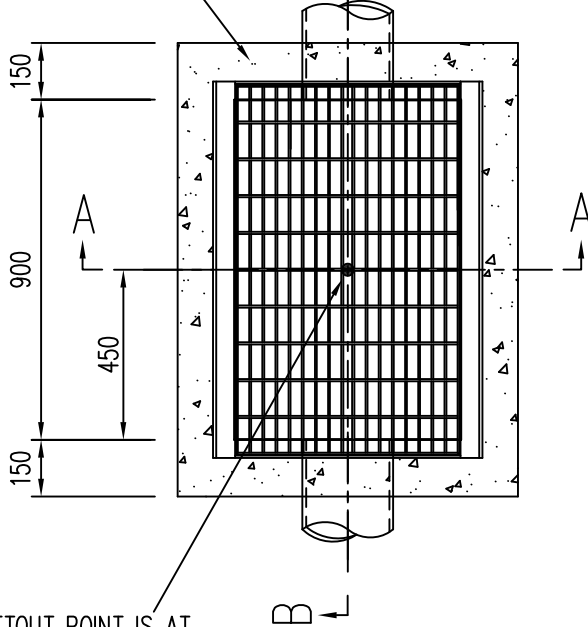
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-326A

V2

HINGED WEBFORGE WG-12
OR APPROVED EQUIVALENT
WITH 40mm INVERT



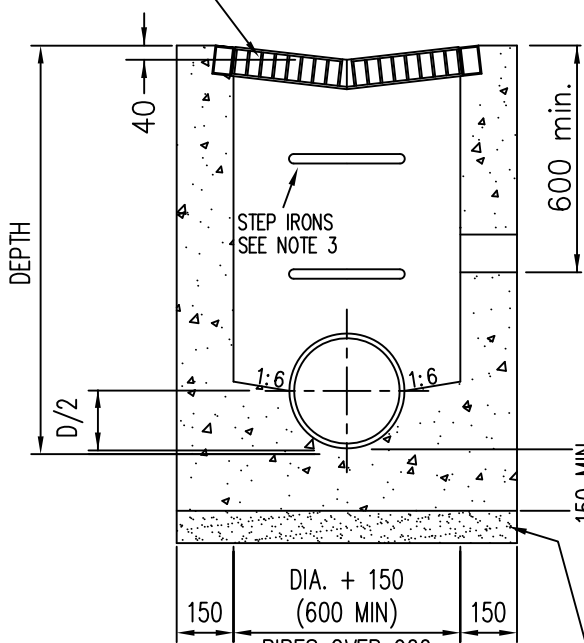
PIT SETOUT POINT IS AT
CENTRE OF PIT CHAMBER

PLAN
SCALE 1:20

NOTES:

1. FOR PIT DEPTH GREATER THAN 1.5 METRES OR PIPE DIAMETER GREATER THAN 450mm REFER TO S-309 REGARDING CORBELLING, WALL THICKNESS AND REINFORCING OF PIT WALLS
2. ALL MEASUREMENTS ARE IN MILLIMETRES.
3. STEP IRONS TO BE PROVIDED IN ALL PITS OVER 900mm DEEP.
4. PIT LID TO BE GRATED HINGED WEBFORGE WG-12 OR APPROVED EQUIVALENT WITH 40mm INVERT. GRATE TO BE "BICYCLE SAFE" IN ACCORDANCE WITH AUSTRALIAN STANDARDS.
5. WHERE NO AG PIPES ARE CONNECTED, SEAL STUBS WITH GEOTEXTILE FABRIC.

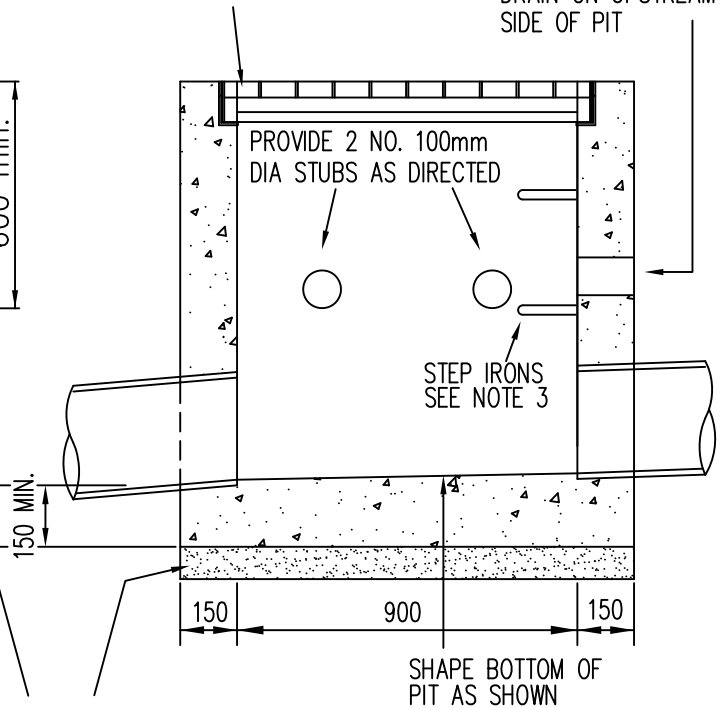
HINGED WEBFORGE WG-12
OR APPROVED EQUIVALENT
WITH 40mm INVERT



SECTION A-A
SCALE 1:20

HINGED WEBFORGE WG-12
OR APPROVED EQUIVALENT
WITH 40mm INVERT

PROVIDE 100mm AG
DRAIN ON UPSTREAM
SIDE OF PIT



SECTION B-B
SCALE 1:20

CITY OF CASEY

GRATED CATCH PIT
FOR USE IN PAVED TRAFFICKED AREAS

Robert

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS:

S-328

RECTANGULAR PRE-CAST PITS INSTALLATION PROCEDURE

1. Excavation

The excavation shall provide a clearance from all external faces of the pit to each face of the *excavation* of not less than 300mm.

2. Bedding

Bedding shall be 20mm class 3 F.C.R, placed and compacted to a thickness not less than 75mm.

3. Backfilling

All pits are to be backfilled with clean granular or friable material. The backfilling shall be placed in layers not exceeding 300mm loose in thickness and compacted to refusal using hand held mechanical equipment.

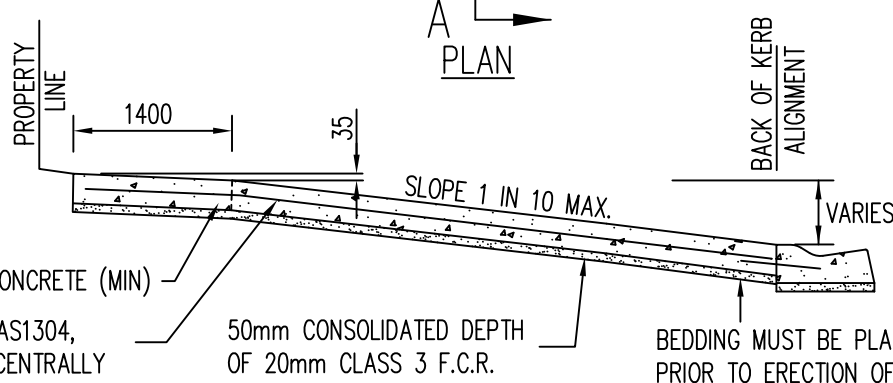
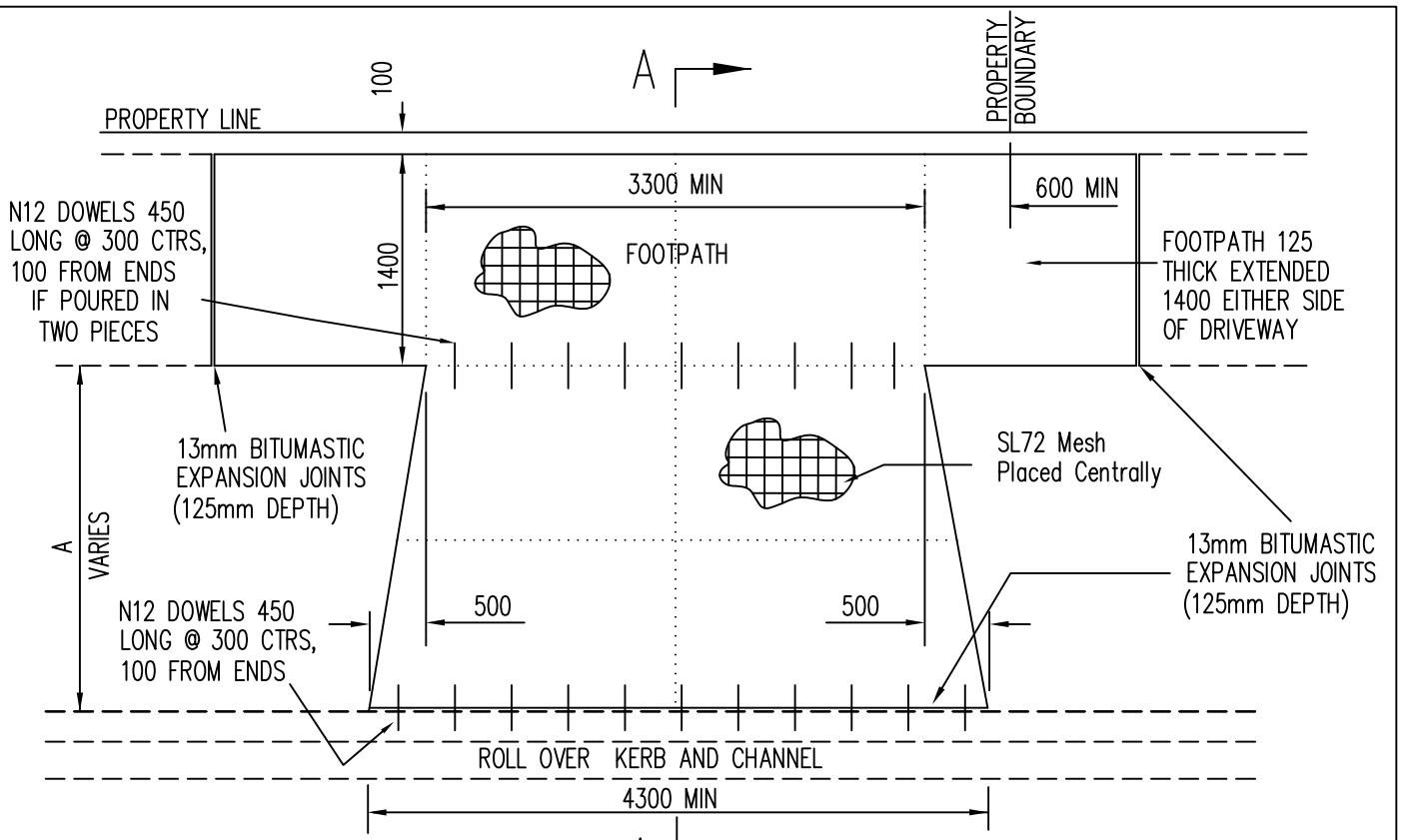
4. Pipe Connections

A concrete bandage is to be placed for the full circumference of the pipe on the external walls of the pit. A cement mortar mix is to be used on the internal walls.

5. Shaping of Floor

A semi circular section transitioning from the size of the outlet pipe to the size of the inlet pipe shall be constructed in all pits using mass concrete. Generally the shape shall be the same as specified for insitu pits.

CONCRETE PAVING



SECTION A-A

NOTES

1. CONCRETE STRENGTH TO BE $f'c=32MPa$, SLUMP = 80mm MAX.
2. VEHICLE CROSSING TO BE OFFSET 0.60m MIN. FROM SIDE BOUNDARY.
3. DOUBLE DRIVEWAY IS TWO DRIVEWAYS WITH INNER SPLAYS DELETED AND 1200mm WIDE GAP INFILLED WITH CONCRETE AND CAST INTEGRALLY WITH ENTIRE CROSSING
4. IF $A > 2000mm$ PROVIDE CONSTRUCTION JOINT AT $A/2$.
5. EXPANSION MATERIAL TO BE BIFB OR SEMI-RIGID CCPF (125mm DEPTH).
6. THE CENTRELINE OF VEHICLE CROSSING IS TO BE PERPENDICULAR TO THE ROAD CENTRELINE, WITH JOINTS ADJUSTED AS REQUIRED (EXCEPT EXPANSION JOINTS)
7. WHERE NO FOOTPATH IS CONSTRUCTED, DRIVEWAY SETOUT IS NOT VARIED.
8. CONSTRUCTION JOINTS LOCATIONS SHOWN THUS
9. FOOTPATH AND INFILL TO BE FORMED AND POURED AS AN INTEGRAL UNIT OR DOWELLED. SEE NOTE 12
10. EXISTING ASPHALT ROAD PAVEMENT IS TO BE REINSTATED IF DAMAGED
11. VEHICLE CROSSING SHALL BE A MINIMUM OF 6m OFFSET FROM TANGENT POINT OF ANY SIDE STREETS
12. WHERE EXISTING FOOTPATH IS 125mm THICK, THE FOOTPATH IS NOT REQUIRED TO BE REPLACED. JOINT BETWEEN NEW CONCRETE AND EXISTING PATH SHALL BE DOWELLED IN A SIMILAR FASHION AS JOINT WITH KERB AND CHANNEL.
13. VEHICLE CROSSINGS IN COURT HEADS TO BE 150mm THICK REINFORCED WITH SL72 (F72) MESH, PLACED CENTRALLY.
14. VEHICLE CROSSINGS ARE TO BE CONSTRUCTED TO COUNCIL APPROVED LEVELS.

CITY OF CASEY

VEHICULAR ENTRANCE DETAIL
RESIDENTIAL
(ROLLOVER KERB & CHANNEL)

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: DOWELLING NOTATION ADDED, GENERAL UPGRADE

S-401

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

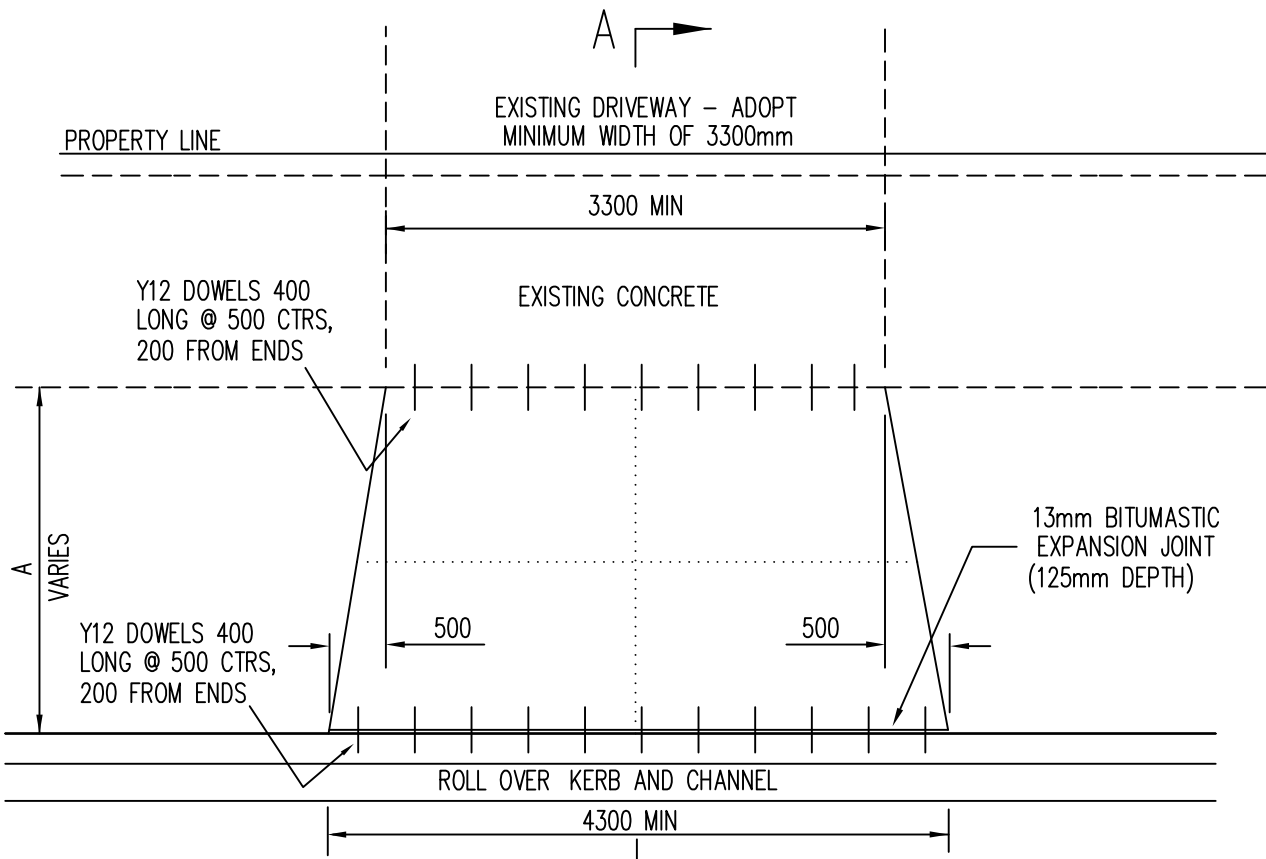
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

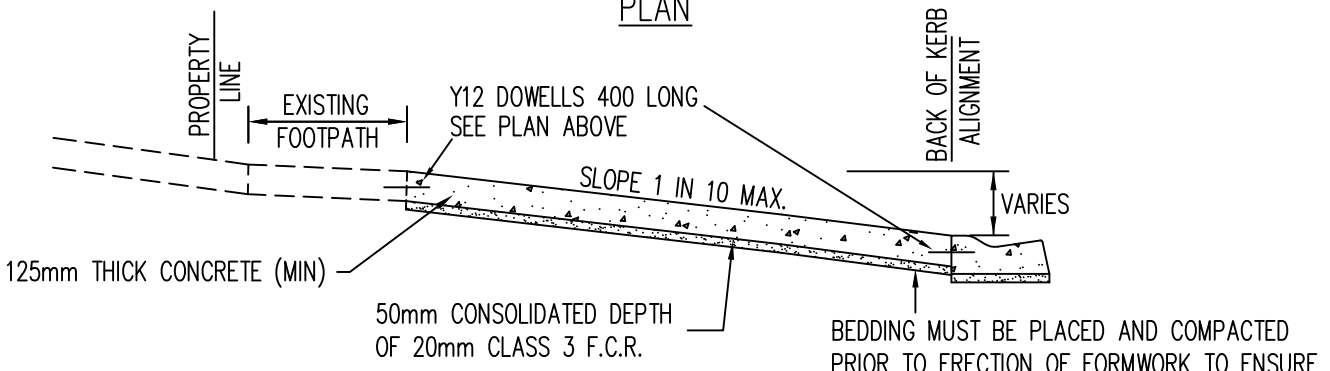
Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



A
PLAN



SECTION A-A

NOTES

1. CONCRETE STRENGTH TO BE $F'c=25MPa$, SLUMP = 80mm MAX.
2. THE REMOVAL OF EXISTING CROSSING IS TO BE CARRIED OUT IN CONJUNCTION WITH CONSTRUCTION OF NEW CROSSING
3. DOUBLE DRIVEWAY IS TWO DRIVEWAYS WITH INNER SPLAYS DELETED AND 1200mm WIDE GAP INFILLED WITH CONCRETE AND CAST INTEGRALLY WITH ENTIRE CROSSING
4. IF $A>2000mm$ PROVIDE CONSTRUCTION JOINT AT $A/2$.
5. IF THE EXISTING FOOTPATH DOES NOT COMPLY WITH THIS STANDARD IT MUST BE REPLACED WITH 125mm THICK CONCRETE AND SHALL BE CAST INTEGRALLY WITH THE CROSSING. DOWELS WILL NOT BE REQUIRED IN THIS CIRCUMSTANCE.
6. CONSTRUCTION JOINTS LOCATIONS SHOWN THUS
7. EXPANSION MATERIALS TO BE BIFB OR RIGID POLYETHYLENE FILLER.
8. VEHICLE CROSSINGS IN COURT HEADS TO BE 150mm THICK REINFORCED WITH SL72 (F72) MESH.
9. WHEN CONSTRUCTING NEW CROSSING THE EXISTING KERB AND CHANNEL TO BE SAWCUT AND REMOVED

CITY OF CASEY

KERB AND CHANNEL RECONSTRUCTION
VEHICULAR ENTRANCE DETAIL
FOR ROLLOVER KERB AND CHANNEL

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

S-401A

AMENDMENTS:

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

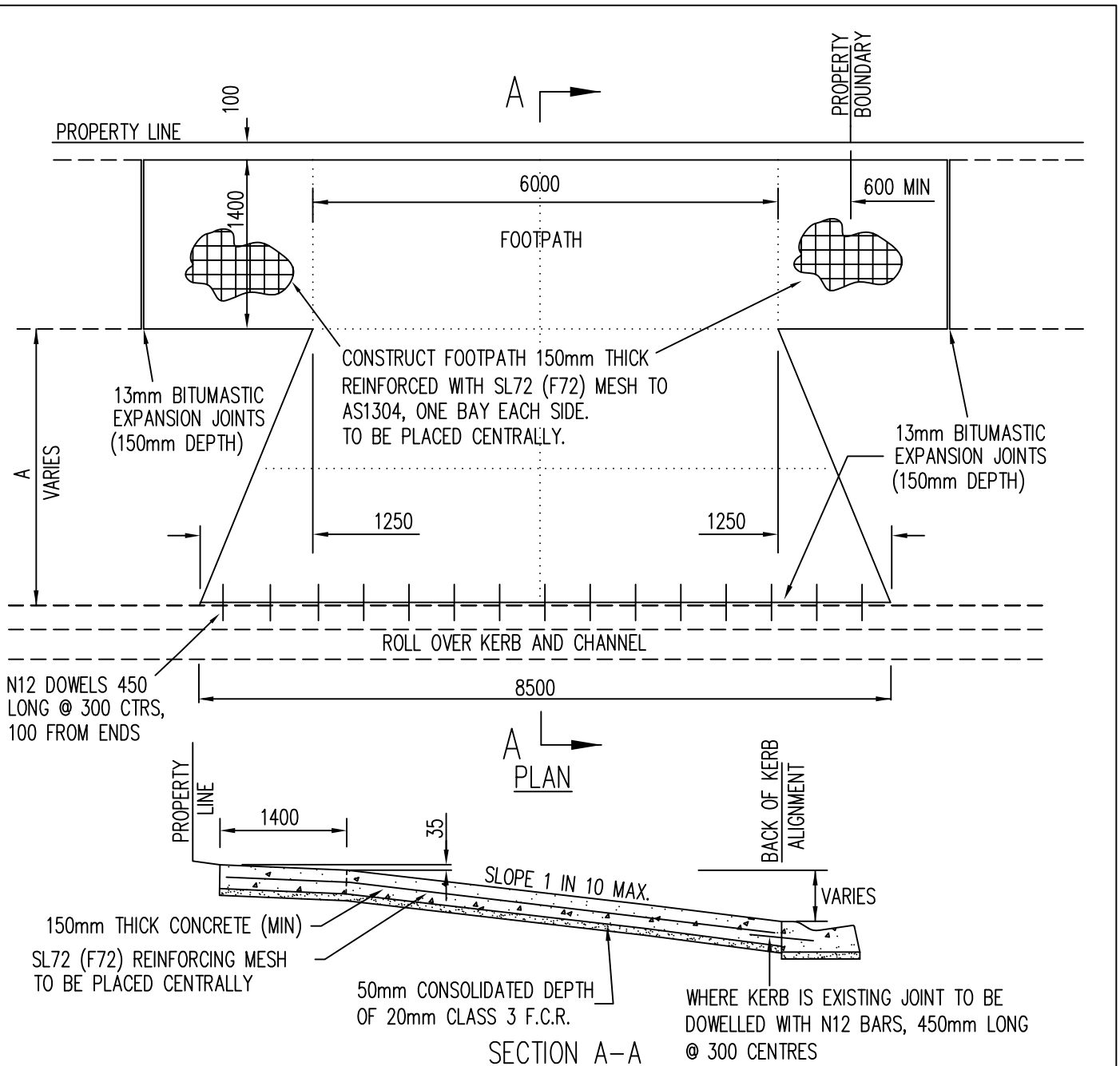
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



NOTES

1. CONCRETE STRENGTH TO BE $f'c=32MPa$, SLUMP = 80mm MAX.
2. EXISTING KERB AND CHANNEL IS TO BE SAWCUT AND REPLACED IF REQUIRED
3. SUITABLE FOR SMALL RIGID VEHICLES
4. EXPANSION MATERIAL TO BE BIFB OR SEMI-RIGID CCPF (125mm DEPTH).
5. NEW VEHICLE CROSSINGS ARE TO BE DOWELLED TO EXISTING KERB AND CHANNEL AS SHOWN
6. IF $A < 3m$ FINAL ARRANGEMENTS SHALL BE APPROVED BY COUNCIL
7. CONTROLLED CRACKING JOINT LOCATIONS SHOWN THUS
8. FOOTPATH AND INFILL TO BE FORMED AND POURED AS AN INTEGRAL UNIT.
9. EXISTING ASPHALT ROAD PAVEMENT IS TO BE REINSTATED IF DAMAGED
10. WHERE EXISTING FOOTPATH DOES NOT COMPLY WITH THIS STANDARD IT MUST BE REPLACED WITH 150mm THICK CONCRETE REINFORCED WITH SL72 (F72) MESH TO AS.1304
11. VEHICLE CROSSINGS ARE TO BE CONSTRUCTED TO COUNCIL APPROVED LEVELS.

CITY OF CASEY

VEHICULAR ENTRANCE DETAIL
INDUSTRIAL
(ROLLOVER KERB & CHANNEL)

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-403

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

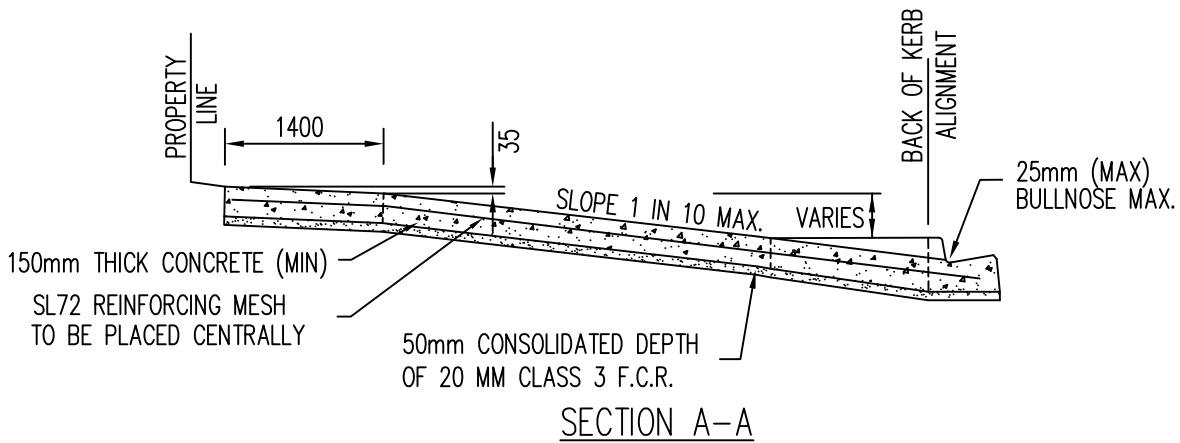
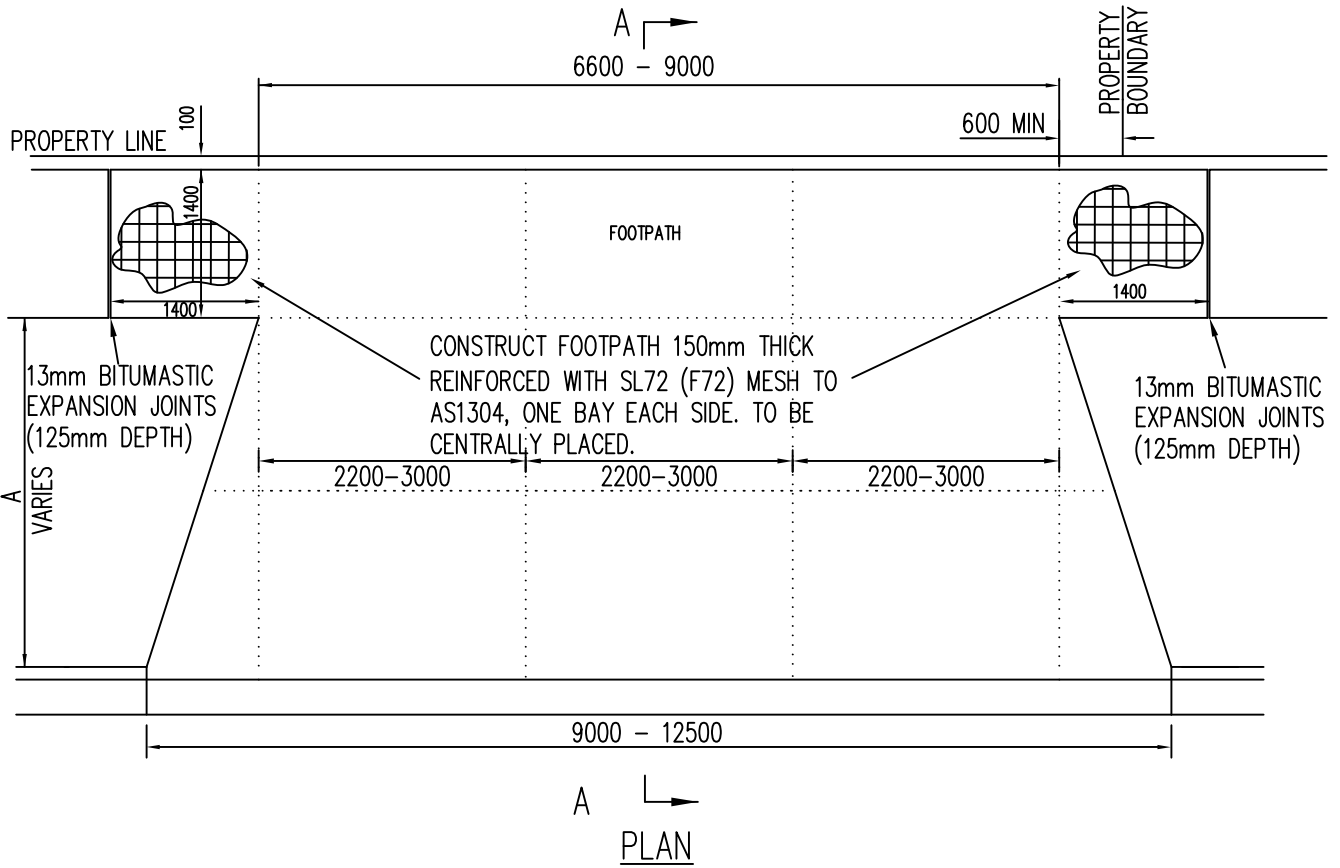
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



NOTES

1. CONCRETE STRENGTH TO BE $F'c=32MPa$, SLUMP = 80mm MAX.
2. IF $A>2000mm$ PROVIDE CONSTRUCTION JOINT AT $A/2$.
3. CONSTRUCTION JOINTS LOCATIONS SHOWN THUS
4. EXISTING KERB AND CHANNEL TO BE SAWCUT AND REMOVED. IF DISTANCE FROM EXTENTS OF CROSSING TO AN EXISTING JOINT IS LESS THAN 1 METRE, EXTRA KERB AND CHANNEL SHALL BE REMOVED TO THAT JOINT.
5. MINIMUM DIMENSIONS SHOWN ARE SUITABLE FOR MEDIUM / HEAVY RIGID VEHICLES
6. MAXIMUM DIMENSIONS SHOWN ARE SUITABLE FOR SEMI TRAILER
7. VEHICLE CROSSINGS ARE TO BE CONSTRUCTED TO COUNCIL APPROVED LEVELS.

CITY OF CASEY

VEHICULAR ENTRANCE DETAIL
INDUSTRIAL

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: PROPERTY OFFSET AMENDED, GENERAL UPGRADE

S-404

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

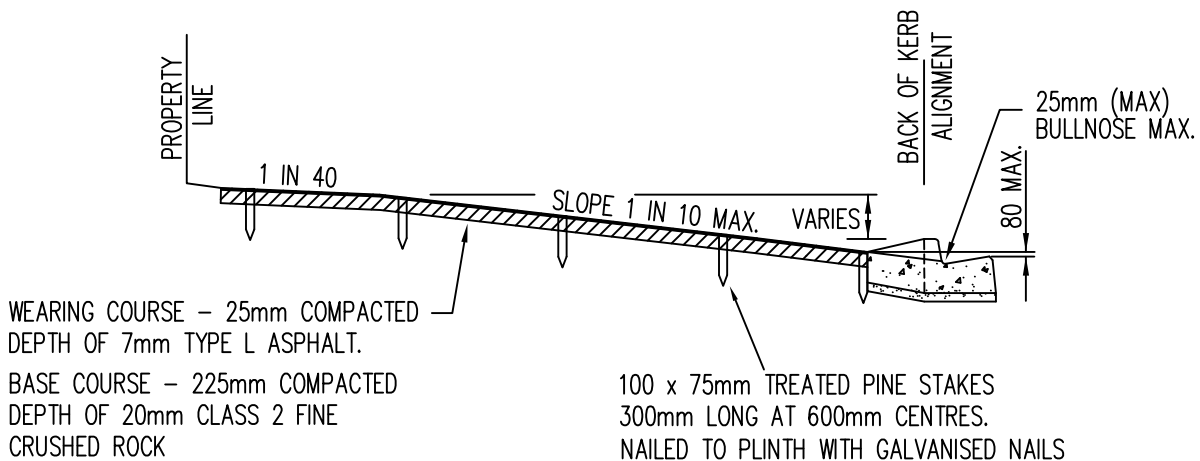
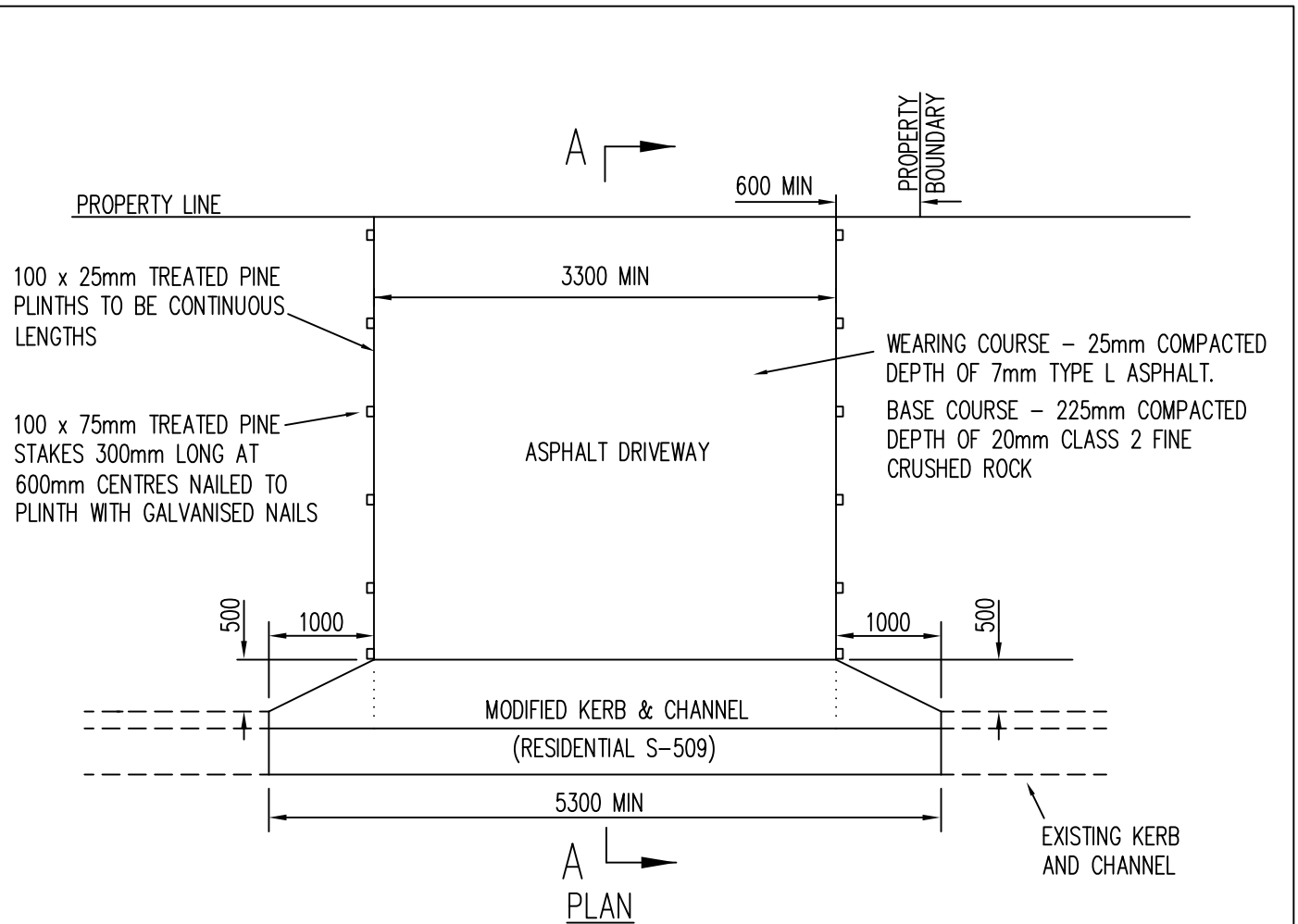
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



SECTION A-A

CITY OF CASEY

VEHICULAR ENTRANCE DETAIL
 ASPHALT - MODIFIED KERB AND CHANNEL
 (LOW DENSITY AREAS ONLY)

MANAGER OF ENGINEERING &
 ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE, PROPERTY BOUNDARY OFFSET AMENDED

S-405

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

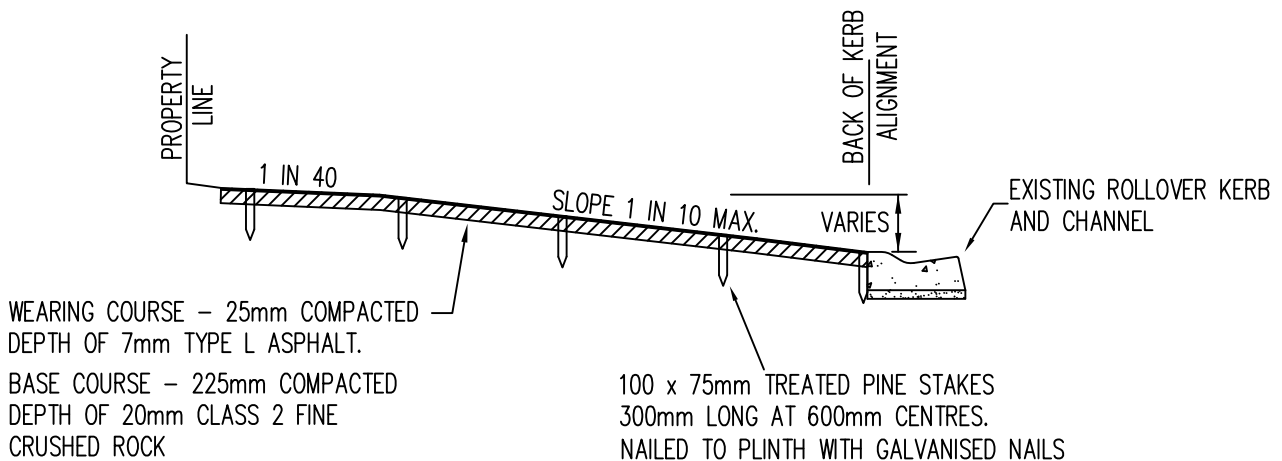
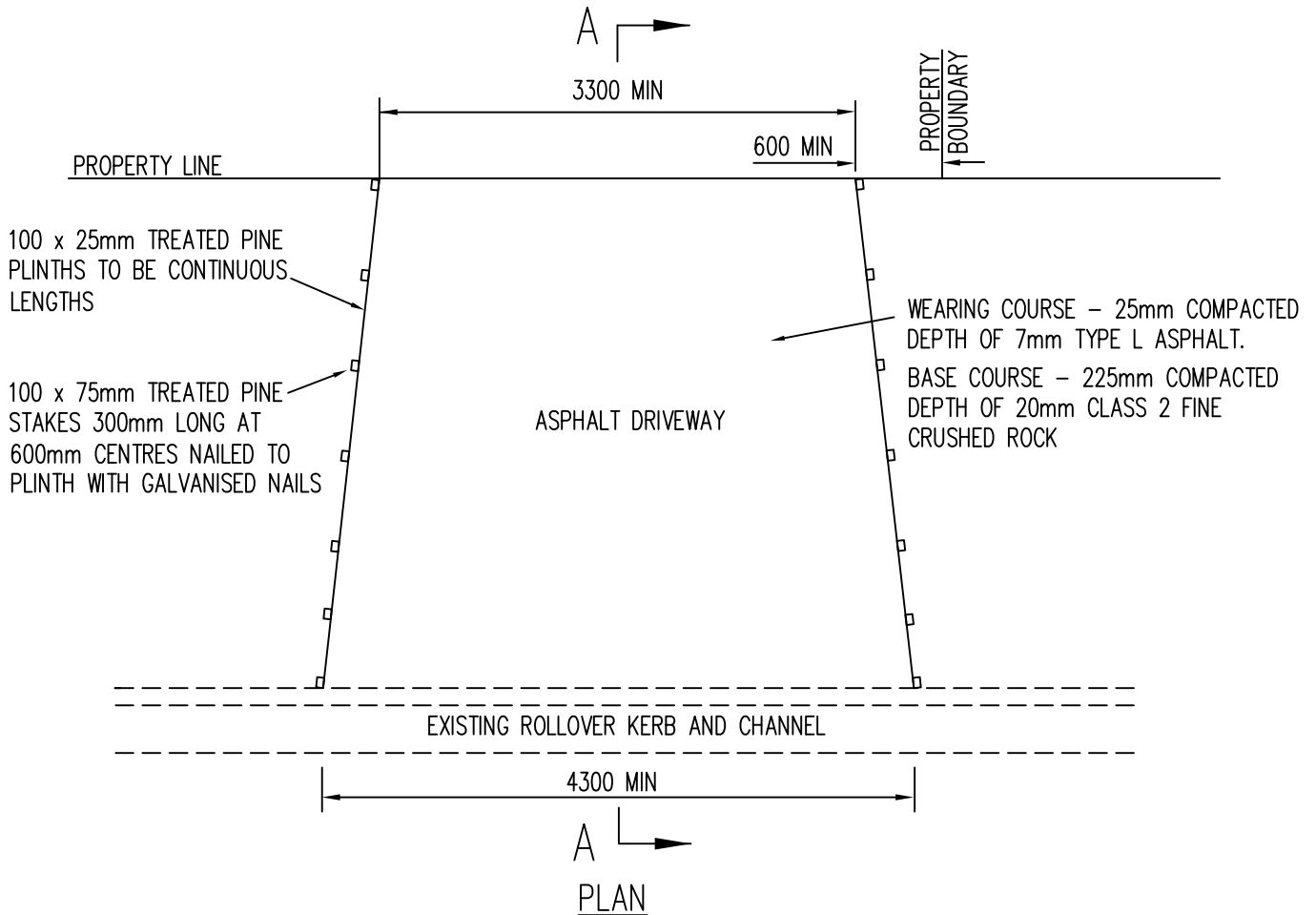
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



SECTION A-A

CITY OF CASEY

VEHICULAR ENTRANCE DETAIL
 ASPHALT - ROLLOVER KERB AND CHANNEL
 (LOW DENSITY AREAS ONLY)

MANAGER OF ENGINEERING &
 ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE, PROPERTY BOUNDARY OFFSET AMENDED

S-406

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

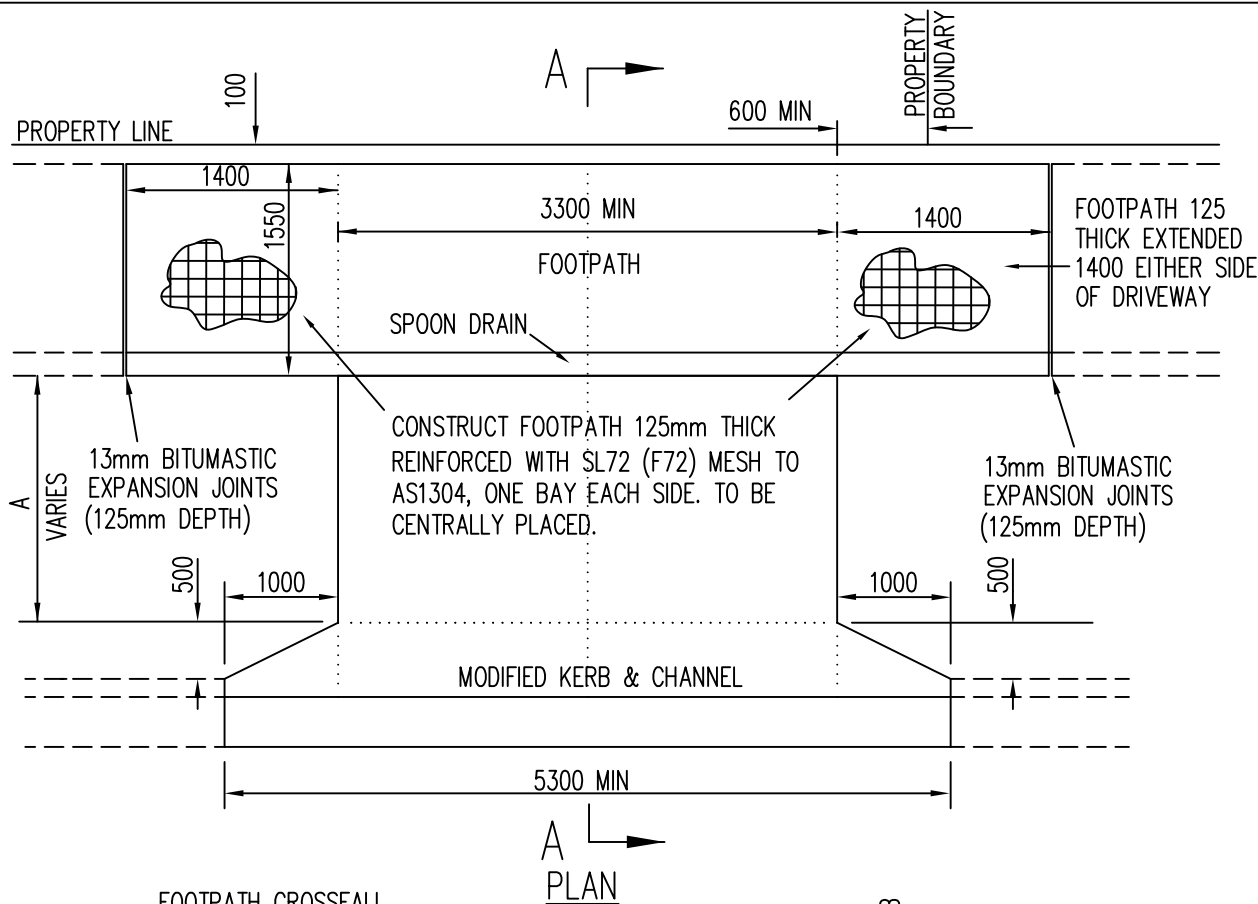
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

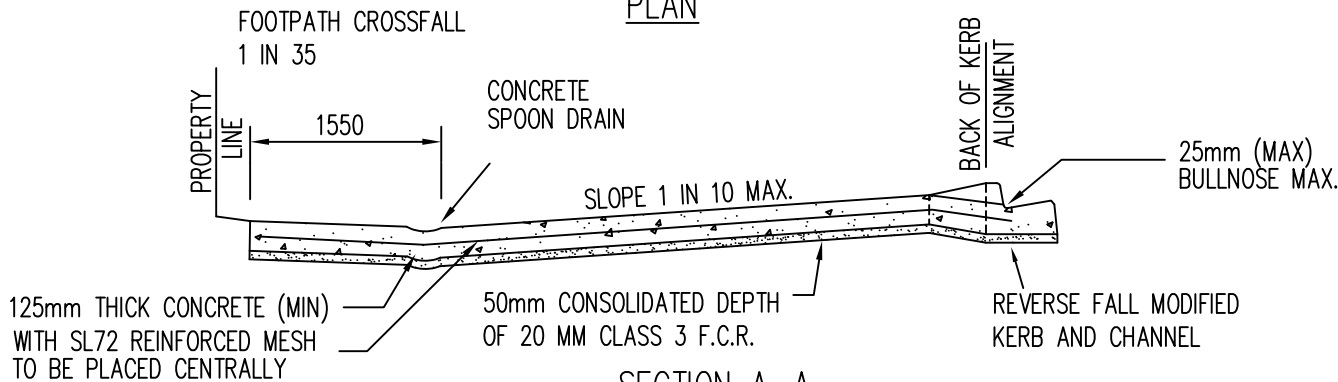
Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



PLAN



SECTION A-A

NOTES

1. CONCRETE STRENGTH TO BE $f'c=25MPa$, SLUMP = 80mm MAX.
2. VEHICLE CROSSING TO BE OFFSET 0.60m MIN. FROM SIDE BOUNDARY.
3. DOUBLE DRIVEWAY IS TWO DRIVEWAYS WITH INNER SPLAYS DELETED AND 1200mm WIDE GAP INFILLED WITH CONCRETE AND CAST INTEGRALLY WITH ENTIRE CROSSING
4. IF $A>2000mm$ PROVIDE CONSTRUCTION JOINT AT $A/2$.
5. EXPANSION MATERIAL TO BE BIFB OR SEMI-RIGID CCPF (125mm DEPTH).
6. THE CENTRELINE OF VEHICLE CROSSING IS TO BE PERPENDICULAR TO THE ROAD CENTRELINE, WITH JOINTS ADJUSTED AS REQUIRED (EXCEPT EXPANSION JOINTS)
7. WHERE NO FOOTPATH IS CONSTRUCTED, DRIVEWAY SETOUT IS NOT VARIED.
8. CONSTRUCTION JOINTS LOCATIONS SHOWN THUS
9. FOOTPATH AND INFILL TO BE FORMED AND POURED AS AN INTEGRAL UNIT.
10. THE MINIMUM INSIDE RADIUS ON CURVED DRIVEWAYS SHALL BE 8m
11. VEHICLE CROSSINGS ARE TO BE CONSTRUCTED TO COUNCIL APPROVED LEVELS.
12. WHERE EXISTING FOOTPATH DOES NOT COMPLY WITH THIS STANDARD IT MUST BE REPLACED WITH 125mm THICK CONCRETE REINFORCED WITH SL72 (F72) MESH TO AS.1304 TO BE CENTRALLY PLACED.

CITY OF CASEY

**VEHICULAR ENTRANCE DETAIL
REVERSE FALL – RESIDENTIAL
(KERB & CHANNEL)**

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: PROPERTY BOUNDARY OFFSET AMENDED, GENERAL UPGRADE

S-409

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

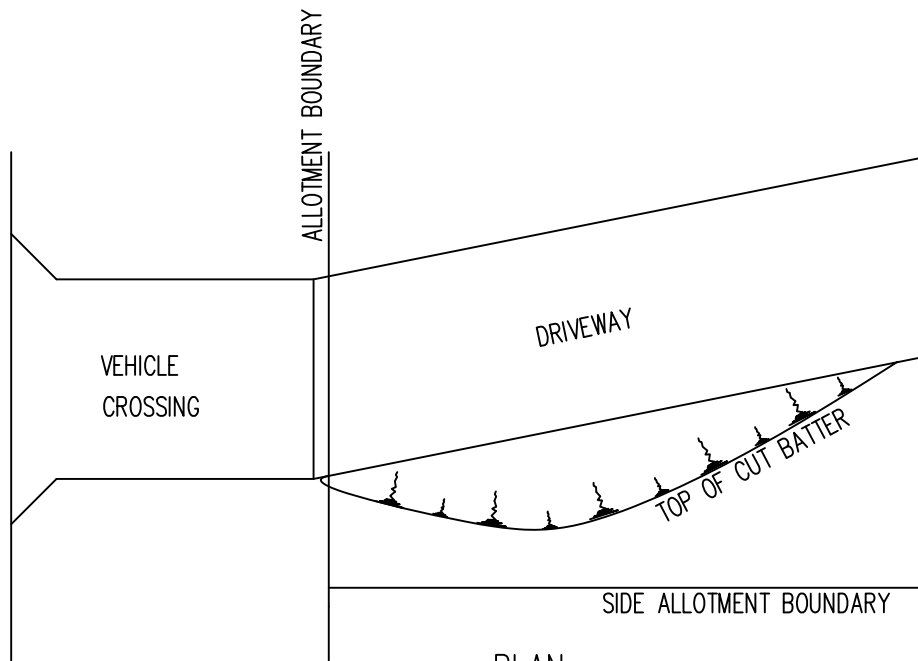
Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

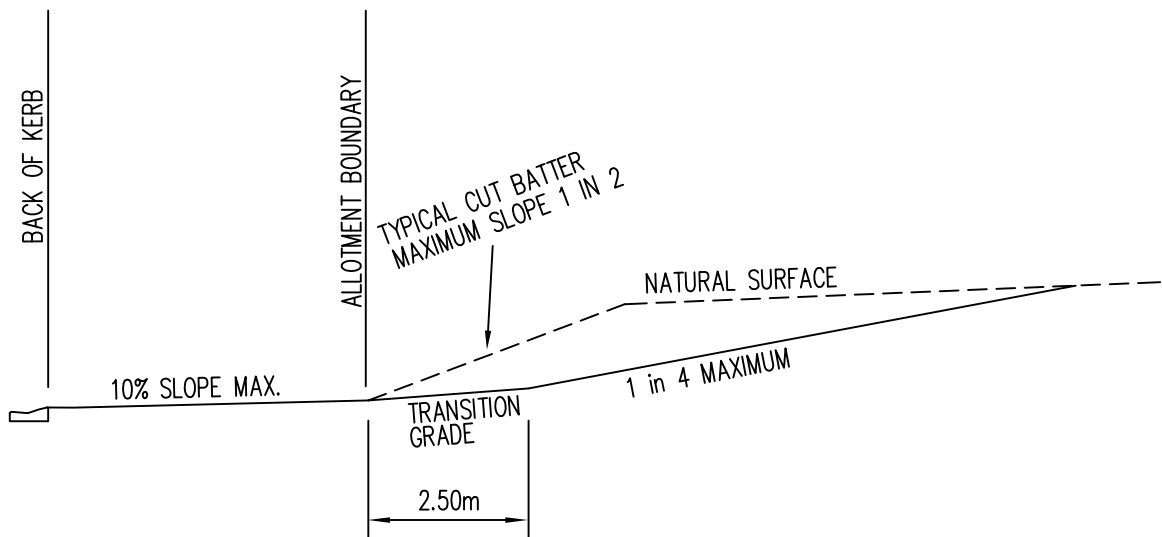
Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
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6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
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12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.



PLAN
NOT TO SCALE



- NOTES - 1. WHERE EXCESSIVE CUT OCCURS, RAMP CUT DIAGONALLY ACROSS ALLOTMENT.
2. DRIVEWAYS TO BE LOCATED TO ENSURE THAT BATTERS TO ACCESS RAMP DO NOT ENCROACH INTO ADJOINING LOTS

CITY OF CASEY

DRIVEWAYS
ACCESS RAMPS TO ALLOTMENTS

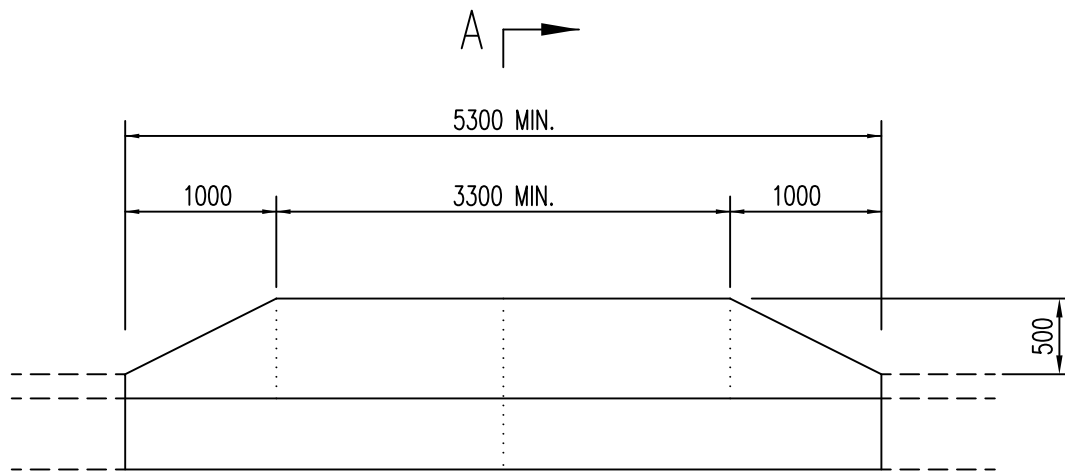
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

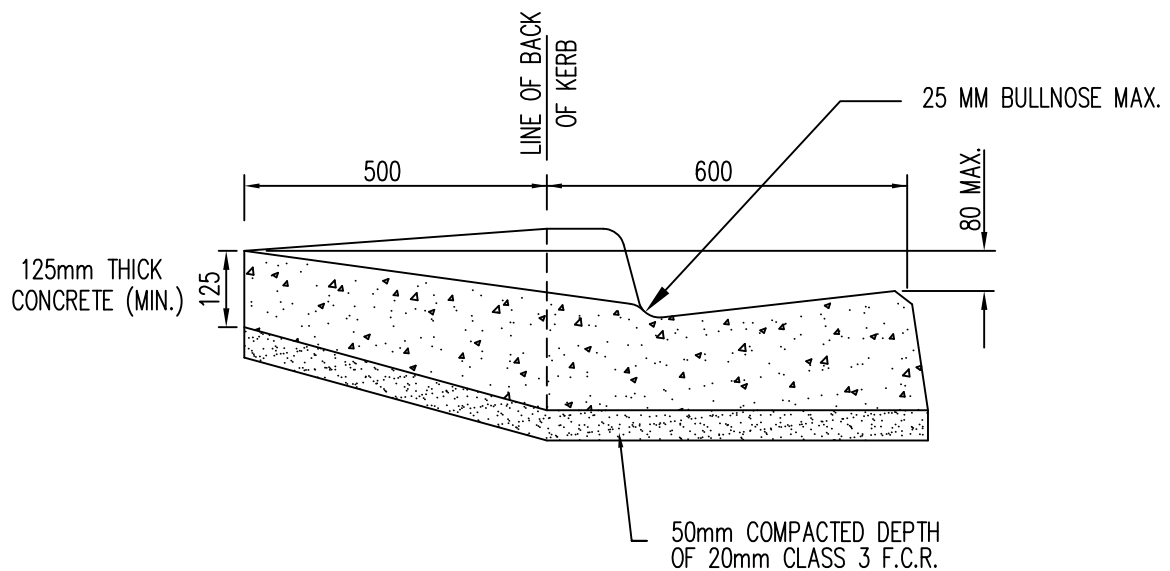
S-410

V2

CONCRETE KERB & CHANNEL



A
PLAN



SECTION A-A

NOTES

1. CONSTRUCTION JOINT LOCATIONS ARE SHOWN THUS
2. EXISTING KERB & CHANNEL TO BE SAWCUT AND REMOVED.
3. ASPHALT IS TO BE REINSTATED IF DAMAGED.
4. CONCRETE STRENGTH F'C = 25MPa, SLUMP = 80mm MAX.

CITY OF CASEY

MODIFIED KERB AND CHANNEL
RESIDENTIAL
(BARRIER KERB AND CHANNEL)

Robert

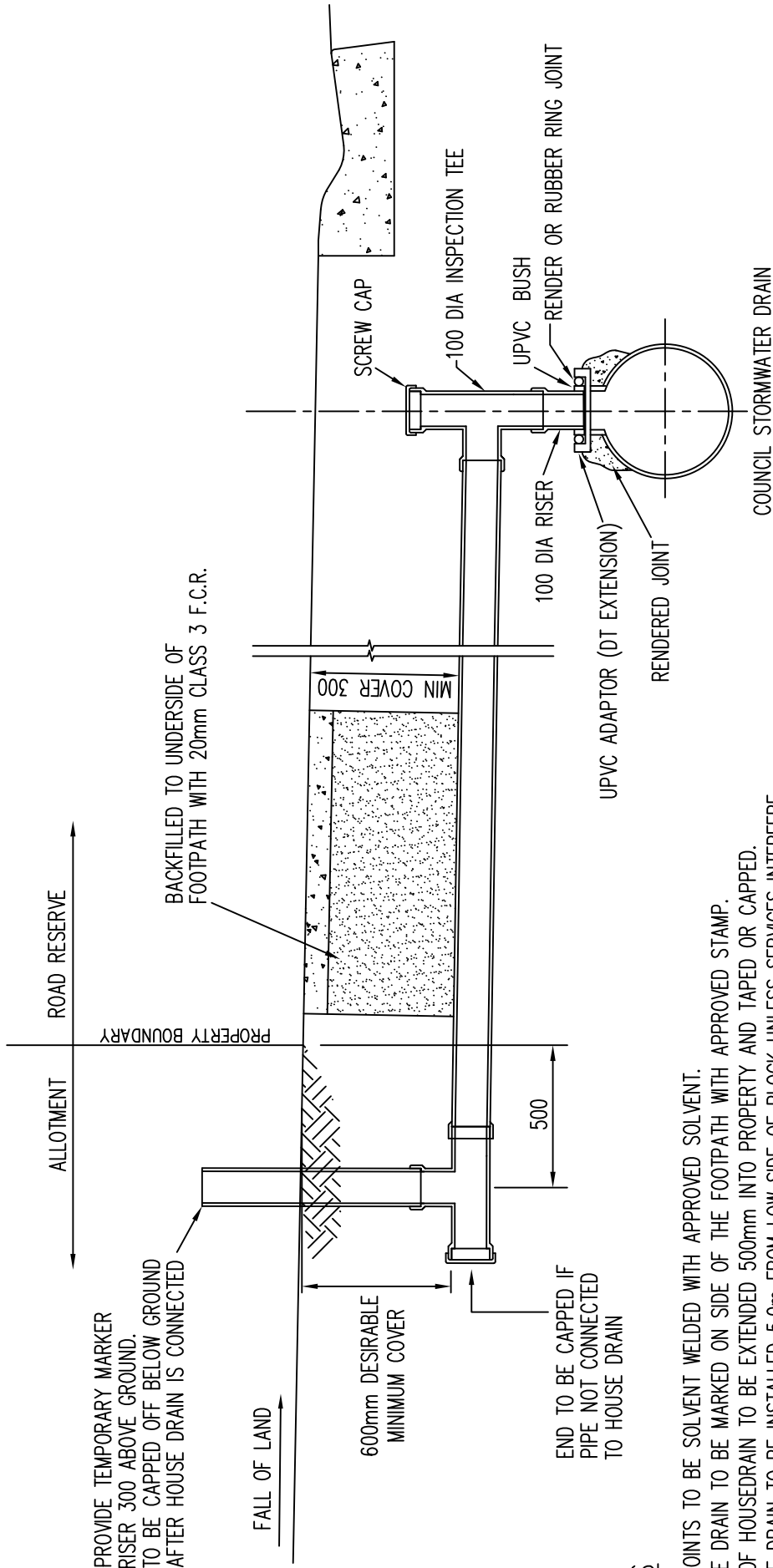
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-509

V2

PROPERTY DRAINAGE



PROVIDE TEMPORARY MARKER RISER 300 ABOVE GROUND. TO BE CAPPED OFF BELOW GROUND AFTER HOUSE DRAIN IS CONNECTED

FALL OF LAND

600mm DESIRABLE MINIMUM COVER

END TO BE CAPPED IF PIPE NOT CONNECTED TO HOUSE DRAIN

NOTES

1. ALL JOINTS TO BE SOLVENT WELDED WITH APPROVED SOLVENT.
2. HOUSE DRAIN TO BE MARKED ON SIDE OF THE FOOTPATH WITH APPROVED STAMP.
3. END OF HOUSEDRAIN TO BE EXTENDED 500mm INTO PROPERTY AND TAPED OR CAPPED.
4. HOUSE DRAIN TO BE INSTALLED 5.0m FROM LOW SIDE OF BLOCK UNLESS SERVICES INTERFERE.
5. IN SITUATIONS WHERE THERE IS NO FOOTPATH, A PEG IS TO BE INSTALLED AT END OF HOUSEDRAIN.
6. HAUNCHING OF PIPE REQUIRED IF TRENCH INFERIOR.
7. WHERE PIPE NOT INSTALLED IN SINGLE LENGTH, APPROVED CONNECTORS MUST BE USED.
8. ALL UPVC PIPES AND FITTINGS TO BE SEWER GRADE HEAVY – AS 1260
9. USE SIMILAR DETAIL FOR CONNECTION TO STORMWATER DRAINAGE PIT

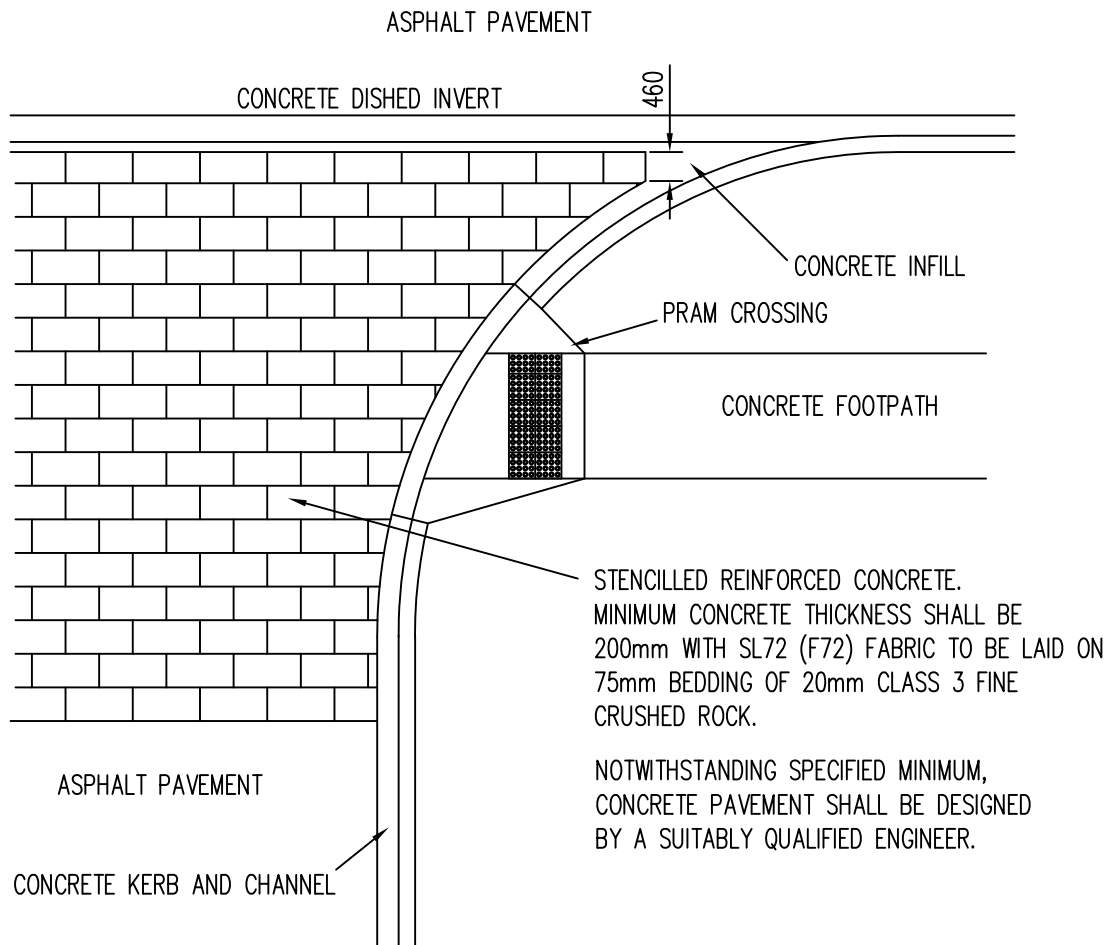
CITY OF CASEY

PROPERTY DRAIN CONNECTION
TO STORMWATER DRAIN IN ROAD RESERVE

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES LAST UPDATE 09.11.2012	S-607 V2
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AMENDMENTS: GENERAL UPGRADE, LOCATING RISER ADDED

PAVING



PLAN OF TYPICAL LAYOUT
NOT TO SCALE

NOTES

1. CONCRETE STRENGTH F'C = 25MPa. IF COLOURED CONCRETE IS USED STRENGTH TO BE 32MPa
2. MINIMUM REINFORCEMENT COVER TO BE 100mm.
3. IN THE EVENT THAT A BRICK PAVED ENTRY THRESHOLD IS USED BRICK PAVERS SHALL BE PLACED ON 200mm DEPTH CONCRETE BASE REINFORCED WITH SL72 (F72) MESH (MORTAR BEDDING TO BE 4:1 SAND TO CEMENT RATIO).

CITY OF CASEY

REINFORCED STENCILED CONCRETE
ENTRY THRESHOLD

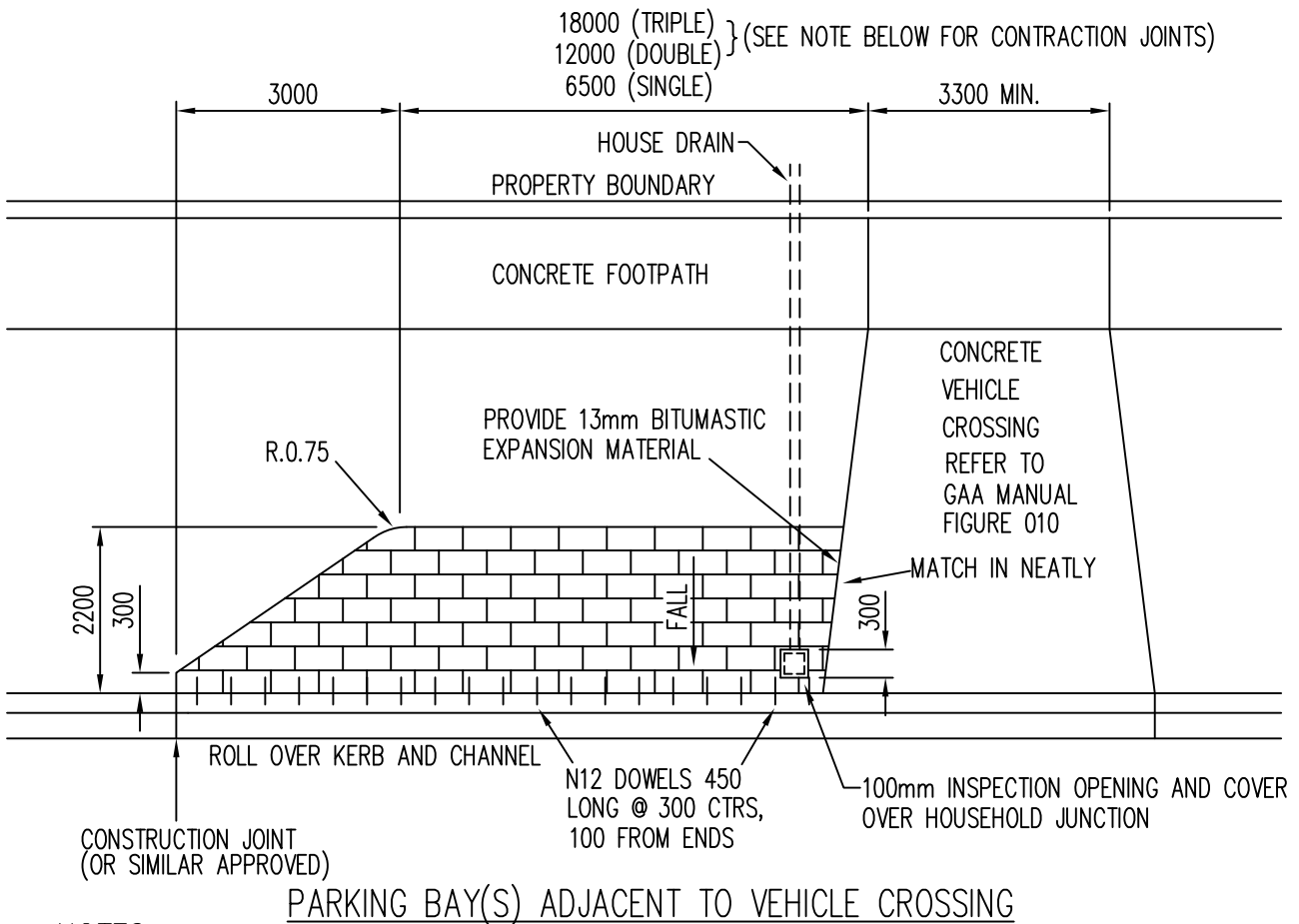
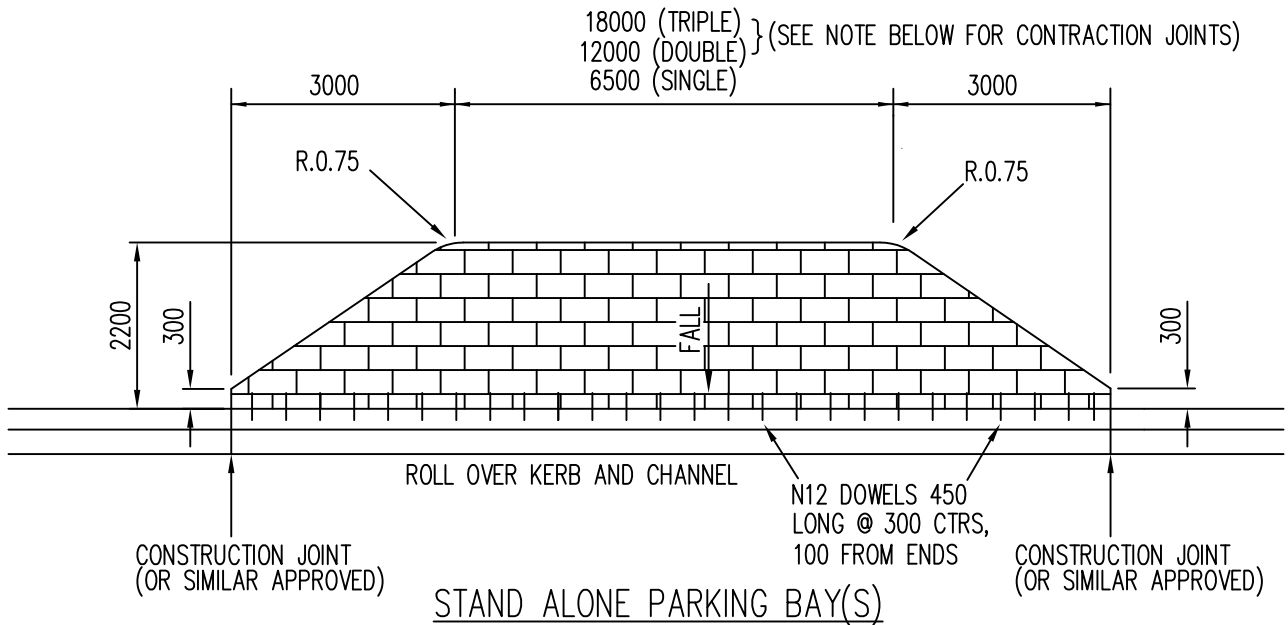
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE, PRAM CROSSING UPDATED

S-901

V2



NOTES

1. PARKING BAYS TO BE STENCIL PATTERNED CONCRETE 150mm THICK, REINFORCED WITH SL72 (F72) TO BE PLACED CENTRALLY, MINIMUM COMPACTED DEPTH OF 20mm CLASS 3 FINE CRUSHED ROCK
2. FOR A DOUBLE PARKING BAY, CONTRACTION JOINT TO BE PROVIDED AT 5500 AND FOR A TRIPLE PARKING BAY, CONTRACTION JOINTS TO BE PROVIDED AT 5000 AND 6000 INTERVALS.

CITY OF CASEY

**ROAD RESERVE PARKING BAYS
DETAILS**

MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE, CROSSING DETAILS AMENDED, DOWELS ADDED

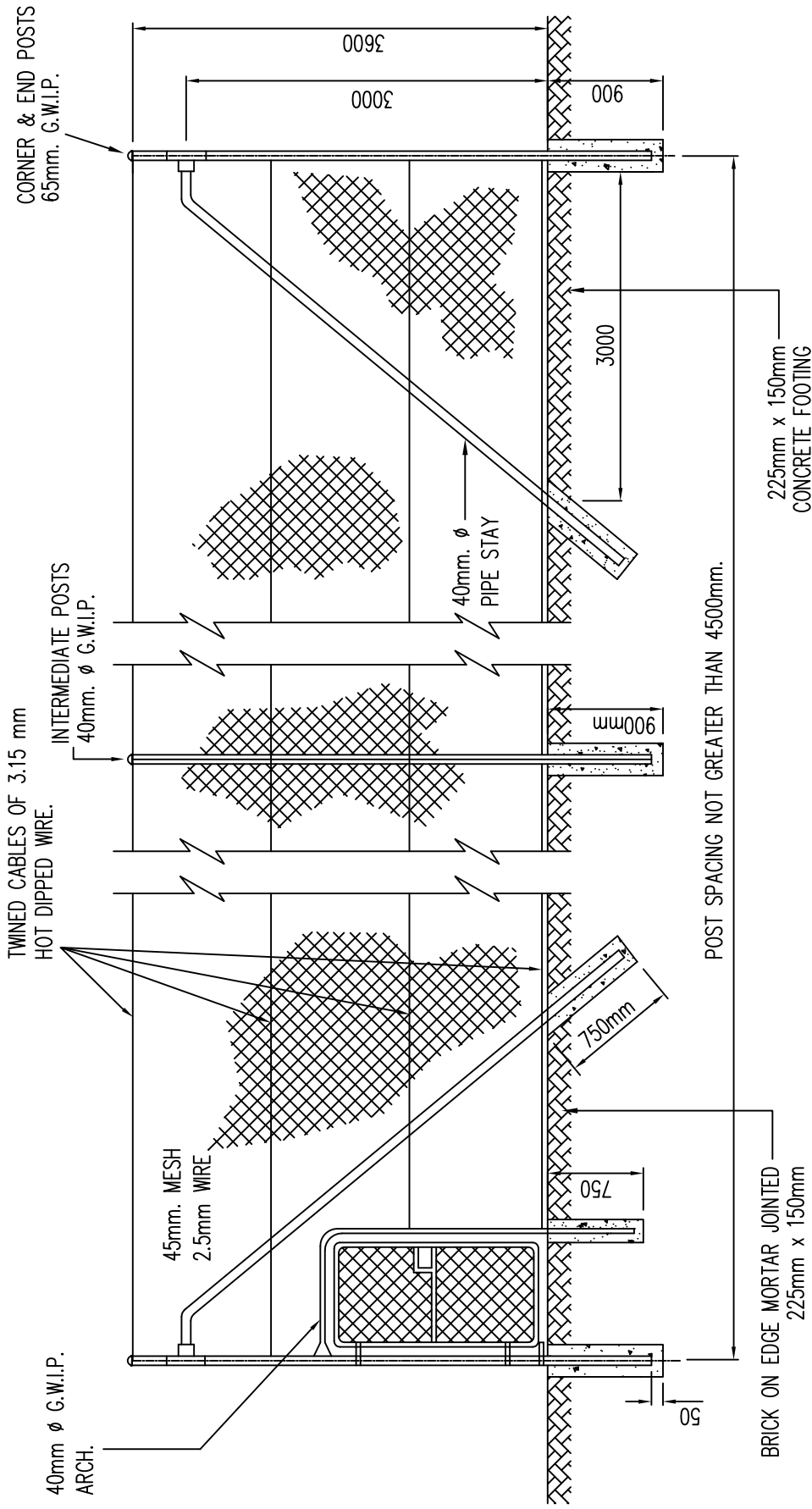
S-903

V2

SECTION 3

PARKS & RECREATIONAL RESERVES

FENCING



NOTES

1. ALL POST FOOTINGS TO BE 225 DIA
2. CONCRETE STRENGTH F'C = 20MPa.
3. G.W.I.P. GATES TO BE LOCATED AS SHOWN. GATE OPENING TO BE 2000mm. x 1050mm.
4. ALL DIMENSIONS ARE IN MILLIMETRES
5. ALL GATES TO OPEN OUTWARDS
6. (a) GALVANISED TENNIS MESH TO BE 45mm x 2.5mm
(b) PVC TENNIS MESH SHOULD BE 45mm x 2.5mm AND POSTS POWDERCOATED TO MATCH

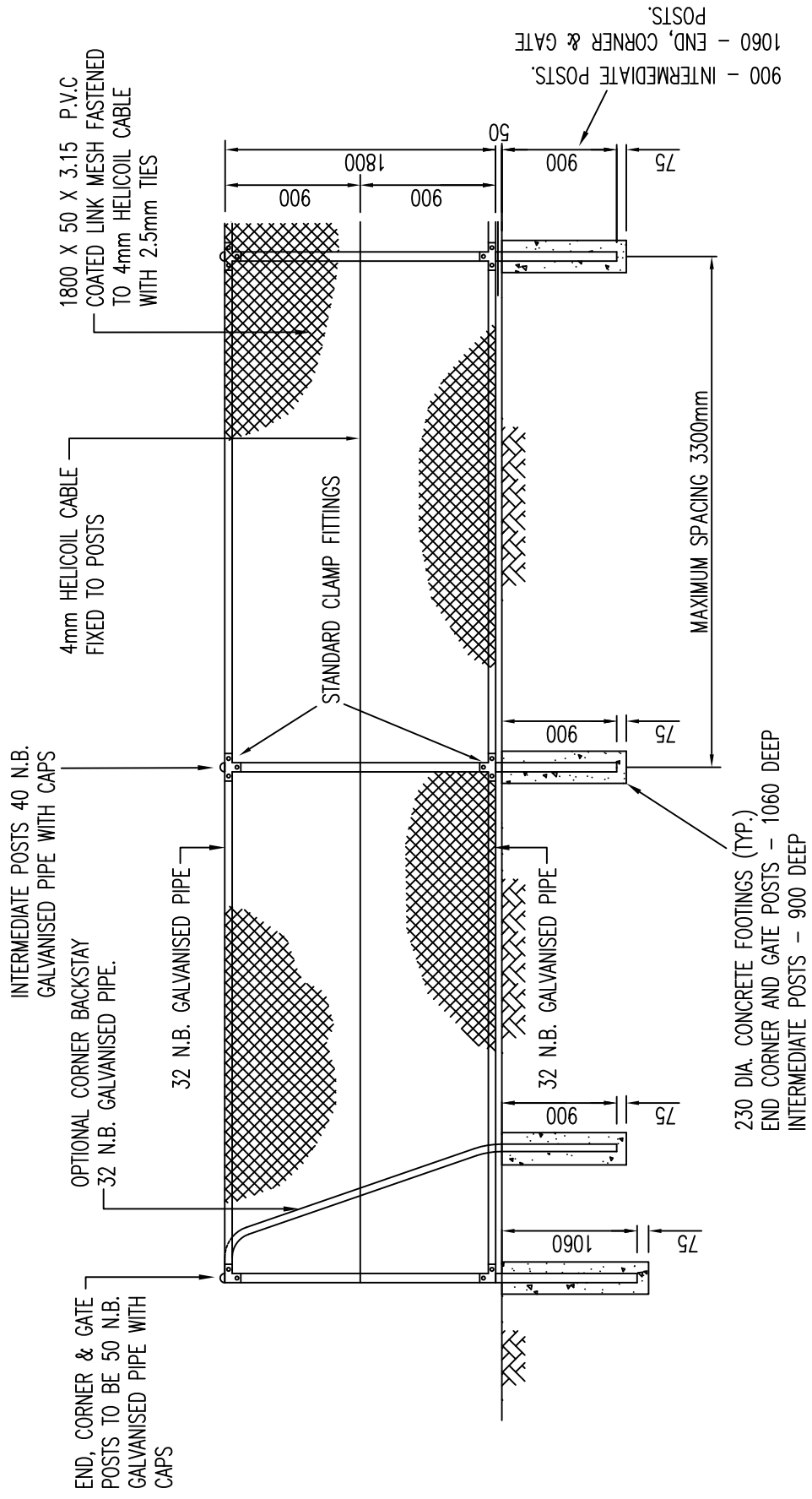
CITY OF CASEY

**FENCING DETAILS
(TENNIS COURTS)**

AMENDMENTS: GENERAL UPGRADE

MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

S-701 V2



NOTES

1. CONCRETE STRENGTH F'C = 20MPa.
2. ALL DIMENSIONS ARE IN MILLIMETRES
3. FOR COLOURED (PVC COATED) FENCES ALL PIPES AND FITTINGS MUST BE POWDERCOATED,

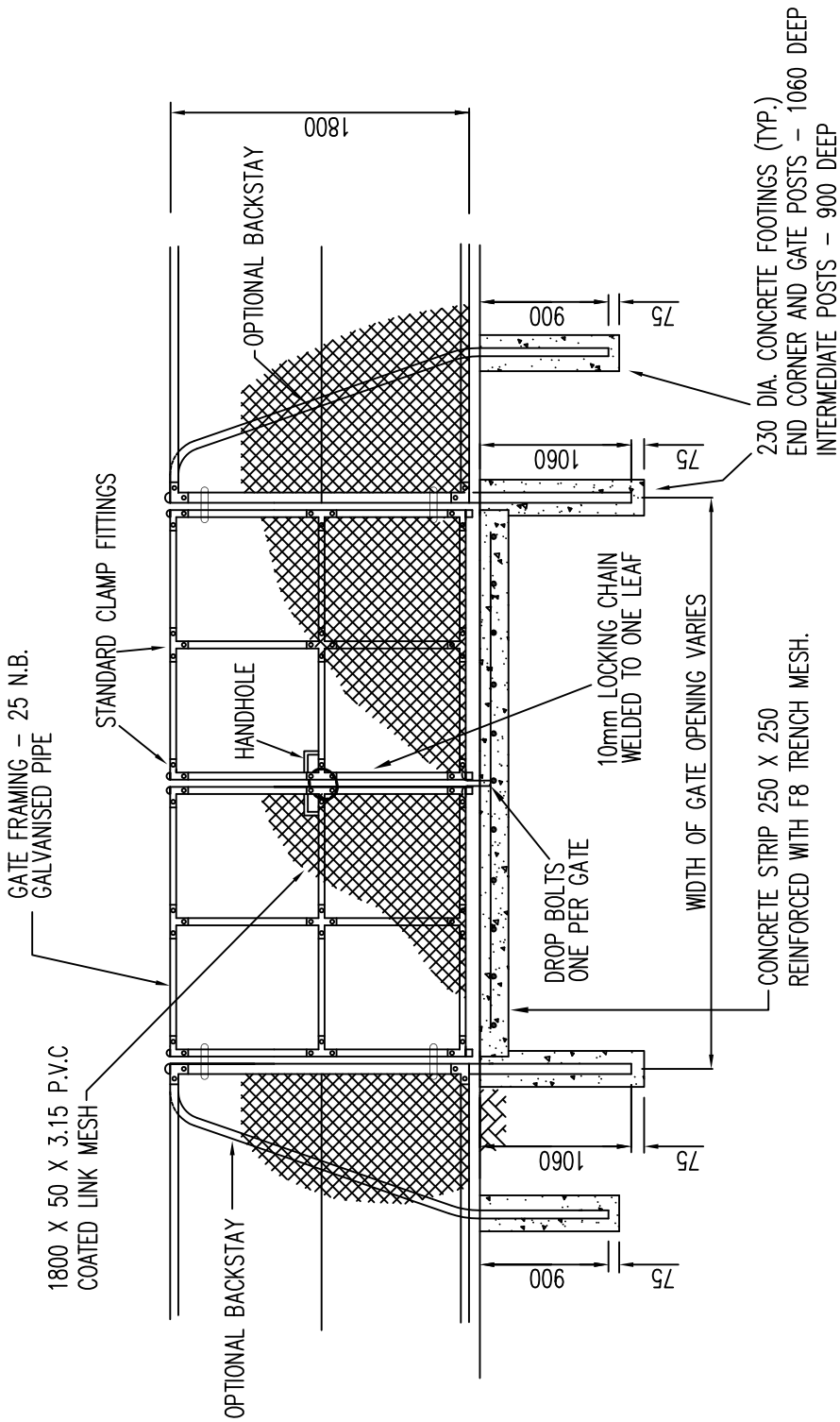
CITY OF CASEY

CHAIN WIRE FENCING
1800mm HIGH

AMENDMENTS: HEIGHT AMENDED, BARBED WIRE DELETED

MANAGER OF ENGINEERING &
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 LAST UPDATE 09.11.2012

S-702 V2



NOTES

1. CONCRETE STRENGTH F'C = 20MPa.
2. ALL DIMENSIONS ARE IN MILLIMETRES
3. FOR COLOURED (PVC COATED) FENCES ALL PIPES AND FITTINGS MUST BE POWDERCOATED,

CITY OF CASEY

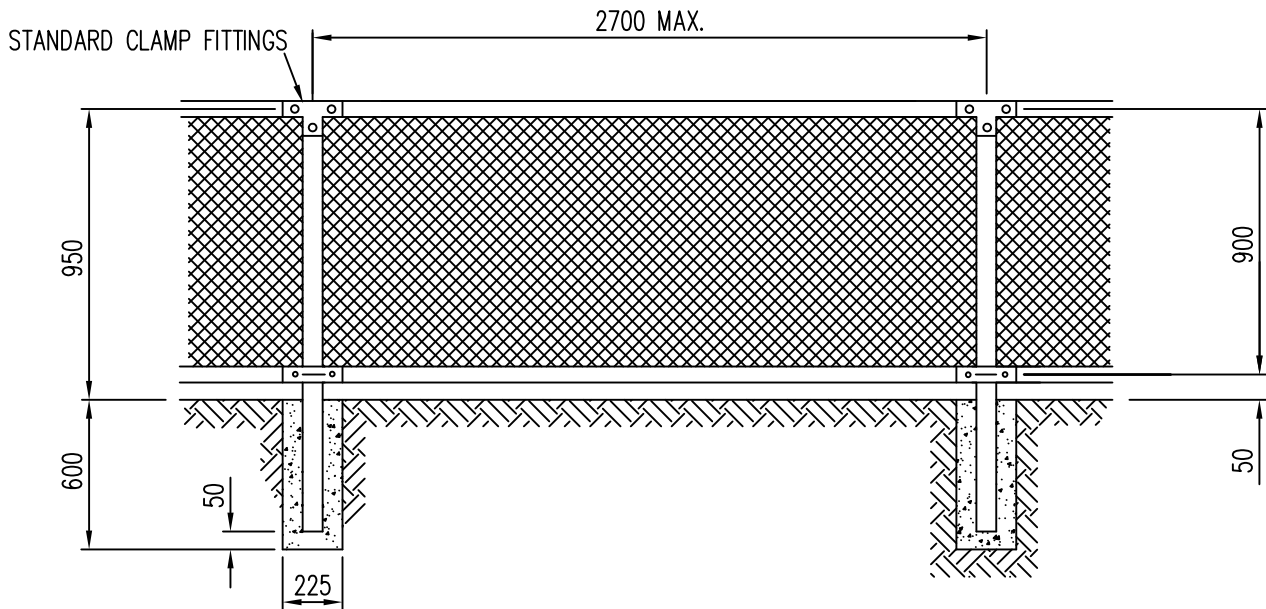
CHAIN WIRE GATE DETAIL

AMENDMENTS: HEIGHT AMENDED, BARBED WIRE REMOVED



MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

S-702A V2



NOTES

1. THE NOMINAL PIPE SIZES TO BE USED ARE :
 - CORNER AND GATE POSTS - 80 mm.
 - INTERMEDIATE POSTS - 40 mm.
 - ALL RAILS - 32 mm.
2. ALL END POSTS AND GATE POSTS ARE TO BE CAPPED.
3. (a) GALVANISED FENCE MESH SHALL BE 50mm x 3.15mm
(b) PVC FENCE MESH SHALL BE 50mm x 3.15mm CORE
4. ALL MATERIALS ARE TO BE GALVANISED.
5. ALL FITTINGS TO BE MEDIUM GRADE
6. FOR COLOURED MESH FENCES ALL PIPES AND FITTINGS MUST BE POWDERCOATED
7. ALL DIMENSIONS ARE IN MILLIMETRES
8. CONCRETE STRENGTH F'C = 25MPa

CITY OF CASEY

CHAIN WIRE FENCING
900mm HIGH

AMENDMENTS: FENCE MESH GAUGE INCREASED TO 3.15mm CORE

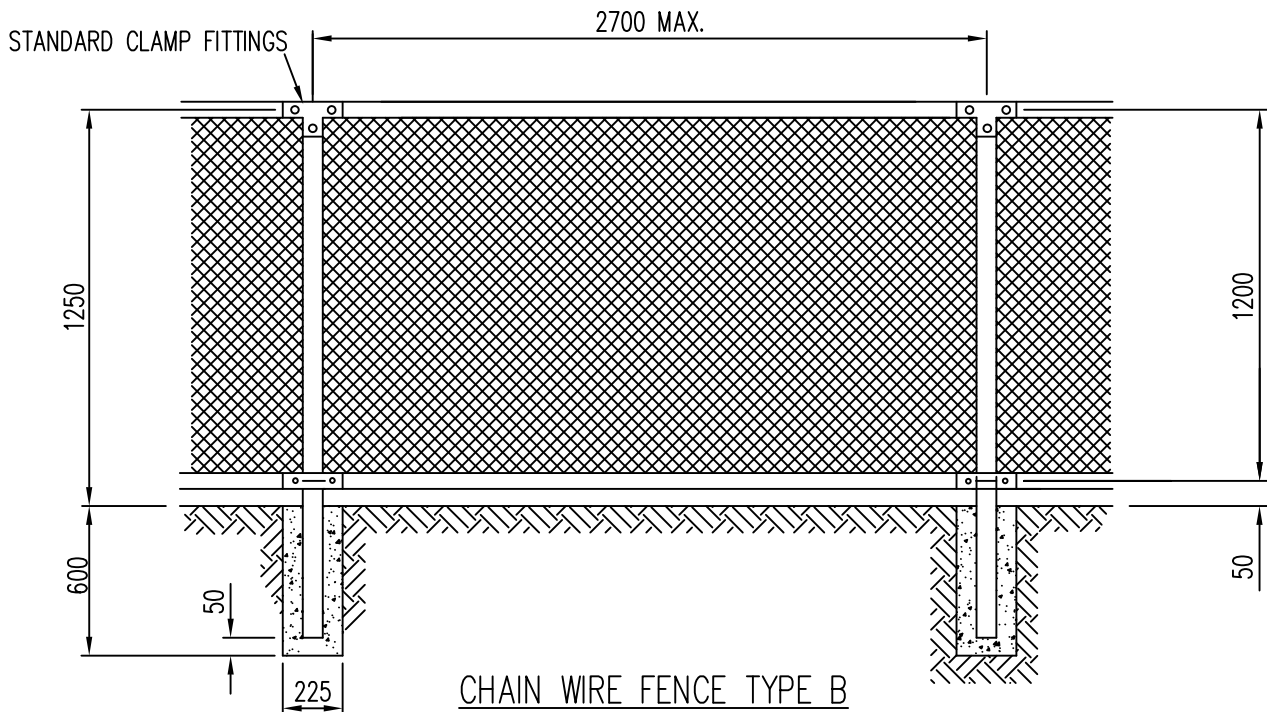
Shahab

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

S-703A

V3



NOTES

1. THE NOMINAL PIPE SIZES TO BE USED ARE :
 - CORNER AND GATE POSTS - 80 mm.
 - INTERMEDIATE POSTS - 40 mm.
 - ALL RAILS - 32 mm.
2. ALL END POSTS AND GATE POSTS ARE TO BE CAPPED.
3. (a) GALVANISED FENCE MESH SHALL BE 50mm x 3.15mm
(b) PVC FENCE MESH SHALL BE 50mm x 3.15mm CORE
4. ALL MATERIALS ARE TO BE GALVANISED.
5. ALL FITTINGS TO BE MEDIUM GRADE
6. FOR COLOURED MESH FENCES ALL PIPES AND FITTINGS MUST BE POWDERCOATED
7. ALL DIMENSIONS ARE IN MILLIMETRES
8. CONCRETE STRENGTH F'C = 25MPa

CITY OF CASEY

CHAIN WIRE FENCING TYPE B
1200mm HIGH

Shahab

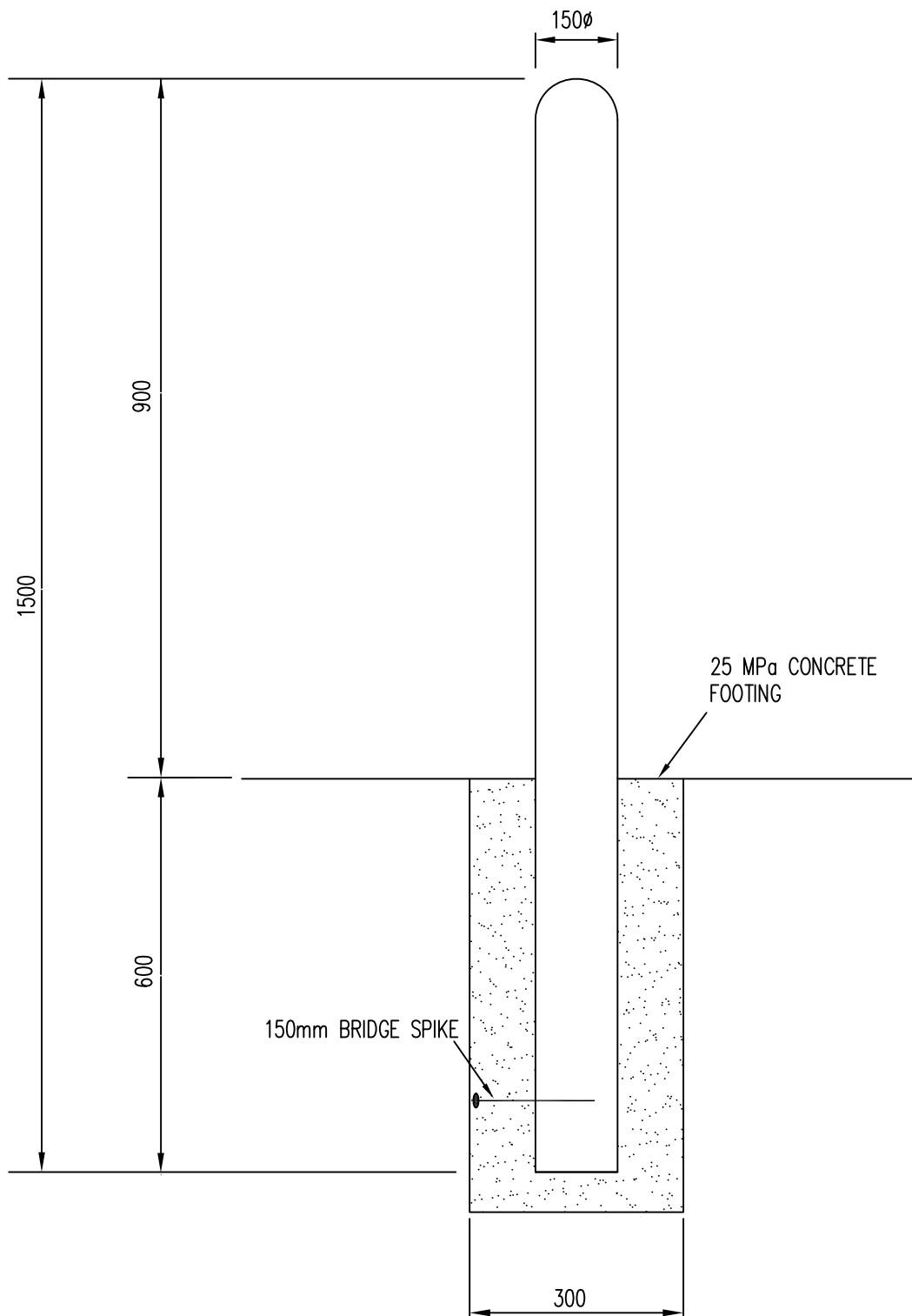
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

AMENDMENTS: FENCE MESH GAUGE INCREASED TO 3.15mm CORE

S-703B

V3



NOTE

WHERE BOLLARDS ARE TO BE INSTALLED IN CONCRETE PATHS OR OTHER LOCATIONS WHERE THEY MAY NEED TO BE REMOVED, A GALVANISED STEEL SLEEVE, 160 x 160mm IS TO BE USED - SEE DETAIL ON S-704D-V2

CITY OF CASEY

RECYCLED PLASTIC ROUND/ECO BOLLARD

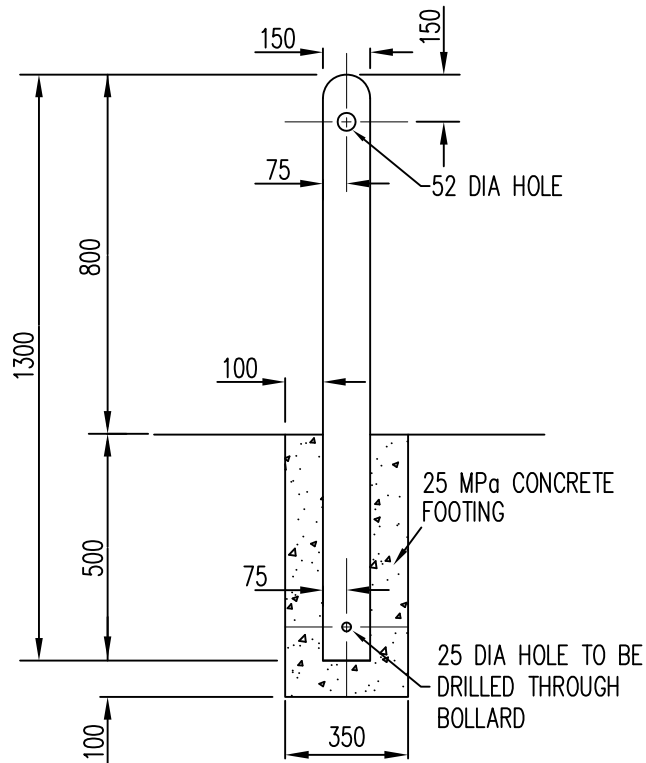
AMENDMENTS: GENERAL UPGRADE

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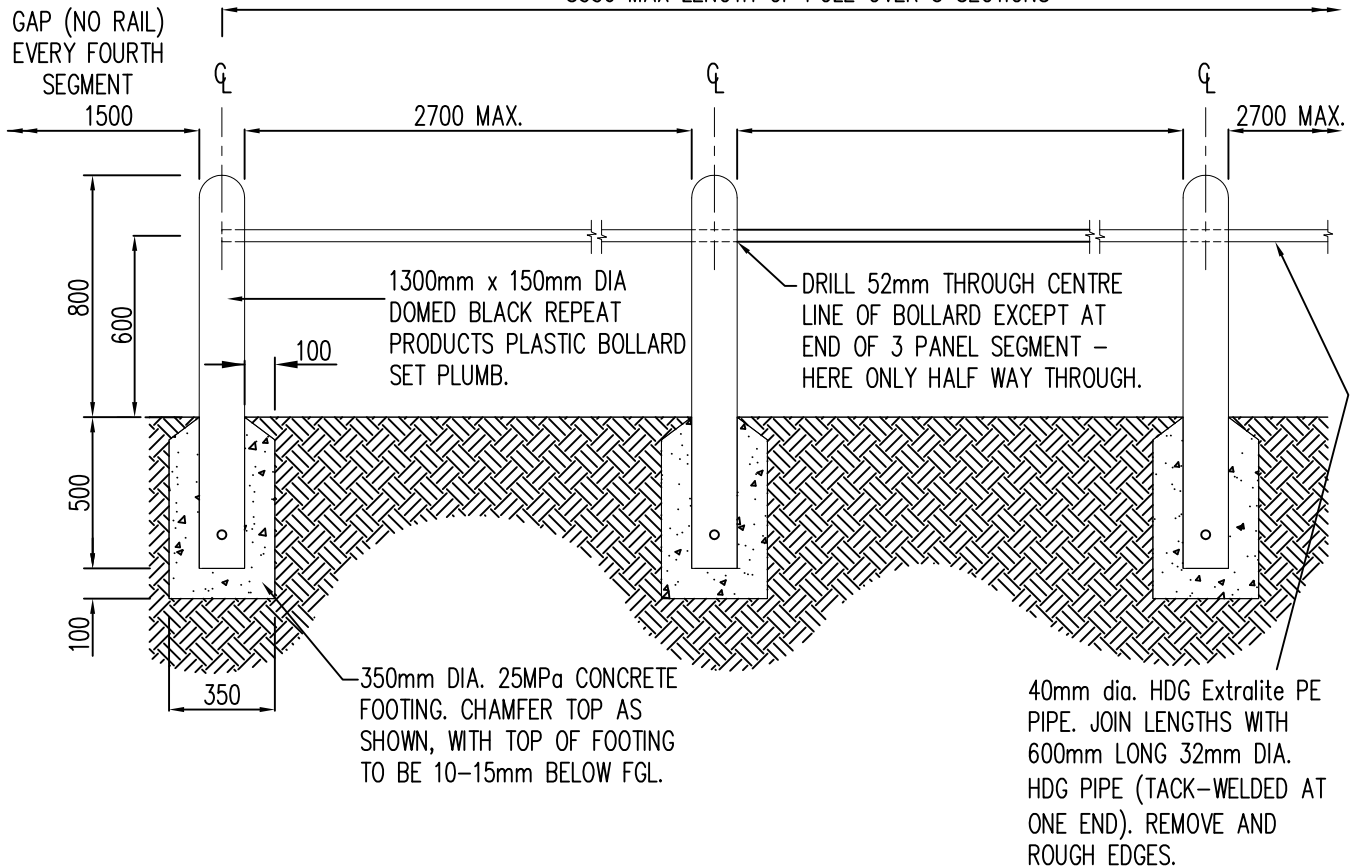
S-704A

V2



PEDESTRIAN ACCESS
GAP – PROVIDE A
GAP (NO RAIL)
EVERY FOURTH
SEGMENT

8550 MAX LENGTH OF POLE OVER 3 SECTIONS



CITY OF CASEY

RECYCLED PET ECO BOLLARD WITH RAIL

Robert

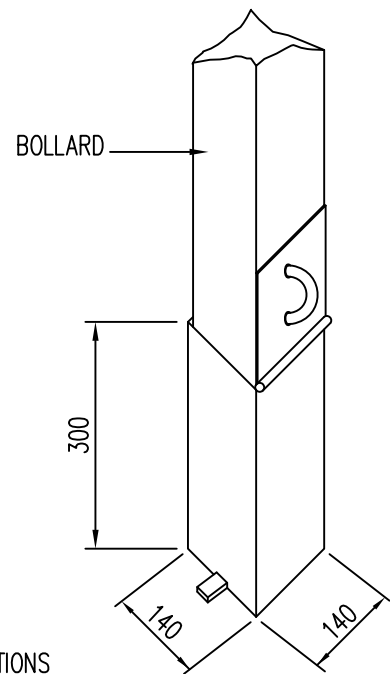
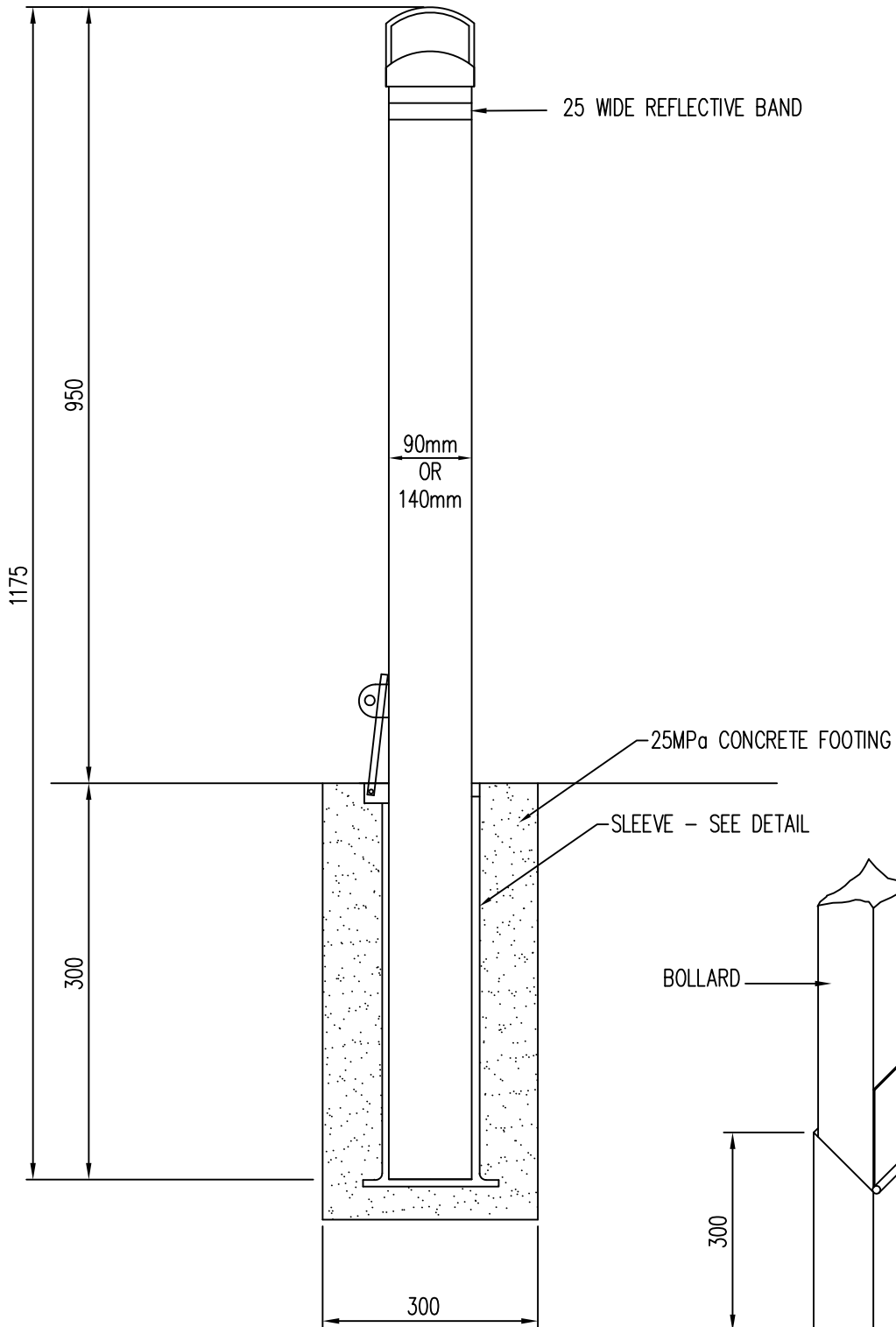
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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-704B

V2



NOTE

WHERE BOLLARDS ARE TO BE INSTALLED IN CONCRETE PATHS OR OTHER LOCATIONS WHERE THEY MAY NEED TO BE REMOVED, A GALVANISED STEEL SLEEVE, 90 x 90mm OR 140 x 140mm IS TO BE USED - SEE DETAIL

SLEEVE DETAIL

CITY OF CASEY

REMOVABLE BOLLARD POST

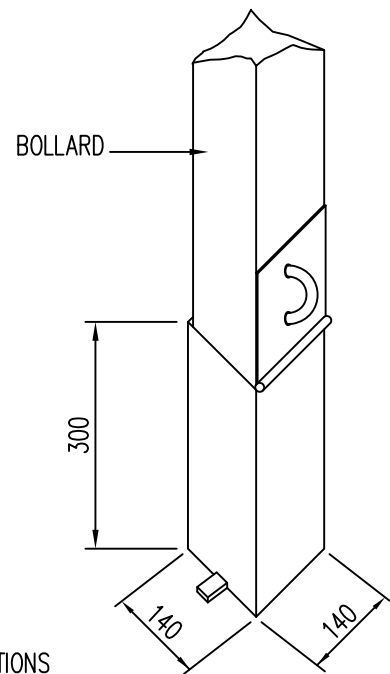
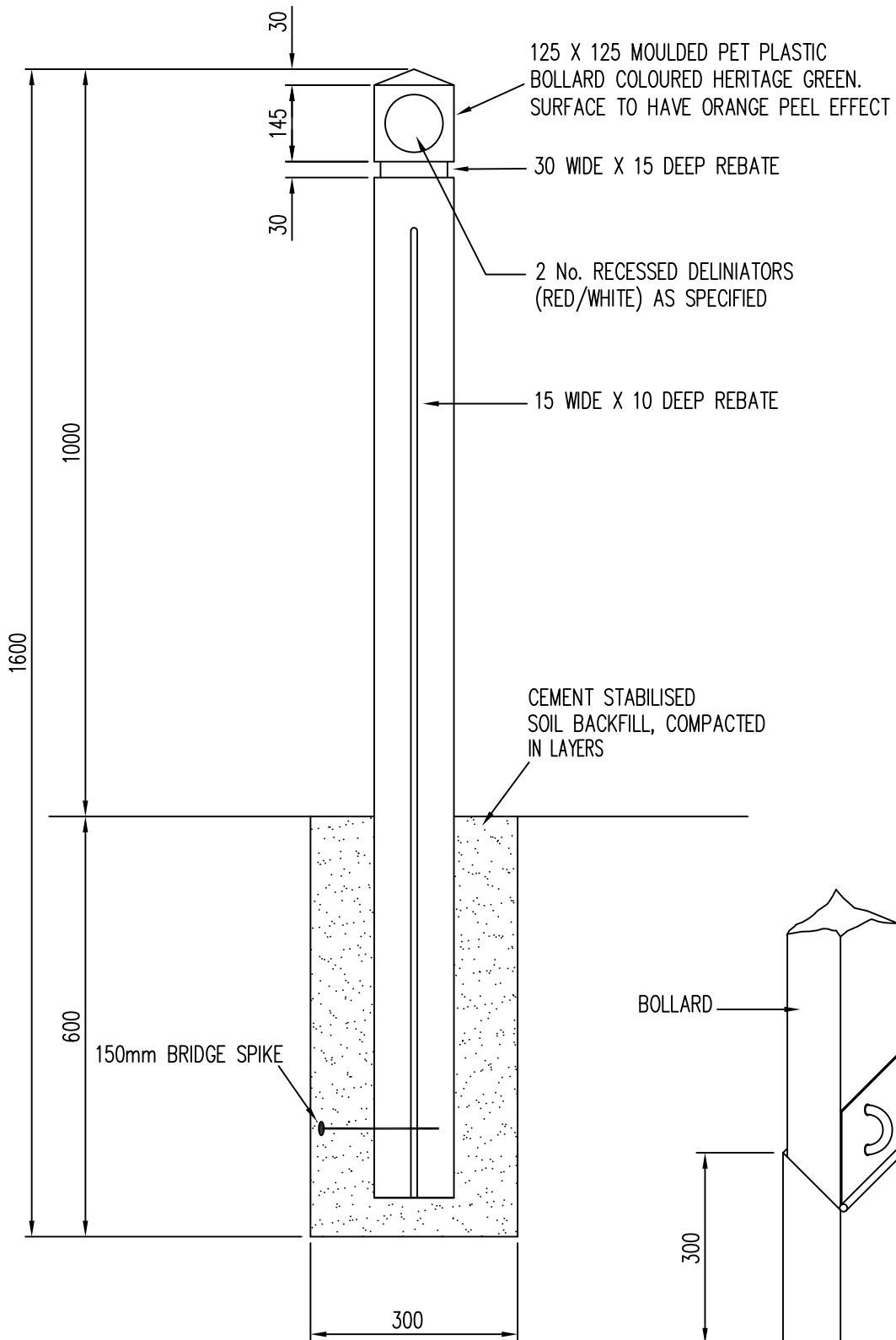
Robert

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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-704C

V2



NOTE

WHERE BOLLARDS ARE TO BE INSTALLED IN CONCRETE PATHS OR OTHER LOCATIONS WHERE THEY MAY NEED TO BE REMOVED, A GALVANISED STEEL SLEEVE, 140 x 140mm IS TO BE USED – SEE DETAIL

SLEEVE DETAIL

CITY OF CASEY

RECYCLED PET PLASTIC BOLLARD FIXED

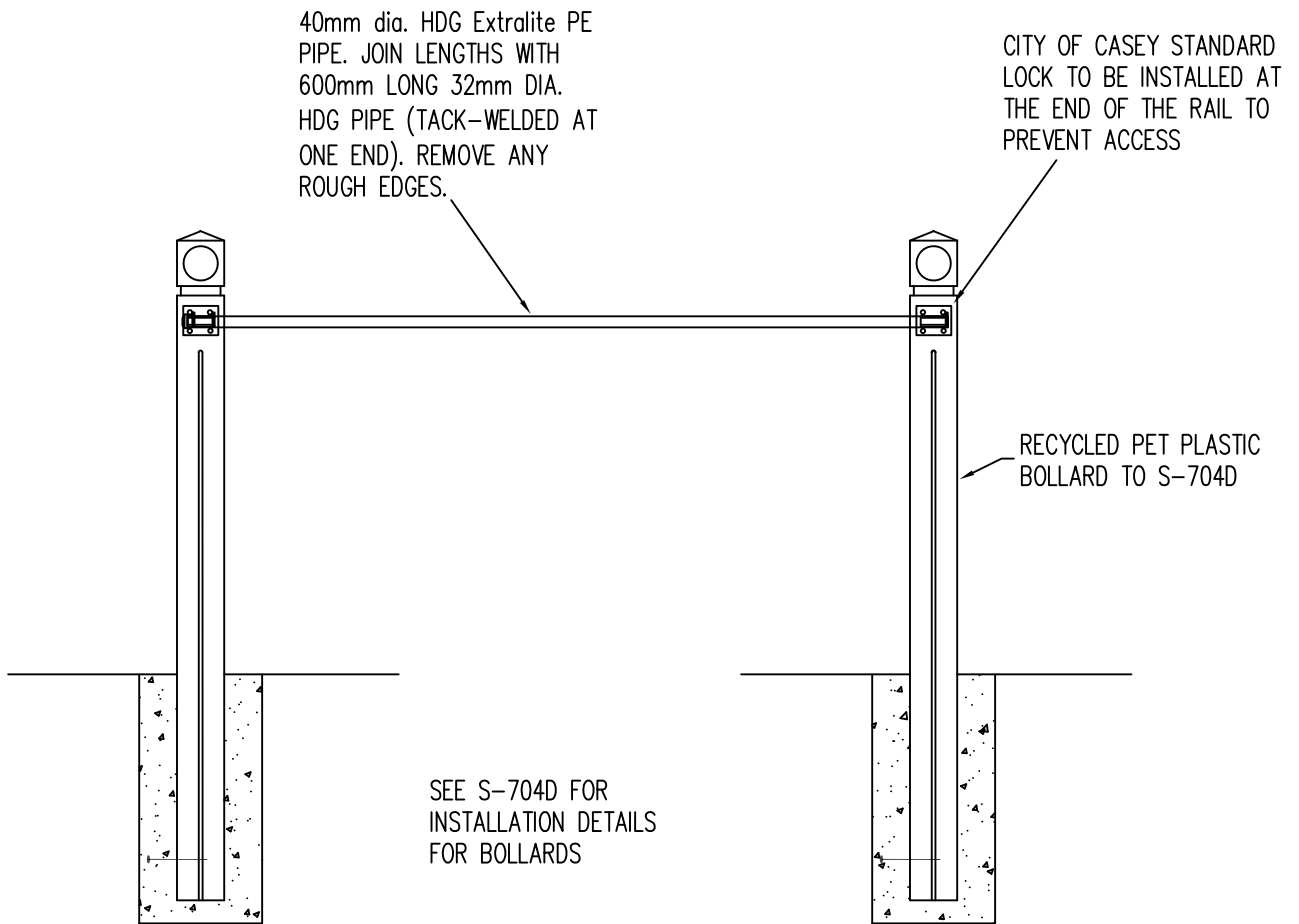
Robert

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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-704D

V2



CITY OF CASEY

RECYCLED PET PLASTIC BOLLARD FIXED RAILING GATE

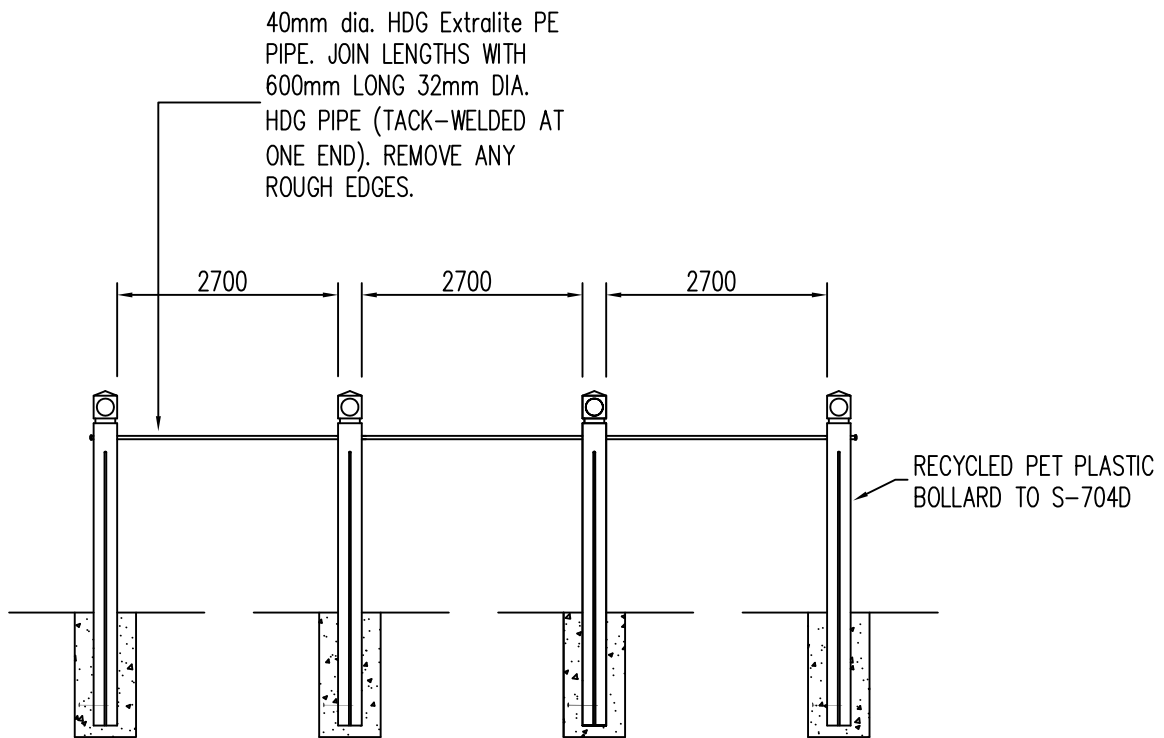
AMENDMENTS: GENERAL UPGRADE

MANAGER OF ENGINEERING & ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

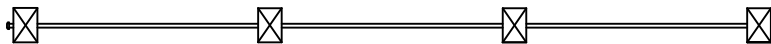
S-704E

V2



SEE S-704D FOR
INSTALLATION DETAILS
FOR BOLLARDS

ELEVATION



PLAN VIEW

NOTES

1. GALVANISED RAIL TO GO COMPLETELY THROUGH EACH BOLLARD – REFER TO ECO BOLLARD DETAIL. DRILL 52mm DIAMETER HOLE THROUGH BOLLARD.
2. EACH BOLLARD HAS A 32mm GALVANISED JOINER WHERE THE 40mm GALVANISED EXTRALITE POLE IS JOINED ON TO.

CITY OF CASEY

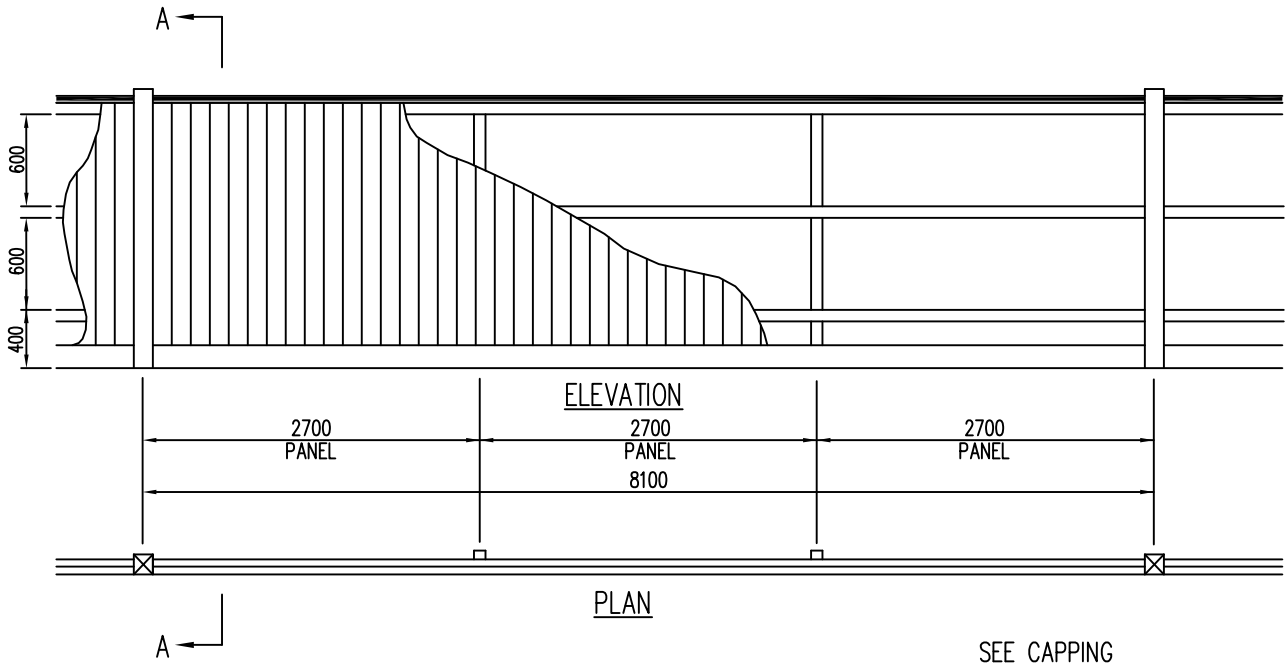
RECYCLED PET PLASTIC BOLLARD FIXED
RAILING FENCE

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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-704F

V2



NOTES

POSTS

POSTS ARE TO BE REDGUM, IRON BARK OR CYPRESS PINE.
 EXPOSED POSTS TO BE PAINTED ON BOTH SIDES
 POSTS ARE TO BE 125 x 75, 2600 LONG AND SET PLUMB AT 2700 CENTRES. ONLY TWO RAIL JOINTS ALLOWED PER POST EXCEPT AT CHANGE OF GRADE.

RAILS/CAPPING

RAILS ARE TO BE HARDWOOD
 RAILS ARE TO SPAN TWO PANELS AND BE NOTCHED 50mm INTO POSTS
 CAPPING TO BE PAINTED.

FENCE MATERIALS

POST PROUDL (TREATED PINE)	125 x 125
POSTS (HARDWOOD)	125 x 75
TOP & BOTTOM RAIL (HARDWOOD)	75 x 50
CENTRE RAIL (HARDWOOD)	75 x 50
PLINTH (TREATED PINE)	150 x 25
PALINGS (TREATED PINE)	150 x 25
CAPPING (TREATED PINE) AS PER DETAIL	
GALVANISED NAILS	

ALL FENCE COMPONENTS VISIBLE ARE TO BE PAINTED GREEN INCLUDING SIDES OF EXPOSED POSTS, TOPS OF POSTS AND CAPPING.

BOARDS (PALINGS)/PLINTH

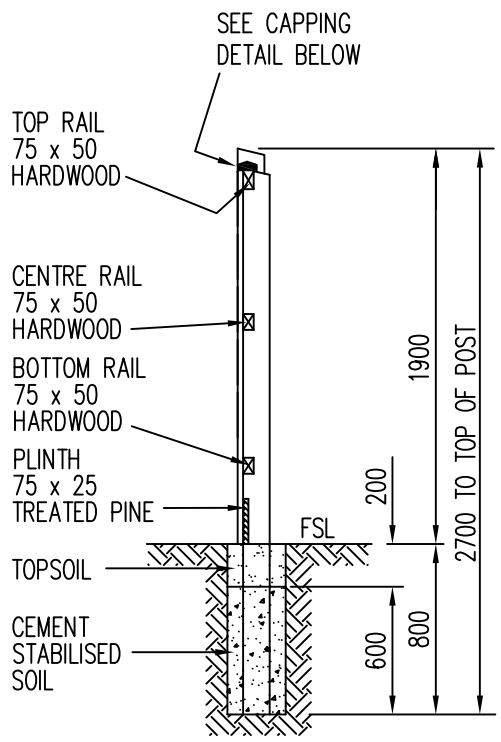
TREATED PINE (TO AS 1604 1980) AND PAINTED GREEN TO HAVE 25mm OVERLAP ON EACH SIDE

LATERAL STABILISATION

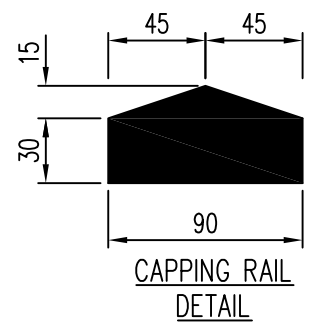
THE FENCE IS TO BE STABILISED BY PLACING ONE RETURN PANEL EVERY ALLOTMENT BOUNDARY UNLESS DIRECTED BY THE WORKS SUPERVISOR.

IMPORTANT

WHERE EXISTING TREE RESERVE FENCE IS OF A DIFFERENT (APPROVED) STANDARD IT WILL BE NECESSARY TO CHECK WITH THE SUPERINTENDENT WHICH FENCE TYPE SHALL BE USED.



SECTION A-A



CAPPING RAIL DETAIL

CITY OF CASEY

STANDARD TREE RESERVE FENCE

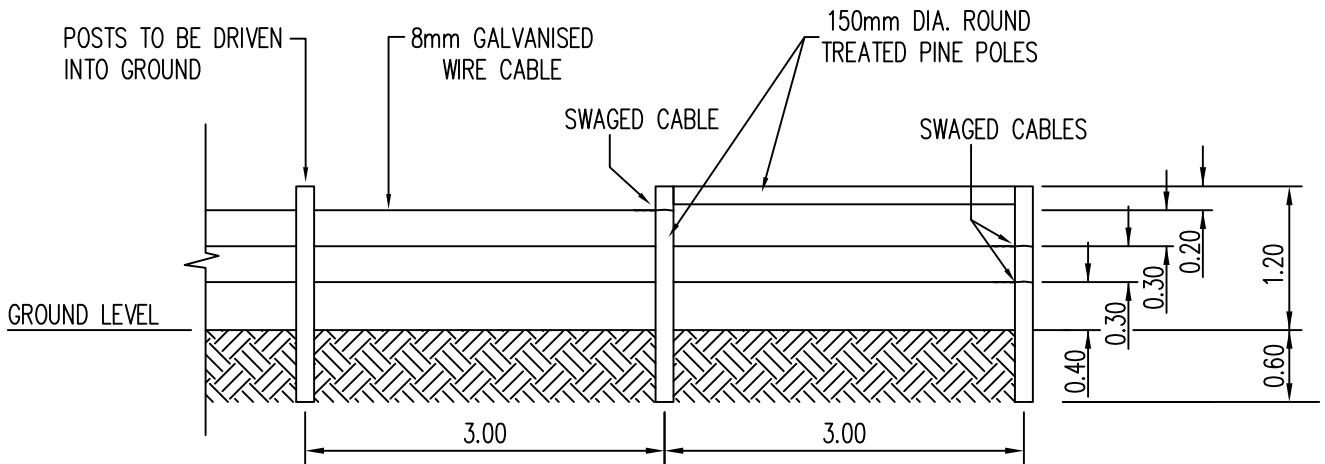
AMENDMENTS: GENERAL UPGRADE

Robert

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S-706

V2



NOTES

1. WHERE POOR GROUND CONDITIONS EXIST, IT MAY BE NECESSARY TO PLACE CONCRETE AROUND BASE OF POSTS.

CITY OF CASEY

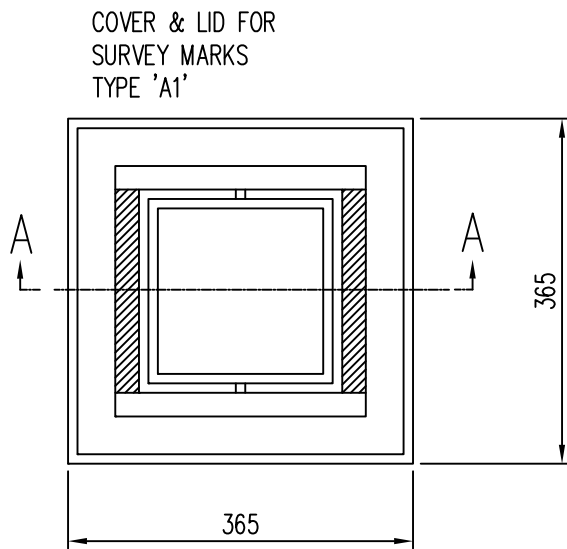
TREATED PINE POST AND CABLE FENCE

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LAST UPDATE 09.11.2012

AMENDMENTS:

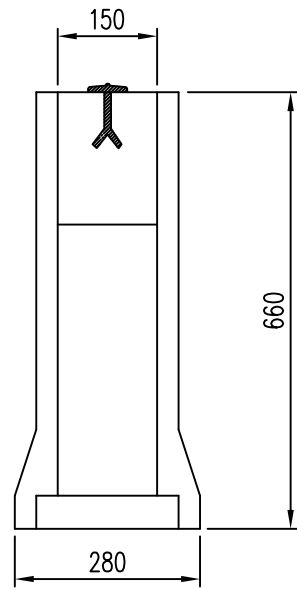
S-707

MISCELLANEOUS DETAILS



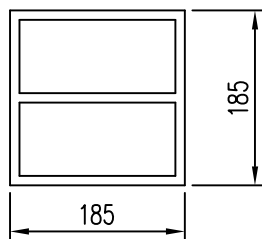
COVER & LID FOR SURVEY MARKS TYPE 'A1'

PLAN OF SURROUND

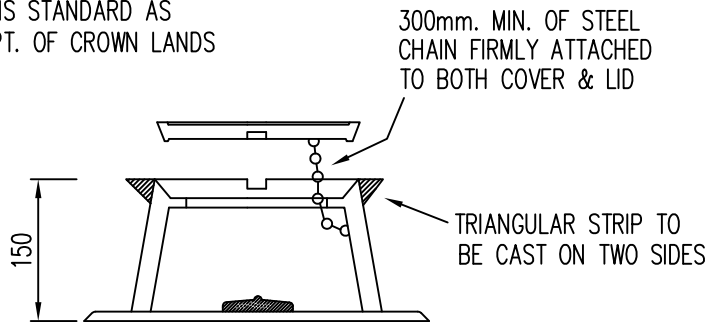


BASE BLOCK SECTION A-A

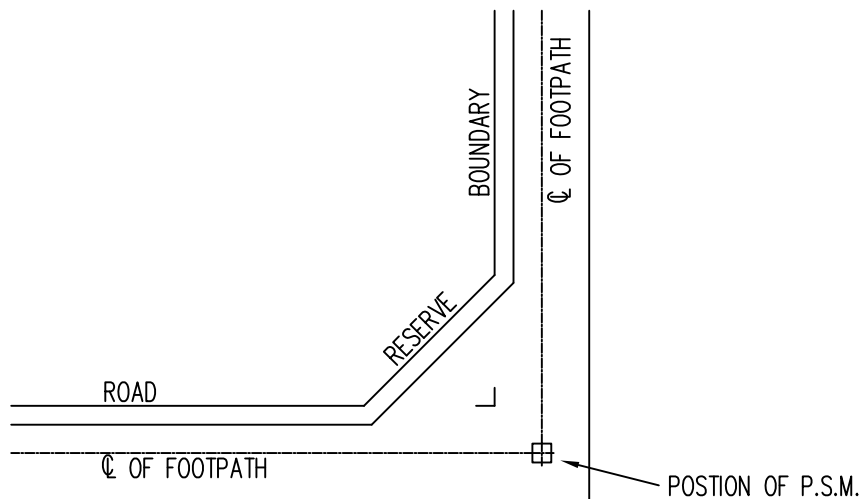
CAST IRON OR DOUBLE GALVANISED LID FOR SURVEY MARKS IS STANDARD AS SET OUT BY THE DEPT. OF CROWN LANDS & SURVEY



COVER DETAILS



COVER SECTION A-A



PLAN

CITY OF CASEY

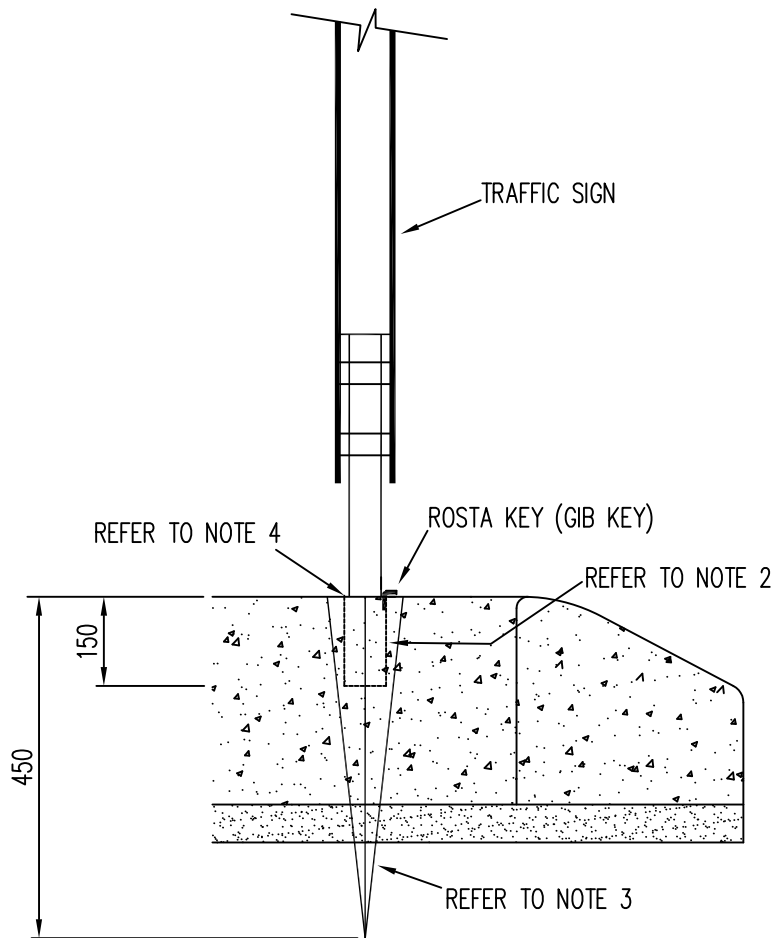
PERMANENT SURVEY MARK

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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-800

V2



NOTES

1. SIGNS ARE TO BE INSTALLED IN ACCORDANCE WITH AS 1742
2. SLEEVE IS TO BE CONCRETED INTO THE TRAFFIC ISLAND
3. LOC-SOCKET SPIKE IS TO BE DE NEEFE OR APPROVED EQUIVALENT
4. SLEEVE TO BE APPROX 15mm ABOVE LEVEL OF CONCRETE ISLAND

CITY OF CASEY

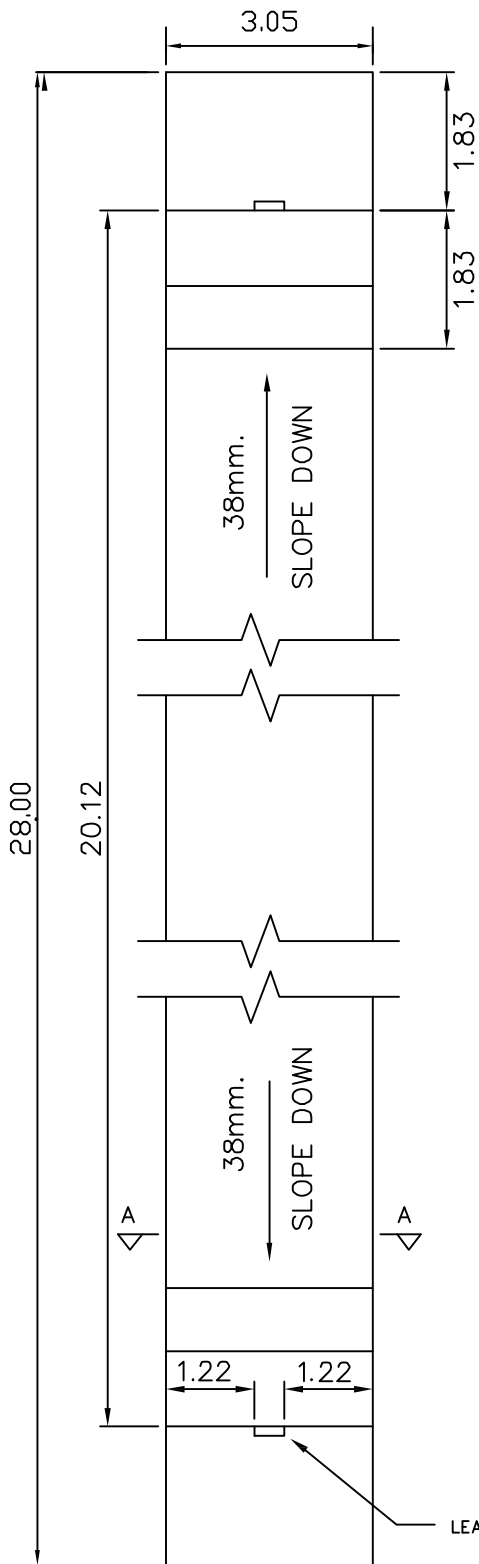
LOC-SOCKET SPIKE AND WEDGE DETAIL
FOR SIGN POSTS

AMENDMENTS: GENERAL UPGRADE

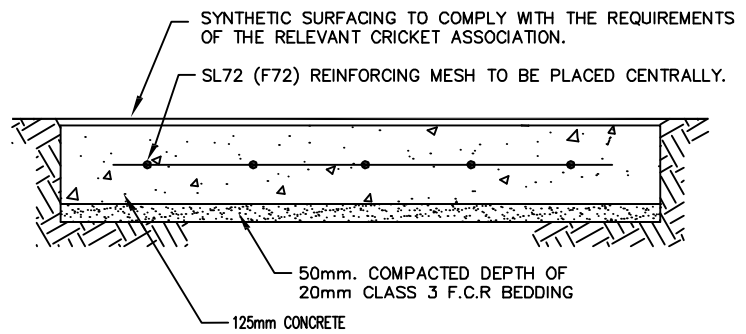
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LAST UPDATE 09.11.2012

S-801

V1



PLAN



SECTION A-A

CITY OF CASEY

CONCRETE CRICKET PITCH
SYNTHETIC GRASS SURFACE

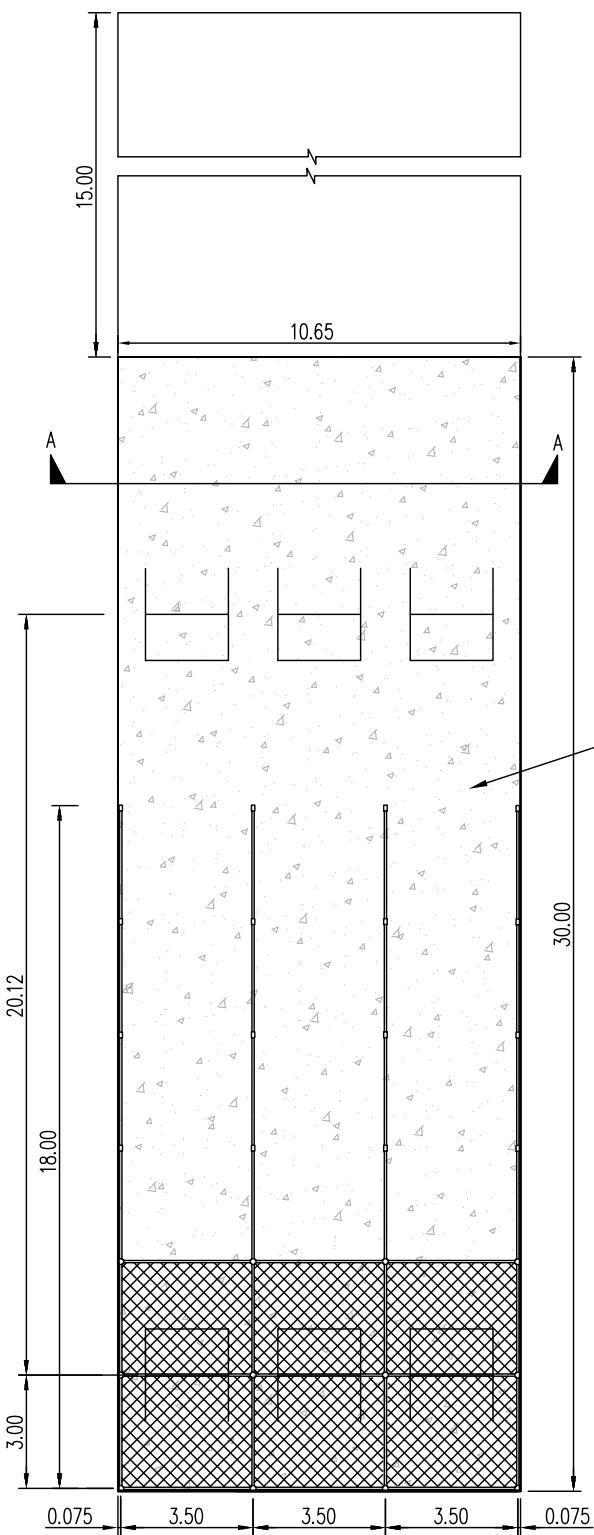
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ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

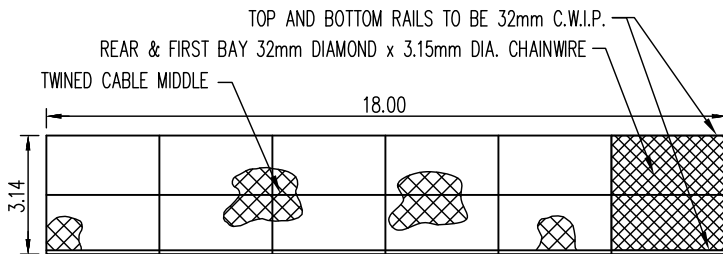
AMENDMENTS: GENERAL UPGRADE

S-801A

V4



CRICKET NETS SYNTHETIC GRASS SURFACE
SCALE 1:200



CRICKET NETS SIDE VIEW
SCALE 1:200

FOOTING

CONCRETE FOOTINGS MIN. 230mm DIA. x 600mm, DEEP
CONCRETE STRENGTH F'C = 25MPa.

POSTS

AT 3.0M CENTRES
END & CORNER 50 mm. G.W.I.P., OTHERS 40mm

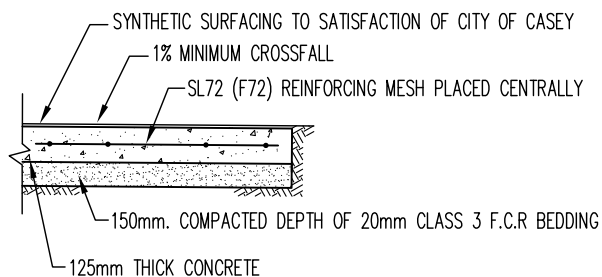
RAILS

TOP & BOTTOM RAILS TO BE 32mm C.W.I.P.

MESH

REAR & FIRST BAY 32mm DIAMOND x 3.15mm DIA. CHAINWIRE
BALANCE 50mm DIAMOND x 3.15mm DIA. CHAINWIRE

SYNTHETIC SURFACE WITH 125mm CONCRETE BASE



CRICKET NETS SECTION A-A
NOT TO SCALE

NOTES:

1. HEIGHT OF NETS TO BE SET AT 3.14m
2. ROOF SUPPORT TO BE 32mm BLACK POWDERCOATED
3. ALL PIPE AND FITTINGS SHALL BE BLACK POWDERCOATED
4. REAR TWO BAYS ROOFED
5. ALL CHAINWIRE TO BE BLACK PVC COATED
6. 3.15mm TWINED CABLES MIDWAY ON ALL WALLS
7. CONCRETE FOOTINGS 230 DIA X 600 DEEP 25MPa
8. SIDE FENCE AND DIVIDE FENCE TO BE 18m
9. ALL PIPE TO BE MEDIUM GRADE
10. CONCRETE SLAB MUST HAVE 1% CROSSFALL

CITY OF CASEY

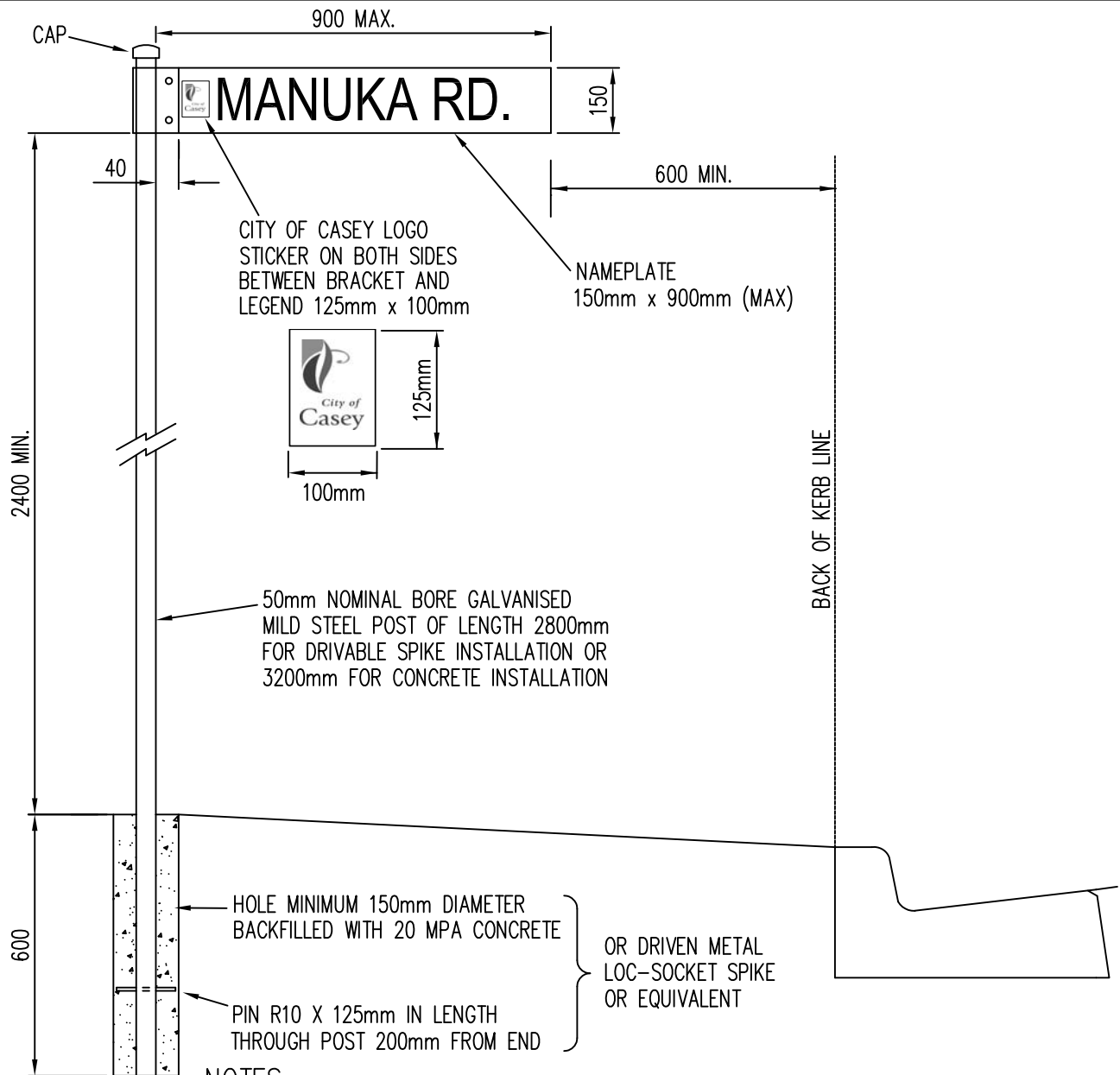
CRICKET PRACTICE FACILITY DETAILS
SYNTHETIC GRASS SURFACE

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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-801B

V5



NOTES

1. BASE MATERIAL – EXTRUDED ALUMINIUM BLADE, DE NEEFE G5 OR EQUIVALENT (150 MM HIGH X MAXIMUM LENGTH OF SIGN 900 MM)
2. THE LEGEND SHALL BE 100mm HIGH WITH CLASS C LETTERING (AS 1742-5 1997) UNLESS THE MAXIMUM LENGTH OF SIGN WOULD BE EXCEEDED. IN SUCH CASES THE LETTERING SHALL BE CLASS B (AS 1742-5 1997)
3. A CLEAR DISTANCE OF 40mm SHALL BE LEFT FREE OF LEGEND ON BOTH SIDES OF THE SIGN AT ONE AND THE SAME END
4. THE LEGEND SHALL BE CUT FROM 3M ELECTROCUT FILM OR EQUIVALENT STANDARD GREEN 1176 OVERLAYED ON CLASS 1 BACKGROUND. SCREEN PRINTED OVERLAYS SHALL NOT BE PERMITTED.
5. THE BACKGROUND SHALL BE CLASS 1 WHITE
6. THE SIGN SHALL BE ATTACHED TO THE POLE USING DE NEEFE AL1 6 BRACKETS OR EQUIVALENT. THE USE OF BRACKETS WHICH GRIP THE SIGN ONLY AT THE TOP AND BOTTOM SHALL NOT BE PERMITTED
7. SIGNS TO BE LOCATED IN ACCORDANCE WITH AS (1742.5 1997).

CITY OF CASEY

STREET NAME PLATES

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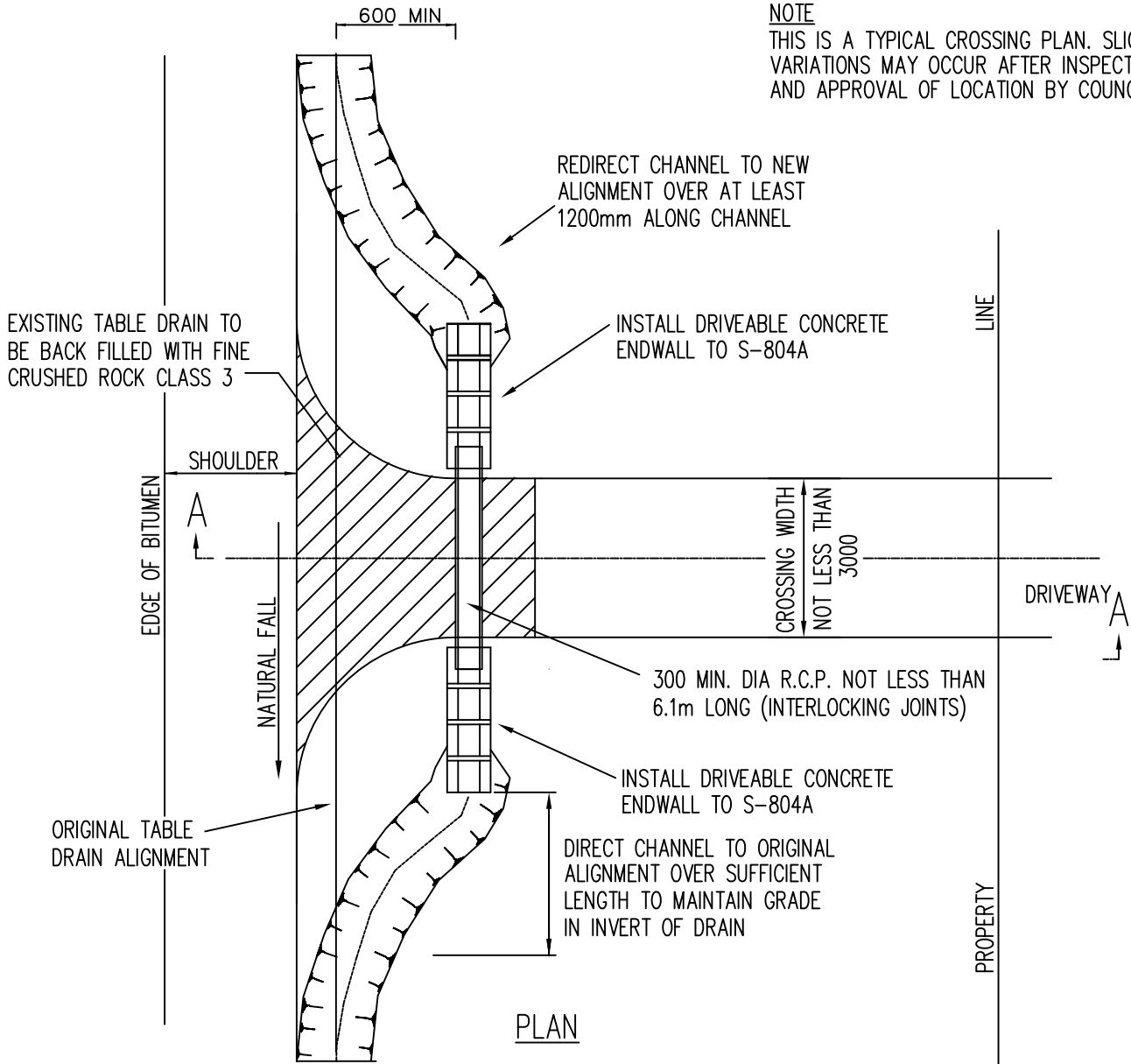
AMENDMENTS: GENERAL UPGRADE

S-803

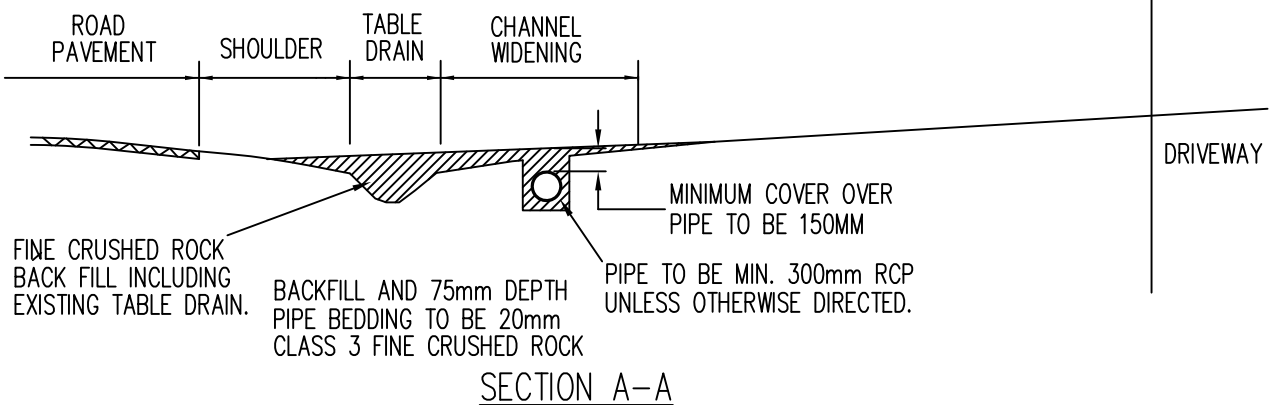
V3

NOTE

THIS IS A TYPICAL CROSSING PLAN. SLIGHT VARIATIONS MAY OCCUR AFTER INSPECTION AND APPROVAL OF LOCATION BY COUNCIL.



PLAN



SECTION A-A

NOTES

1. Driveable Endwalls are only required when pipe under crossing occurs within the clear zone as identified in Ausroads 2009 Part 6 Table 4.1

CITY OF CASEY

**VEHICLE CROSSING
OVER TABLE DRAINS**

[Signature]

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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-804

V2

CROSSING SPECIFICATIONS & CONDITIONS OF APPROVAL FOR NEW DRIVEWAYS IN ESTABLISHED AREAS

Inspections:

An inspection date and time must be booked a minimum of 24 hours prior to concrete being poured. Inspection bookings are taken by Casey's Works & Operations Dept. on (03) 9705 5345.

Removal of existing concrete paving and/or kerb and channel:

Paving – All 75mm thick concrete paving must be removed and replaced to the same thickness as the new crossing. Any paving that is to be removed must be removed to the nearest construction joint either side of the crossing. Any damage to adjoining bays will result in the replacement of those bays at the contractor's cost.

Kerb & channel – Any kerb & channel that is to be removed is to be neatly saw cut at the edge of the modified kerb & channel. If the remaining section of kerb & channel would be shorter than 1.2m in length to the nearest joint, then remove this section of kerb as well and replace to Casey standard. Any damage to adjoining kerb will result in the replacement of those sections at the contractor's cost. When saw cutting the kerb the contractor is to ensure that the asphalt surface is not cut in the process.

Crushed Rock Bedding:

20mm Size, Class 3 crushed rock compacted to a minimum thickness of 50mm. Prior to compaction the crushed rock is to have an optimum moisture content of about 6% which can be achieved by a light sprinkle of water using a garden hose. The bedding rock is to be compacted with a vibrating plate for a minimum of 2 passes per plate width per 50mm layer.

Concrete Paving:

Thickness – Footpath outside crossing 125mm.
Residential Crossing (building line to back of kerb) 125mm.
Industrial Crossing (building line to back of kerb) 150 mm with SL72 (F72) mesh.

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

Surface Finish – To be rolled with twin drum mesh roller. Then Light broom finish with trowelled high-lighted edges and joints.

Modified Kerb and Channel:

Thickness – 200mm at Roadside edge; 150mm at Invert of channel; at back of layback match crossing thickness (ie 125mm thick for residential and 150mm thick for industrial).

Strength – Minimum strength of concrete is to be 25Mpa with a maximum slump of 80mm.

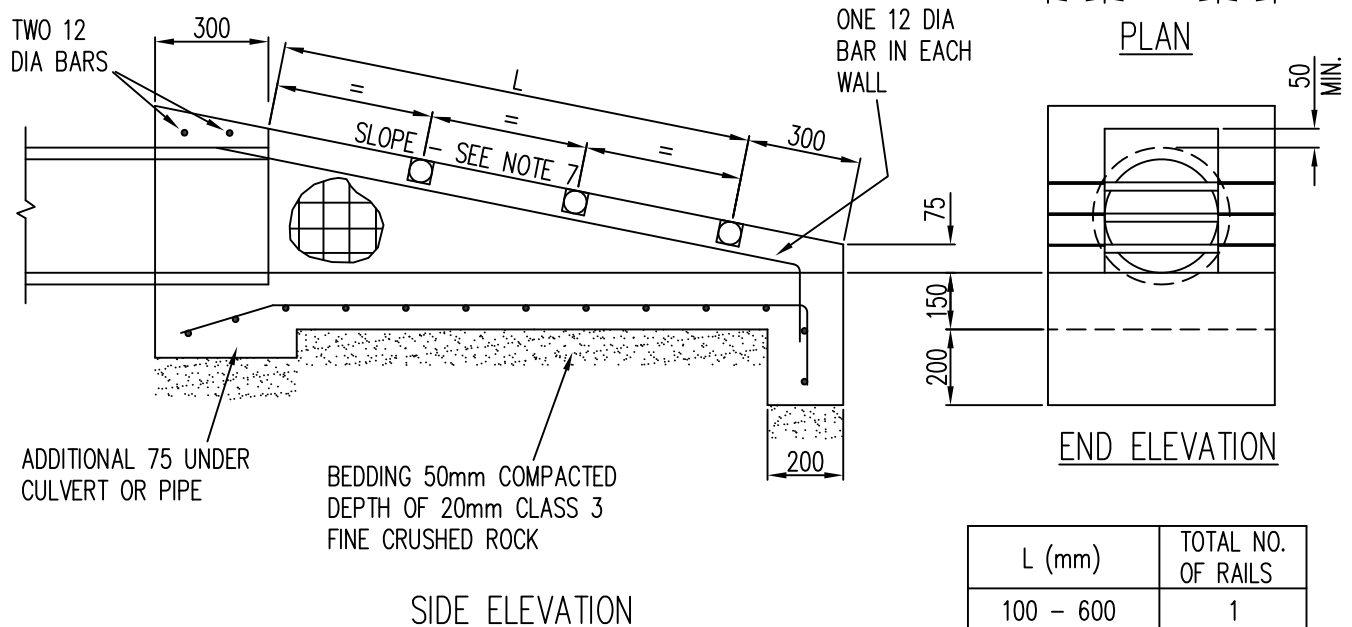
Surface Finish – Smooth trowelled rendered surface (render to consist of one part sand, one part cement and one part stone dust).

General Conditions:

1. A minimum of 24 hours notice is required to book an inspection of the works.
2. Weekday works in an arterial road reservation may only be undertaken between the hours of 9:00am and 3:30pm in order to avoid disrupting peak traffic flows.
3. A person conducting works in any road reservation must have in operation a traffic management plan prepared in accordance with the "Road Management Act 2004 – Worksite Safety – Traffic Management – Code of Practice".
4. All crossovers that are to be installed in the road reservation of VicRoads' Declared Main Roads are to be referred to VicRoads for approval and are to be constructed to VicRoads' standards.
5. If there is no existing footpath in the vicinity of the proposed crossing, contact Council's Engineering Department on 9705 5200 for required finished surface levels at the building line.
6. If the proposed crossing is adjacent to your neighbour's crossing, they must be combined to create a double crossing.
7. When widening an existing crossing, the additional section must be dowelled jointed to the existing crossing using 12mm bars x 500mm long @ 600 centres. Dowelled a minimum of 150mm into existing concrete crossing.
8. Once a new crossing is installed any redundant crossing must be removed unless it can be satisfactorily demonstrated that there is a need to access the property at another point.
9. If the proposed crossing is to be built over a water tapping, a cast iron or approved surface inspection box is to be cast into the concrete. Also to gain access to the valve, a 100mm PVC spindle protection sleeve is to be fitted from the water main to the box.
10. If a crossing is to be built over a house drain connection, the inspection tee joint must be extended so that the screwed cap is 150mm below the finished surface of the crossing. A cast iron or approved surface inspection box is to be cast into the concrete and a 225mm dia. by 300mm high PVC sleeve must be provided around the screwed cap.
11. If the crossing is to be built over a side entry drainage pit a heavy duty grate and frame must be fitted to match the new crossing levels. Otherwise the crossing shall be repositioned a minimum of 1m offset from the existing side entry drainage pit.
12. If there is a stormwater drainage junction pit behind the kerb (not catching water from the road) a medium duty cast iron manhole cover and frame or an approved equivalent must be fitted to match the new crossing levels. Otherwise 1m offset with barrier kerb and channel type crossover. (**In industrial areas Terra Firma fibreglass type or equivalent pit covers must be used**).
13. If an **electricity pole** in the vicinity of the proposed crossing there must be a minimum clearance of 1m.

NOTES

1. REINFORCEMENT, SL81 (F81) UNLESS OTHERWISE SPECIFIED, SHALL BE CONTINUOUS AROUND CORNERS AND LOCATED AS SHOWN.
CLEAR COVER OF 50mm MIN.,
LAPS :FABRIC 300mm,
BARS 25 x BAR DIAMETER MIN.
2. DISTRIBUTION BARS 12 DIA AT 200 CENTRES
3. CONCRETE SHALL BE NORMAL – CLASS N32 STANDARD STRENGTH GRADE OR HIGHER COMPLYING WITH REQUIREMENTS OF AS 1379.
EXPOSURE CLASSIFICATIONS UP TO AND INCLUDING B1.
4. EXPOSED EDGES SHALL HAVE 20 x 20 CHAMFERS
5. RAILS WITHIN SECTION "L" SHALL BE EVENLY SPACED.
6. RAILS ARE 60.3 DIAMETER GALVANISED TUBES 5.4mm THICK. THESE ARE TO BE GROUTED INTO THE SLOTS IN THE WALLS.
7. SLOPE OF ENDWALL TO MATCH BATTER SLOPE. MAXIMUM SLOPE 1 IN 4
8. ENDWALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE RELEVANT PROVISIONS OF AS 3600.
9. ACCEPTABLE PRECAST DRIVEABLE ENDWALLS ARE AVAILABLE TO SUIT PIPE SIZES FROM 300mm TO 600mm FROM VICPITS PTY LTD
VIC PITS PTY LTD,
2 REEVES COURT
BREAKWATER VIC. 3219



CITY OF CASEY

VICROADS TYPE DRIVEABLE ENDWALL

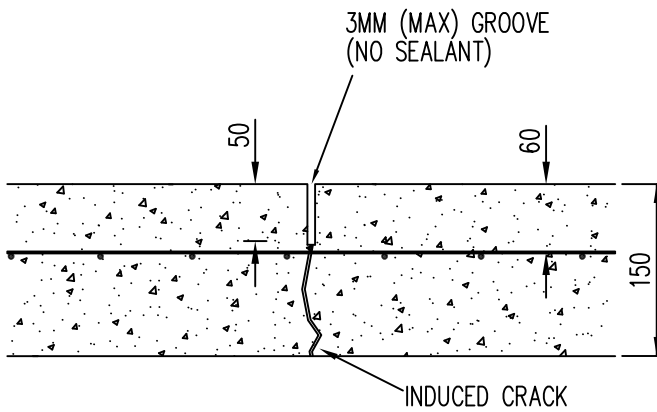
Robert

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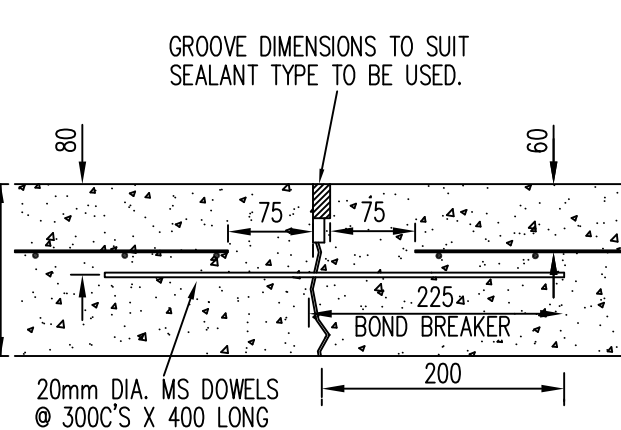
LAST UPDATE 09.11.2012

AMENDMENTS:

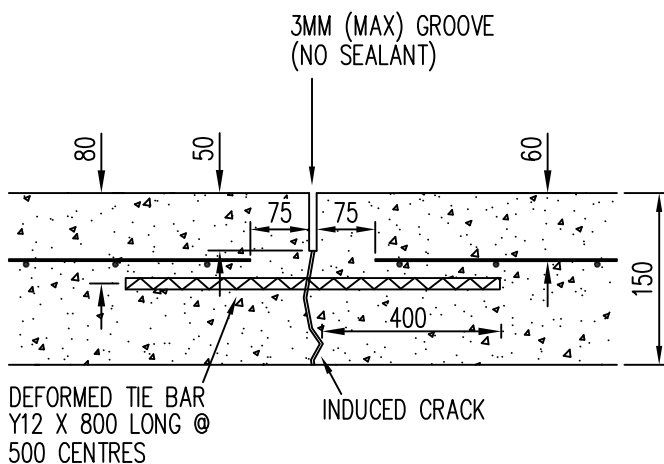
S-804A



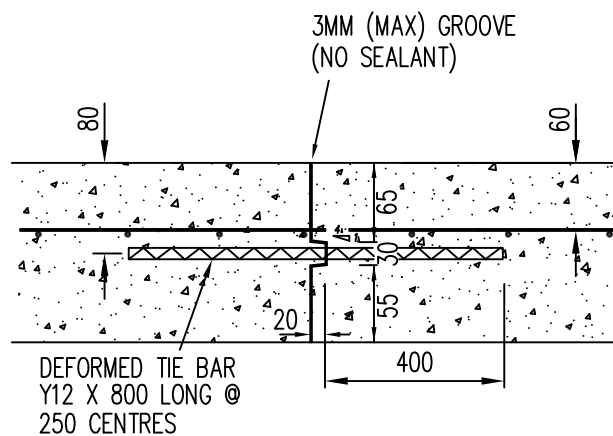
INTERMEDIATE CONTRACTION JOINT DETAILS
SPACING 4M (MAX)



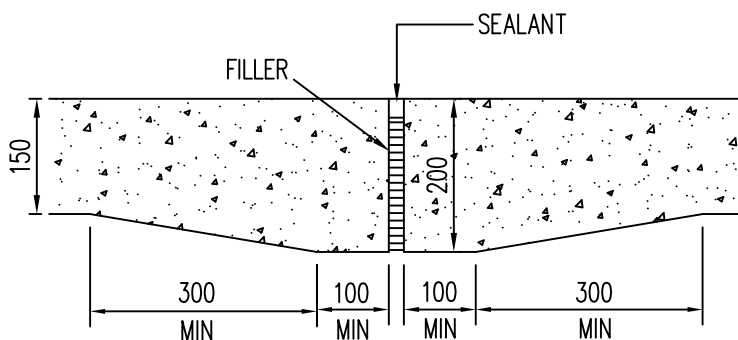
"END" CONTRACTION JOINT DETAILS
SPACING 12M (MAX)



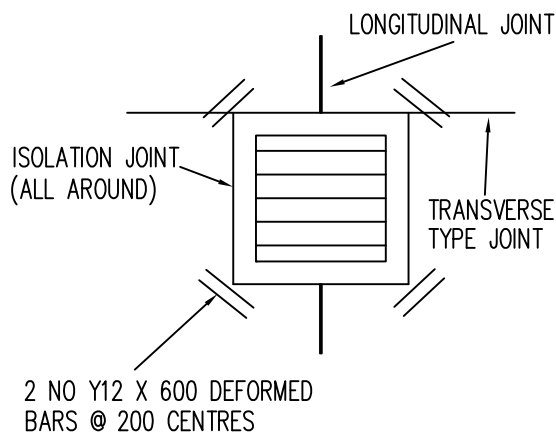
TIED JOINT DETAILS



CONSTRUCTION JOINT DETAILS



ISOLATION JOINT DETAILS



TYPICAL JUNCTION PIT JOINTING

CITY OF CASEY

CONCRETE SLAB JOINTING DETAILS

Robert

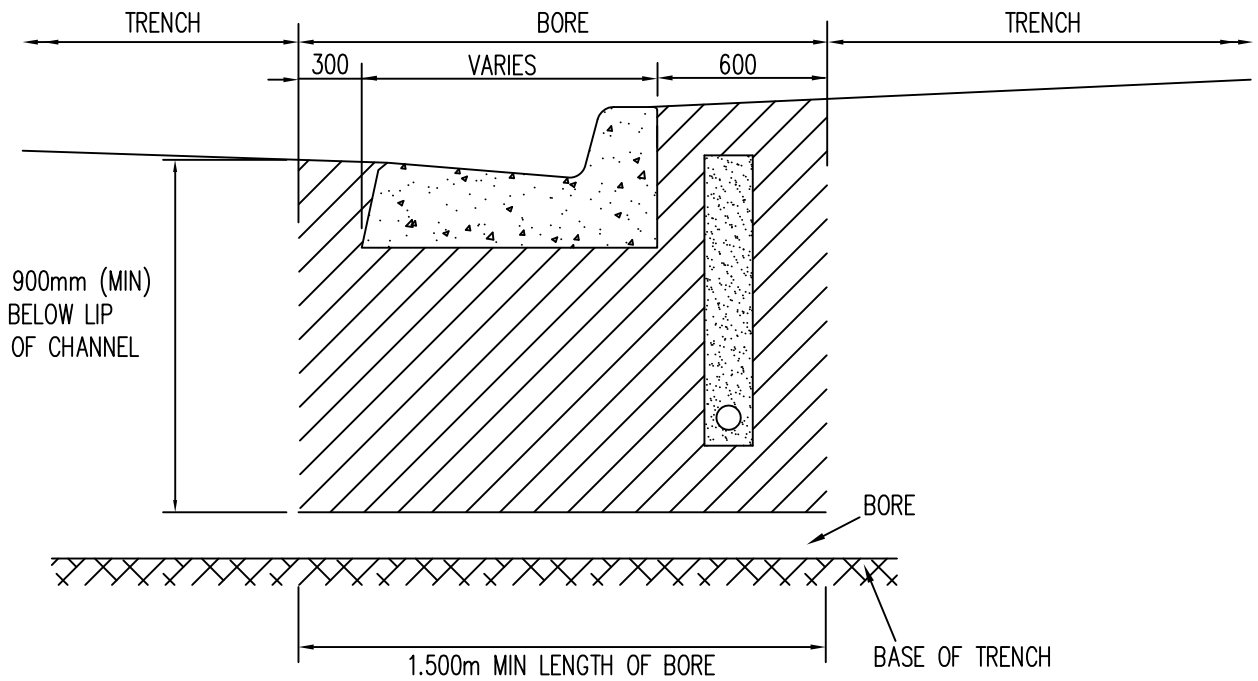
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LAST UPDATE 09.11.2012

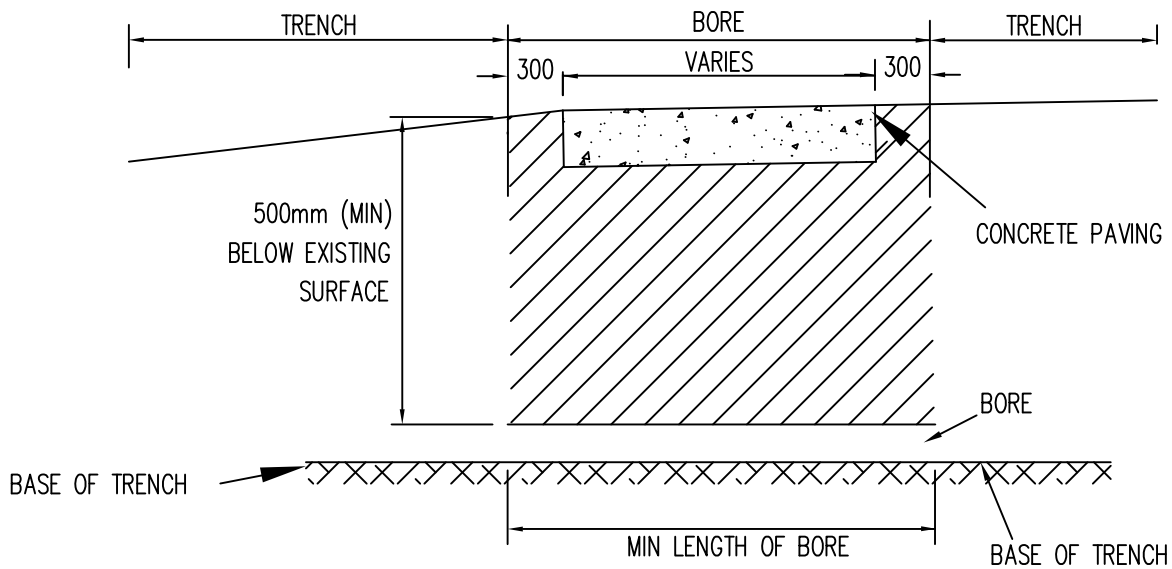
AMENDMENTS: GENERAL UPGRADE

S-805

V2



BORING UNDER KERB & CHANNEL



BORING UNDER CONCRETE PAVING

CITY OF CASEY

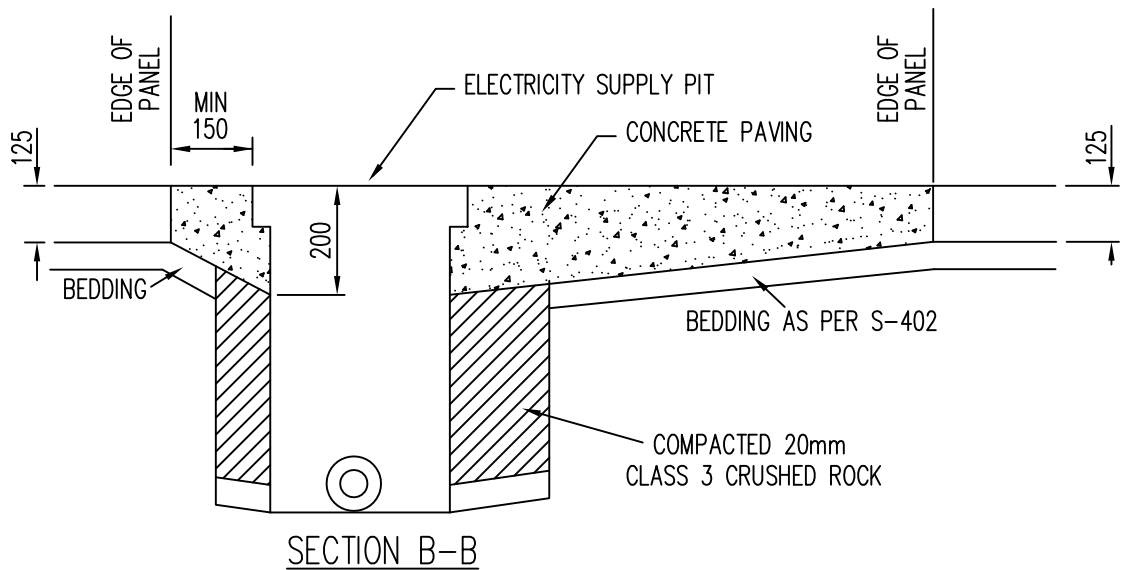
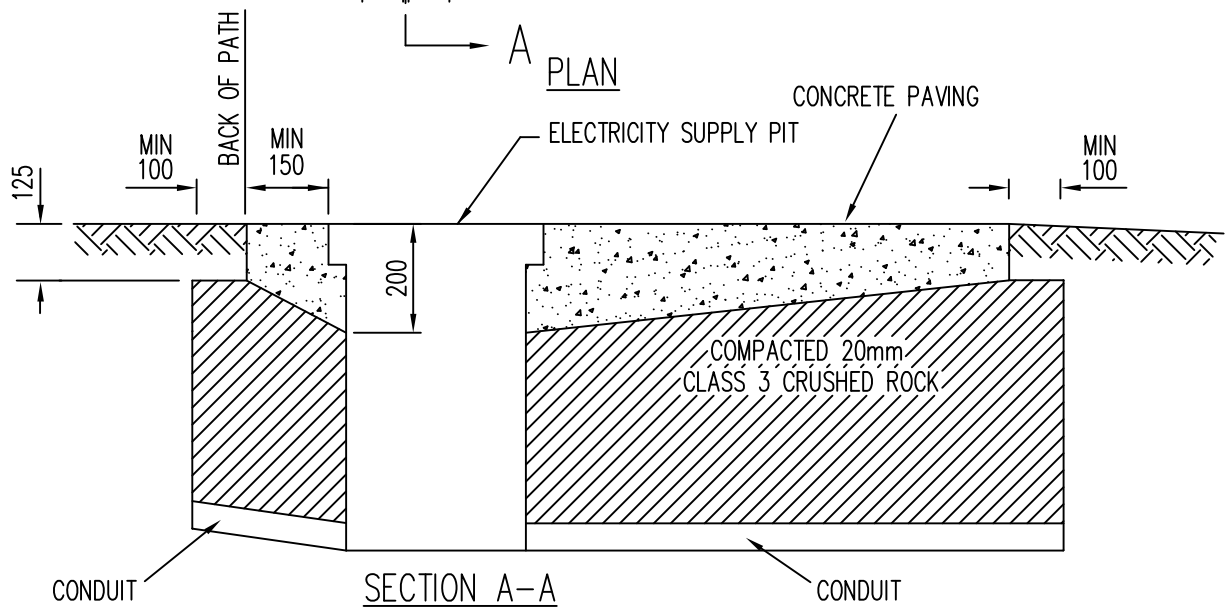
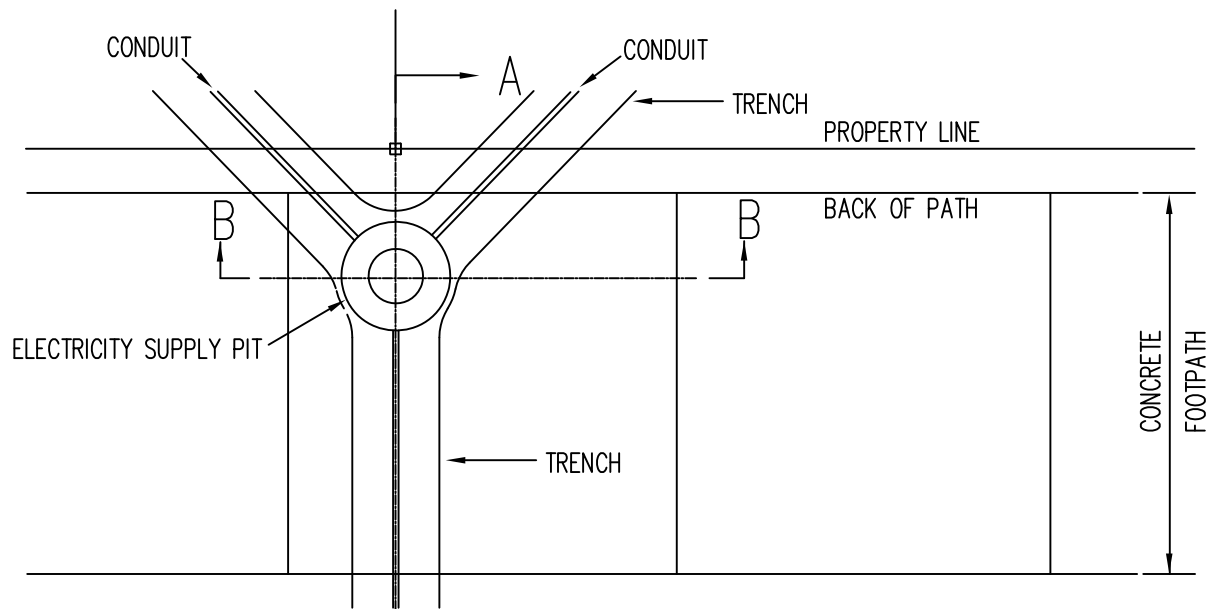
CONDITIONS FOR INSTALLATIONS OF SERVICES
UNDER KERB AND CHANNEL AND CONCRETE PAVING
BY THRUST BORING

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ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-807

V2



CITY OF CASEY

BACKFILLING OF UNDERGROUND ELECTRICITY SUPPLY PITS

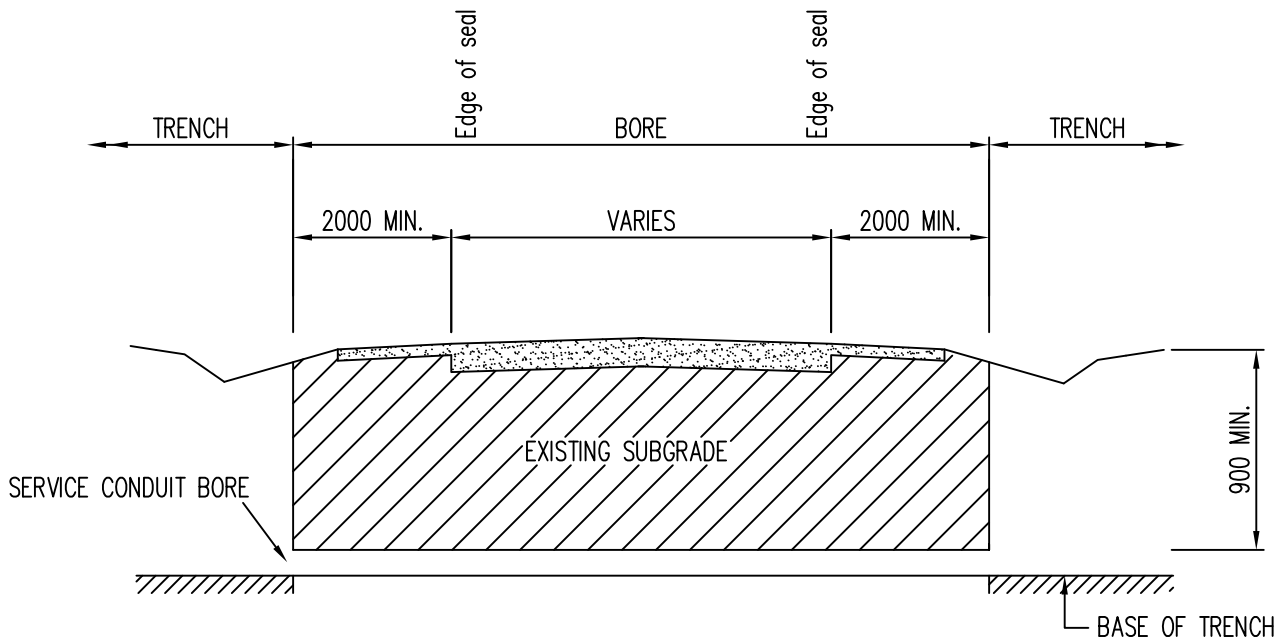
MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

LAST UPDATE 09.11.2012

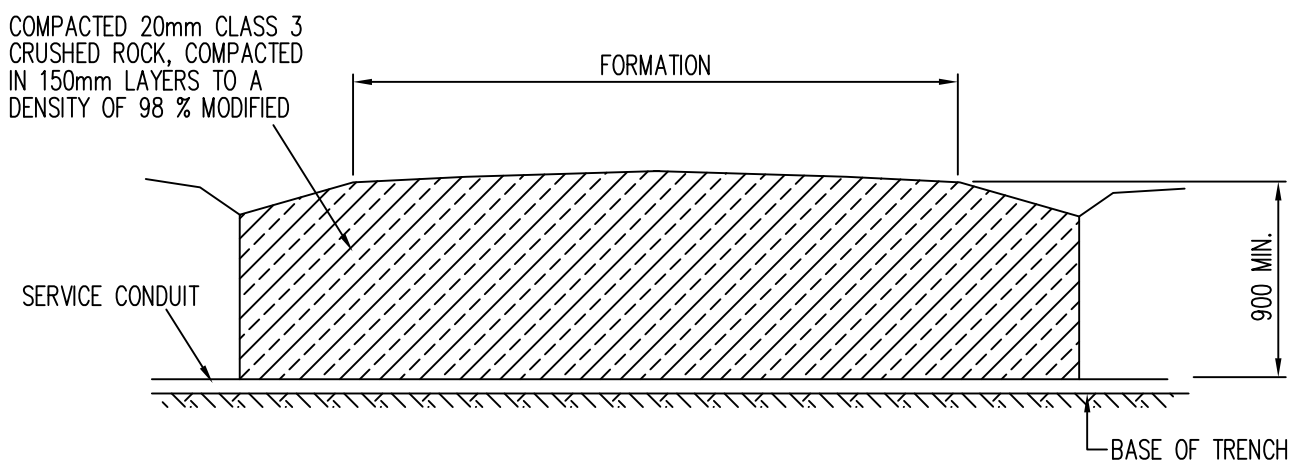
AMENDMENTS: GENERAL UPGRADE

S-808

V2



BORING UNDER UNKERBED SEALED PAVEMENT
NOT TO SCALE



BACKFILLING REQUIREMENTS FOR OPEN TRENCHING UNDER UNSEALED ROAD PAVEMENT
NOT TO SCALE

CITY OF CASEY

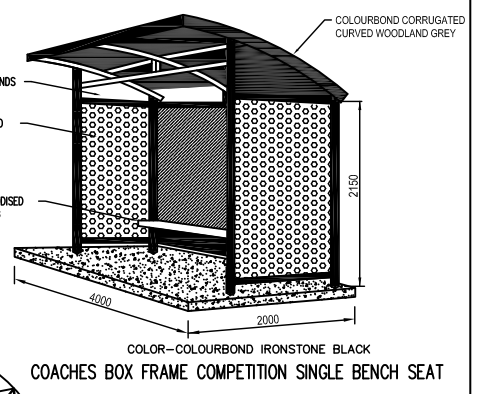
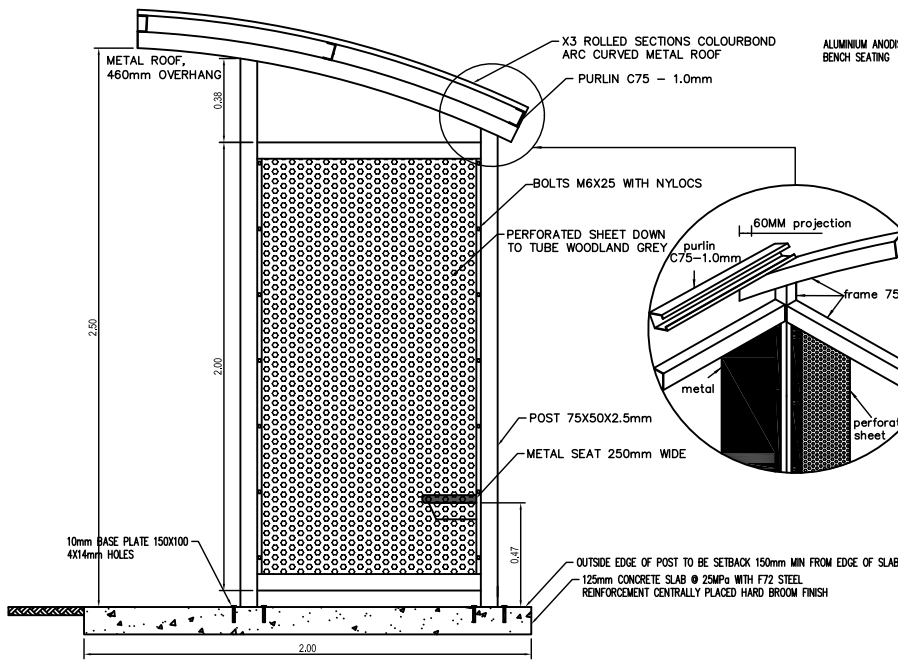
CONDITIONS FOR INSTALLATIONS OF SERVICES
UNDER UNSEALED ROAD PAVEMENT
WITHOUT KERB AND CHANNEL

AMENDMENTS: GENERAL UPGRADE

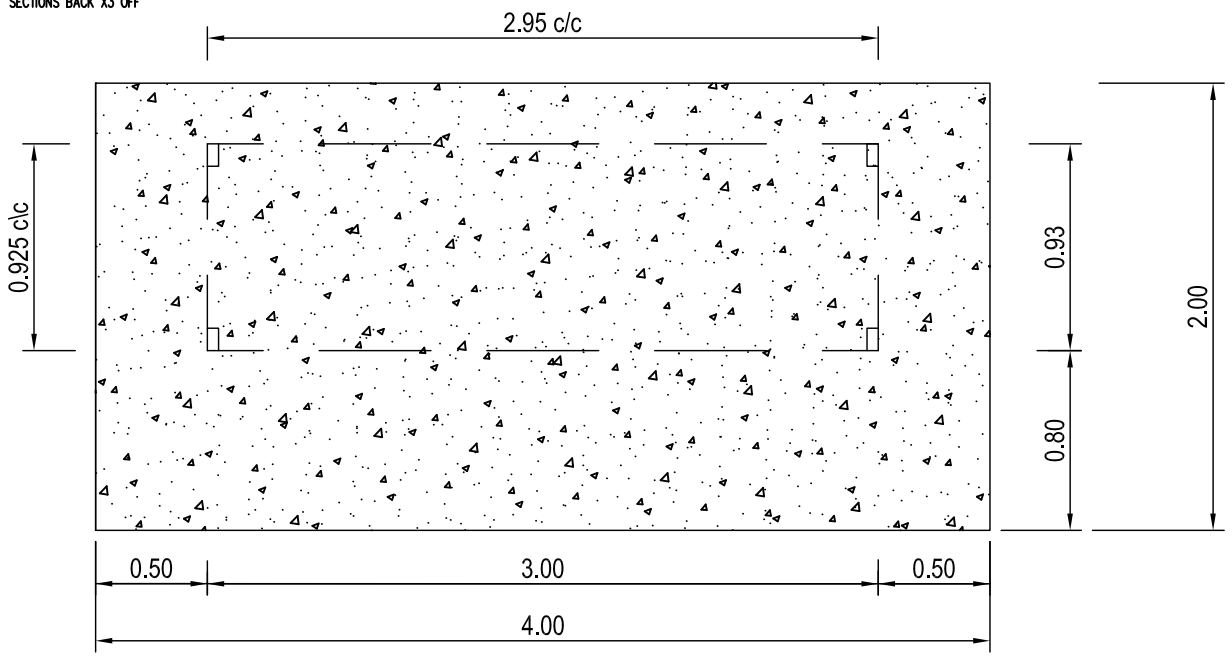
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ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

S-809

V2



- NOTES**
- MATERIAL OF FRAME:**
- 75X50X2.5 GALVANISED
 - 1.95mm PERFORATED SHEET FOR SIDES
 - 1.95mm GALVANISED SHEET FOLDED SECTIONS BACK X3 OFF



CITY OF CASEY

COACHES BOX

Shahab

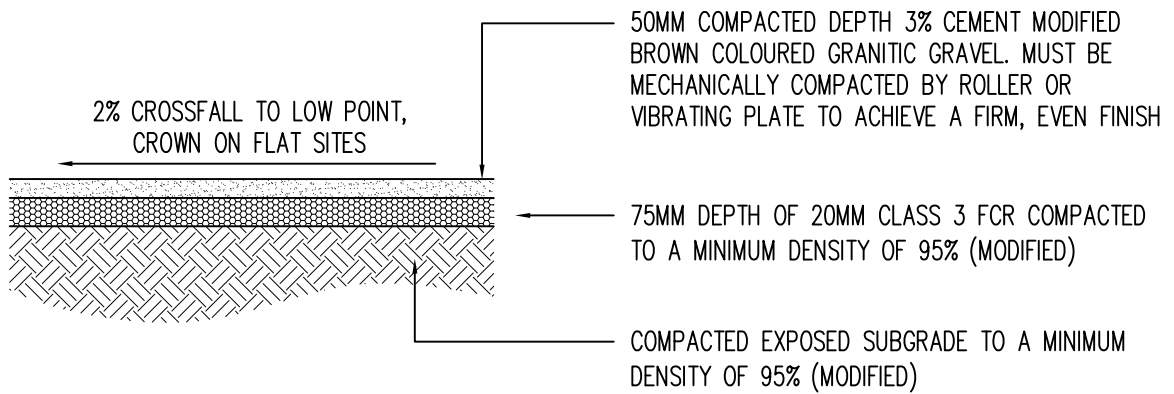
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LAST UPDATE 09.11.2012

AMENDMENTS: GENERAL UPGRADE

S-815 V3

LANDSCAPING DETAILS



TYPICAL CROSS SECTION FOR
GRANITIC GRAVEL PAVEMENT

NOTES

1. 3% CEMENT MODIFIED GRANITIC GRAVEL MATERIAL TO BE THOROUGHLY AGITATED AT QUARRY PRIOR TO INSTALLATION.
2. SAMPLE OF GRANITIC MATERIAL TO BE APPROVED BY COUNCIL OFFICER PRIOR TO USE AND A COPY OF BATCH DELIVERY DOCKET FOR PROOF OF SAME DAY DELIVERY.
3. MATERIAL IS NOT TO BE STORED ON SITE FOR MORE THAN 24 HOURS.

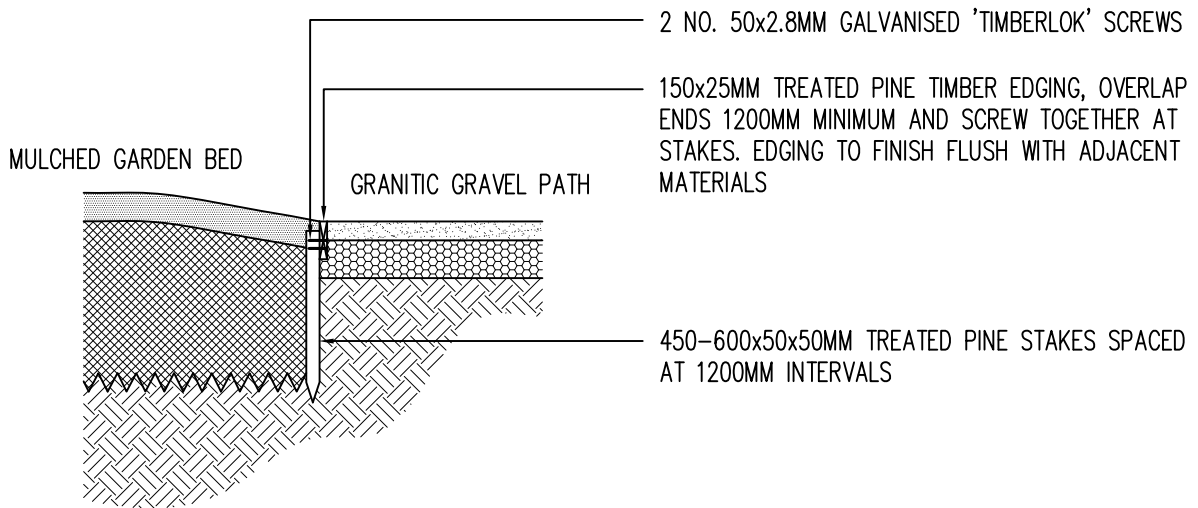
CITY OF CASEY

HARD LANDSCAPING
GRANITIC GRAVEL PAVEMENT DETAIL

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS:

S-1001



TYPICAL CROSS SECTION
FOR TIMBER EDGE

NOTES

1. NO STEEL PICKETS TO BE USED.
2. SAW CUT INTO 50% THICKNESS AT 10-20MM INTERVALS TO ACCOMODATE CURVES.
3. SUITABLE RECYCLED PLASTIC EDGING MAY BE CONSIDERED.

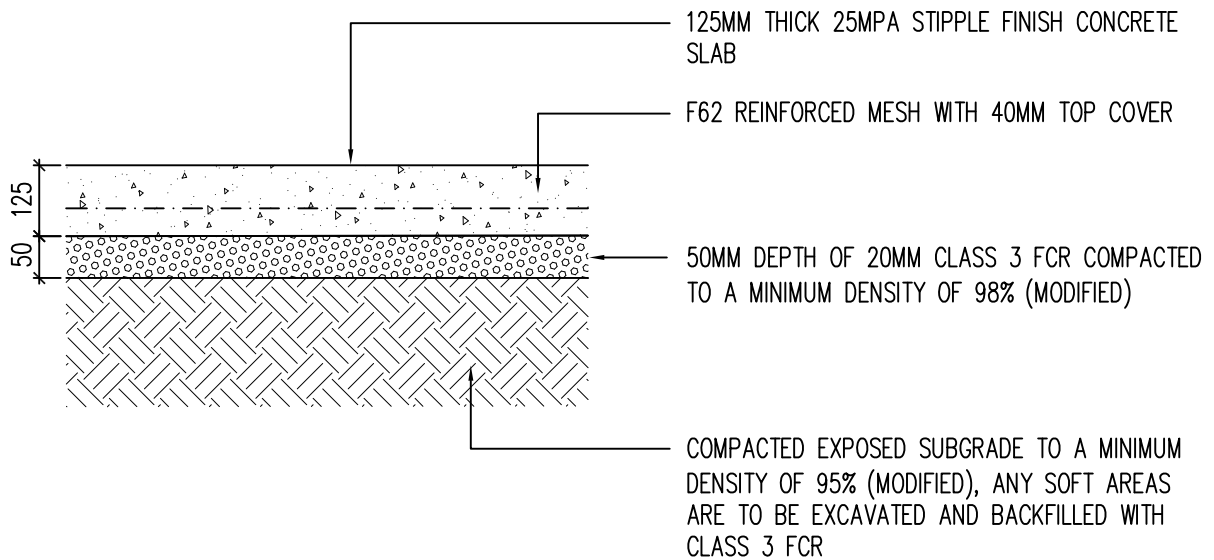
CITY OF CASEY

HARD LANDSCAPING
TIMBER EDGE DETAIL

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1002



TYPICAL CROSS SECTION
FOR SHED SLAB

NOTES

1. TYPICAL SLAB DETAIL FOR SHEDS UP TO A 3 X 3M MAXIMUM SIZE, ANYTHING ABOVE THIS WILL REQUIRE STRUCTURAL ENGINEERING COMPUTATIONS.

CITY OF CASEY

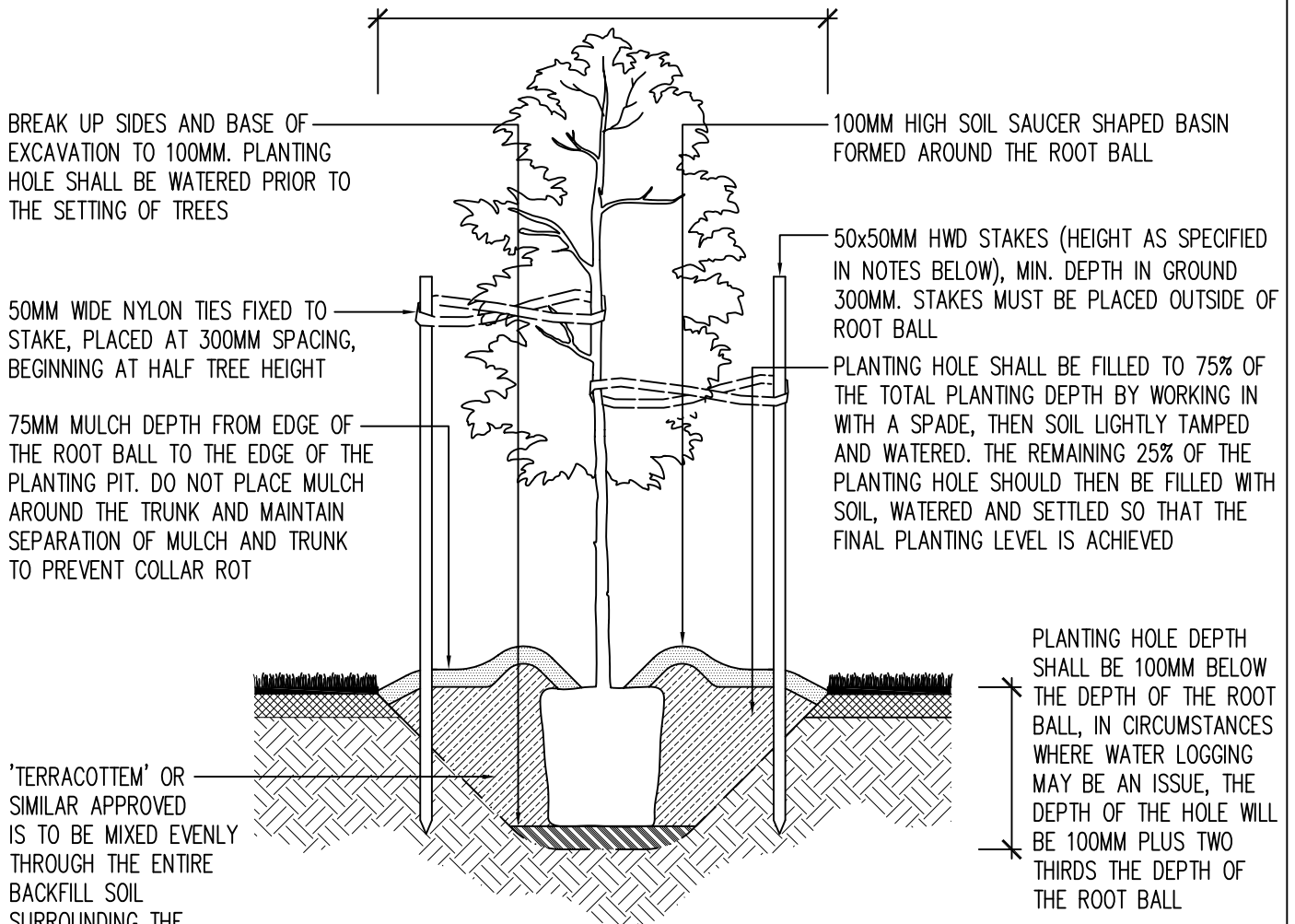
HARD LANDSCAPING
SHED SLAB DETAIL

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1003

TO PROMOTE LATERAL ROOT GROWTH THE PLANTING HOLE SHALL BE NO LESS THAN TWO TIMES THE DIAMETER OF THE ROOT BALL AND ONLY ACCEPTABLE IF DUE TO SPACE RESTRICTIONS, OTHERWISE ALLOW FOR NO LESS THAN THREE TIMES THE DIAMETER OF THE ROOT BALL. SLOPE ALL SIDES AT 45 DEGREES



TYPICAL CROSS SECTION FOR
ADVANCED TREE PLANTING

NOTES

1. ENSURE ALL LABELS, WIRES, TWINE AND OTHER BINDING MATERIALS ARE REMOVED FROM PLANTING MATERIAL, INCLUDING ROOT BALLS PRIOR TO BACKFILLING.
2. WATER IMMEDIATELY FOLLOWING PLANTING, SAUCER TO BE FILLED TWICE.
3. SITE TO BE LEFT CLEAN AND TIDY ON COMPLETION OF PLANTING, REMOVE WEEDS AND BUILDING SPOIL FROM TREE PLANTING ZONE.
4. FOR TREES BETWEEN 1.5–2.5M HIGH SUPPLY STAKES AT 1800MM HEIGHT, TREES BETWEEN 2.5–3.5M HIGH SUPPLY STAKES AT 2100MM HEIGHT, TREES ABOVE 3.5M SUPPLY STAKES AT 2400MM HEIGHT.
5. ANY VARIATIONS TO THIS DETAIL TO BE SUBMITTED FOR APPROVAL PRIOR TO ANY PLANTING.

CITY OF CASEY

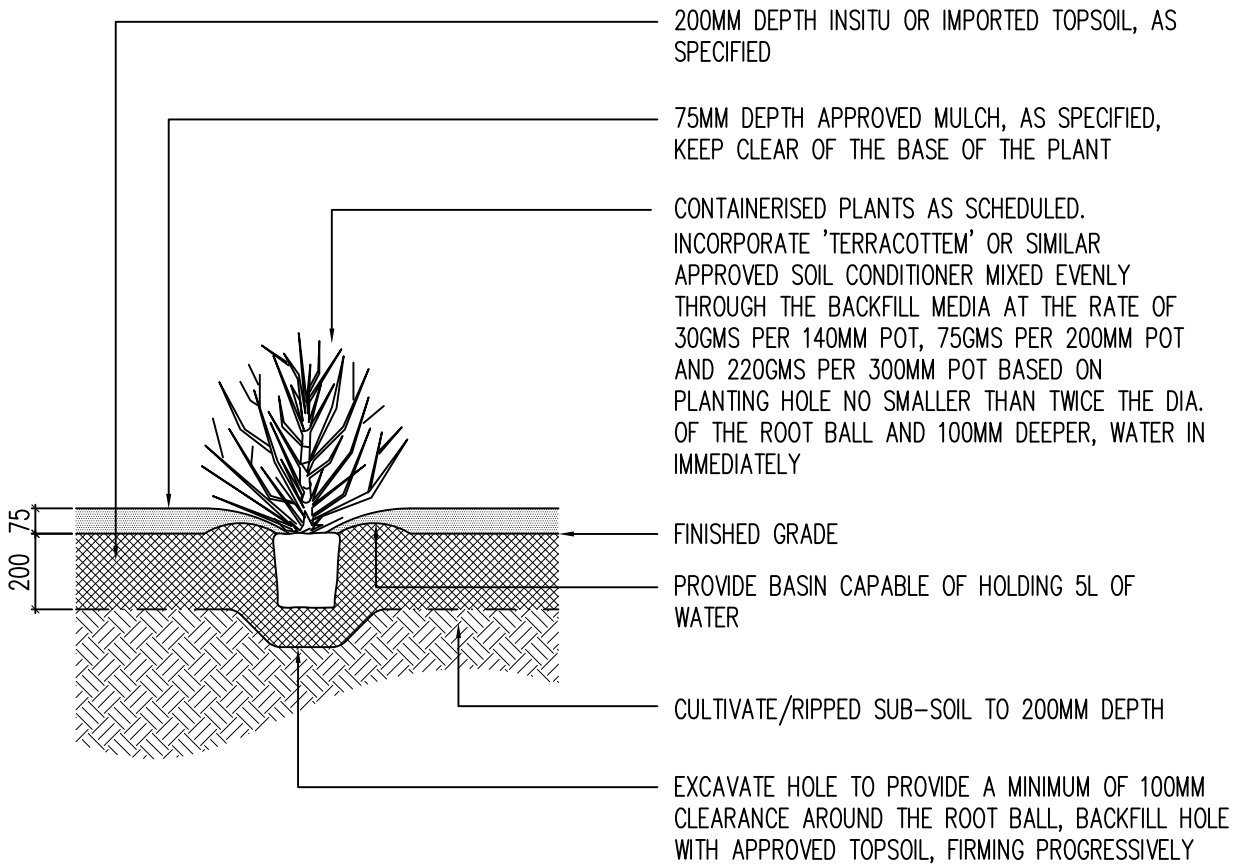
SOFT LANDSCAPING
ADVANCED TREE PLANTING DETAIL

MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

S-1004

AMENDMENTS:



TYPICAL CROSS SECTION
FOR SHRUB PLANTING

NOTES

1. SPRAY ALL WEEDS AND UNWANTED PLANT MATERIAL WITH A SUITABLE HERBICIDE TWO WEEKS PRIOR TO WORKS. REPEAT SPRAY MAY BE NECESSARY.
2. CULTIVATE TO A DEPTH OF 200MM.
3. REMOVE ALL RUBBISH AND DELETERIOUS MATERIALS.
4. FOR LARGE BEDS OR AREAS OF HIGH DENSITY PLANTING 'TERRACOTTEM' OR SIMILAR CAN BE APPLIED TO THE SURFACE AT THE RATE OF 150GMS PER SQ.M AND CULTIVATED EVENLY TO A DEPTH OF 200MM.

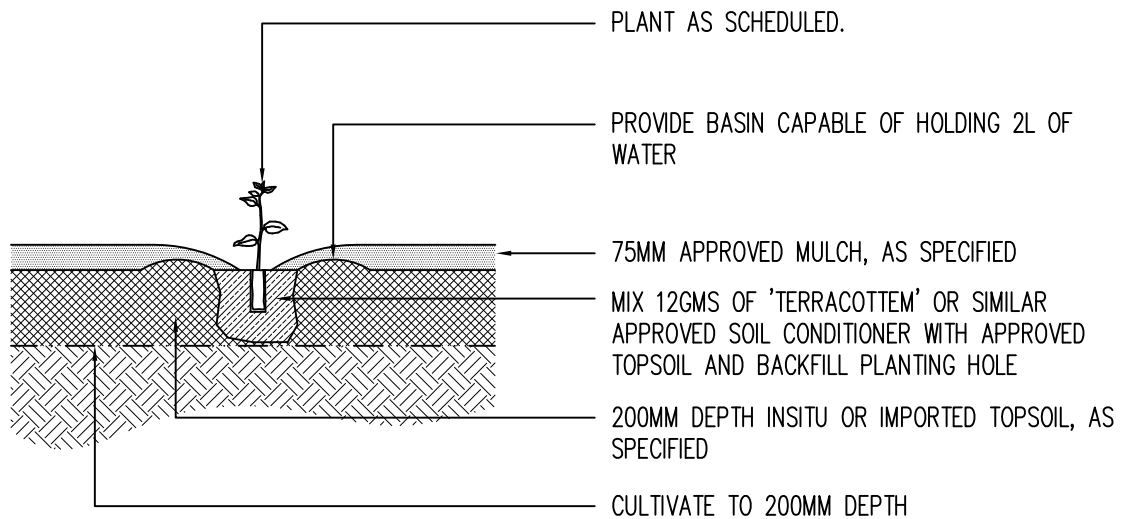
CITY OF CASEY

SOFT LANDSCAPING
SHRUB PLANTING DETAIL

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1005



TYPICAL CROSS SECTION
FOR TUBESTOCK PLANTING

NOTES

1. EXCAVATE A PLANTING HOLE NO SMALLER THAN 200x200x200MM.

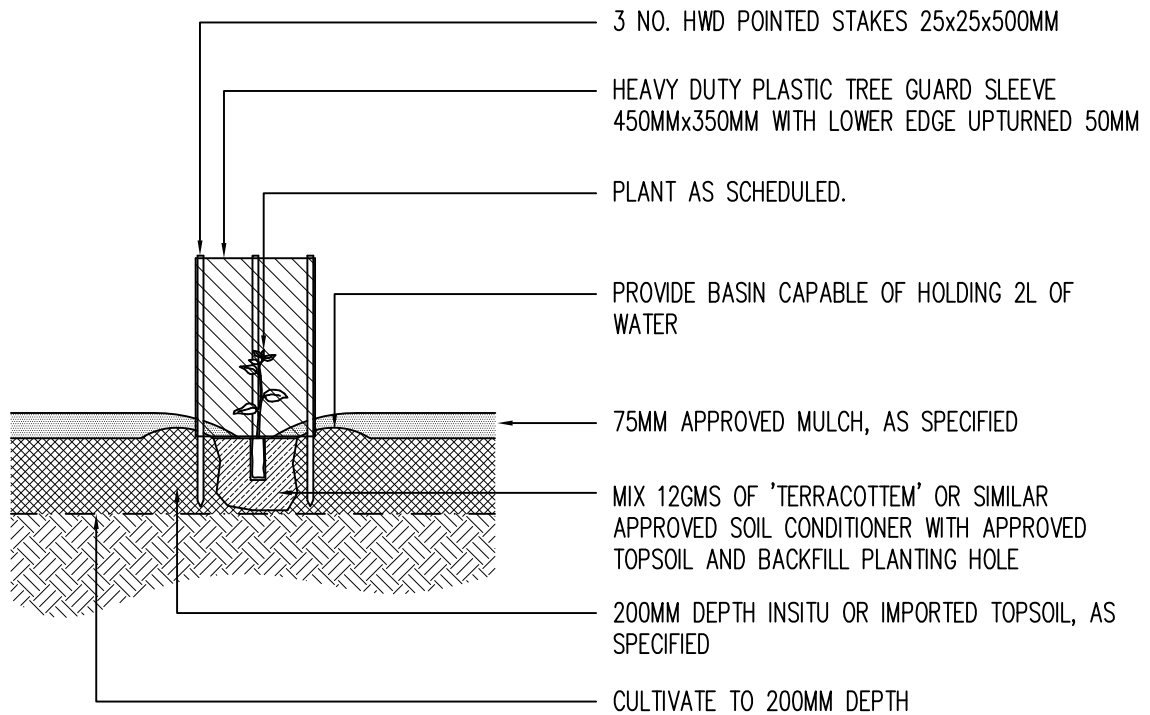
CITY OF CASEY

SOFT LANDSCAPING
TUBESTOCK PLANTING DETAIL

MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1006



TYPICAL CROSS SECTION FOR TUBESTOCK
PLANTING WITH 3 STAKE GUARD

NOTES

1. EXCAVATE A PLANTING HOLE NO SMALLER THAN 200x200x200MM.

CITY OF CASEY

SOFT LANDSCAPING

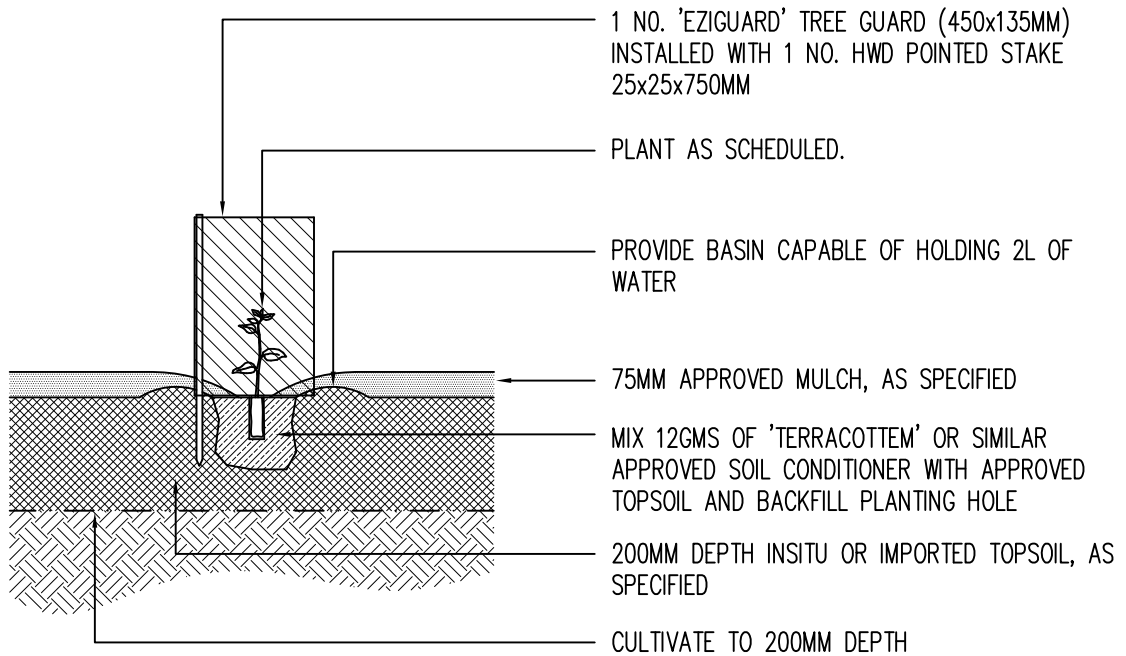
TUBESTOCK PLANTING WITH 3 STAKE GUARD DETAIL

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1007



TYPICAL CROSS SECTION FOR TUBESTOCK
PLANTING WITH 1 STAKE GUARD

NOTES

1. EXCAVATE A PLANTING HOLE NO SMALLER THAN 200x200x200MM.

CITY OF CASEY

SOFT LANDSCAPING

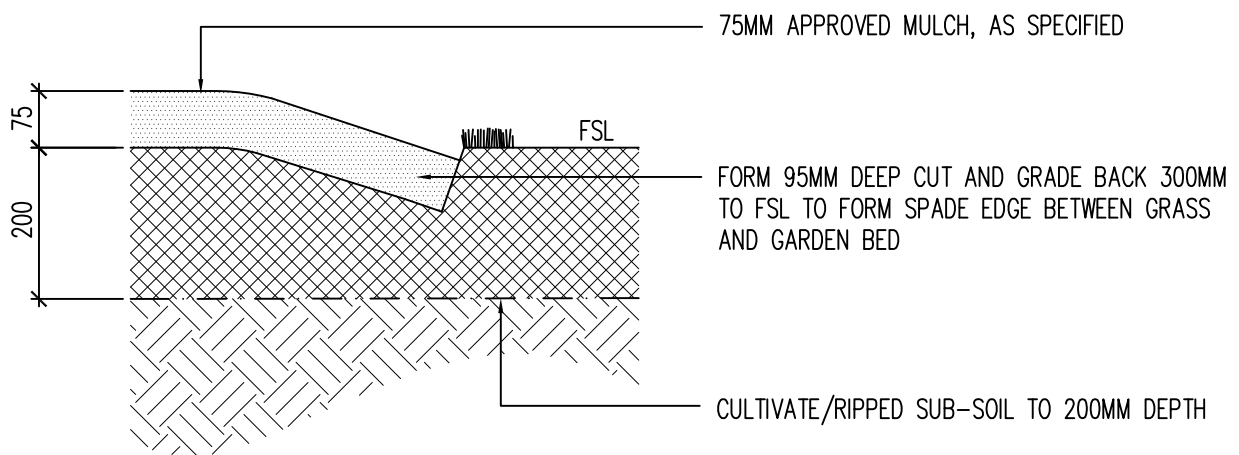
TUBESTOCK PLANTING WITH 1 STAKE GUARD DETAIL

MANAGER OF ENGINEERING &
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LAST UPDATE 09.11.2012

S-1008

AMENDMENTS:



TYPICAL CROSS SECTION
FOR SPADE EDGE

NOTES

1. SPRAY ALL WEEDS AND UNWANTED PLANT MATERIAL WITH A SUITABLE HERBICIDE TWO WEEKS PRIOR TO WORKS. REPEAT SPRAY MAY BE NECESSARY.
2. CULTIVATE WITH MECHANICAL ROTARY HOE TO A DEPTH OF 200MM UNLESS AROUND TREE ROOTS THEN HAND CULTIVATION RESERVED.
3. REMOVE ALL RUBBISH AND DELETERIOUS MATERIALS.

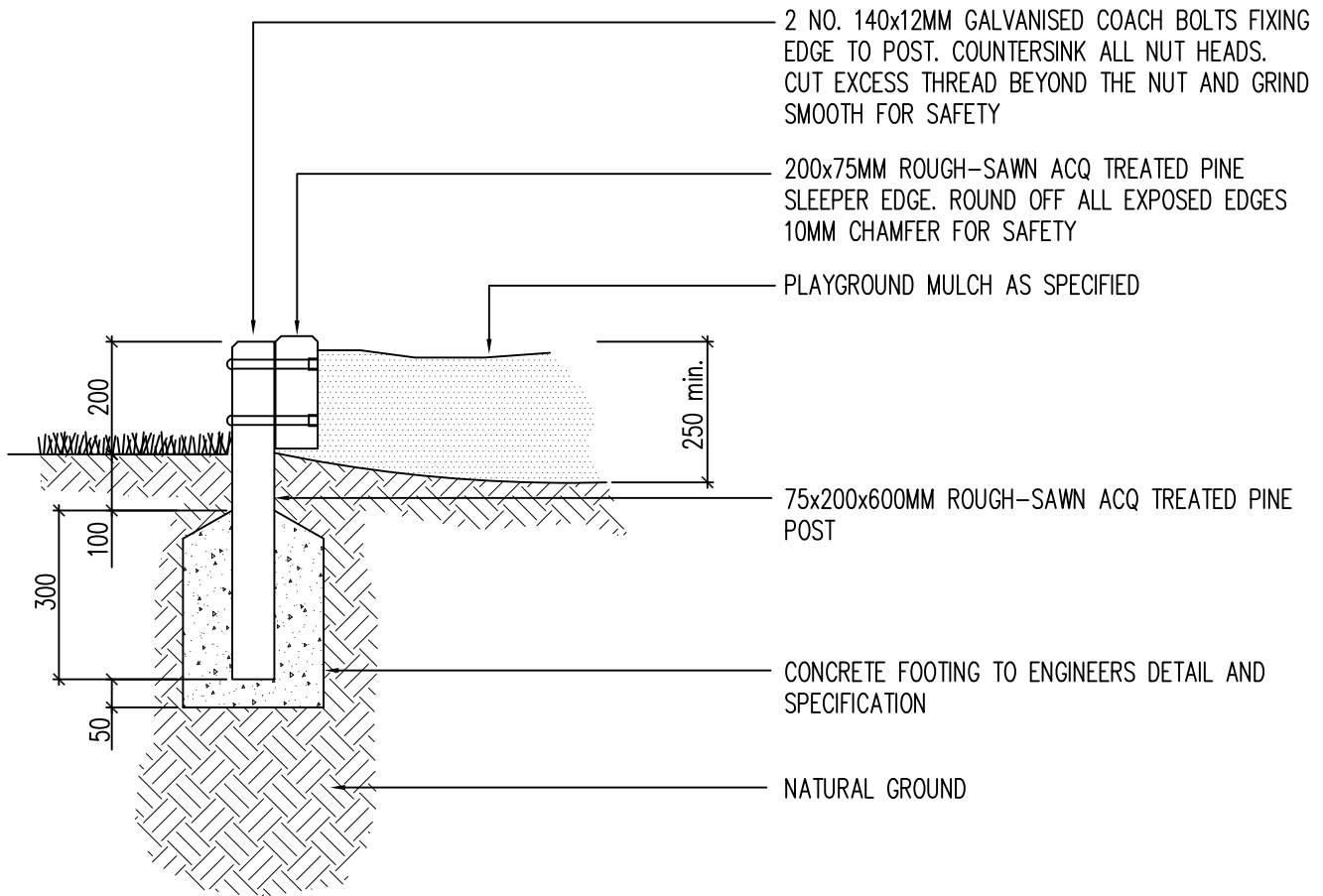
CITY OF CASEY

SOFT LANDSCAPING
SPADE EDGE DETAIL

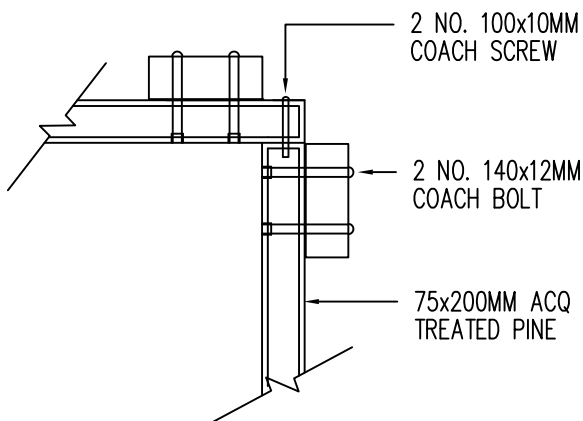
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LAST UPDATE 09.11.2012

AMENDMENTS:

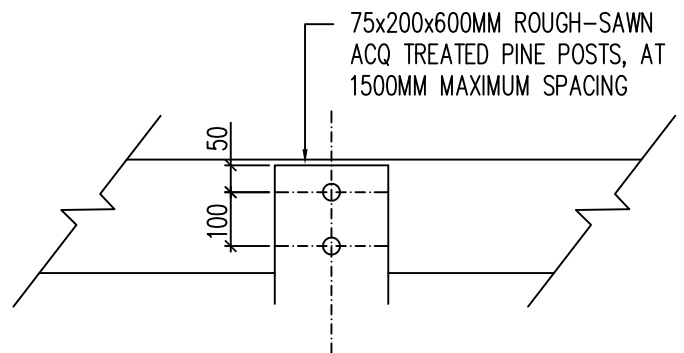
S-1009



TYPICAL CROSS SECTION FOR
PLAYGROUND TIMBER EDGING



TYPICAL CORNER PLAN FOR
PLAYGROUND TIMBER EDGING



TYPICAL FRONT ELEVATION FOR
PLAYGROUND TIMBER EDGING

NOTES

1. OPTIONAL REPLACEMENT FOR COACH BOLTS: 125MM 14G BUGLE BATTON SCREWS.

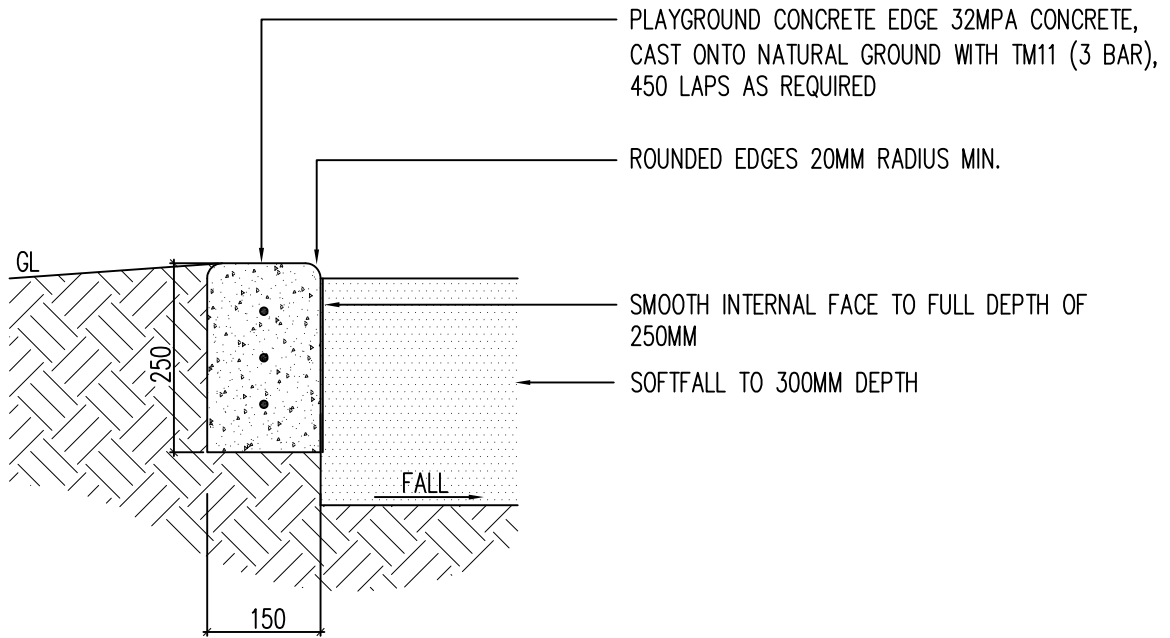
CITY OF CASEY

PLAYGROUND ELEMENTS
TIMBER EDGING DETAILS

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS:

S-1010



TYPICAL CROSS SECTION FOR
PLAYGROUND CONCRETE EDGE

NOTES

1. PROVIDE TOOLED JOINTS AT 1M CENTRES, 5MM MINIMUM DEPTH.

CITY OF CASEY

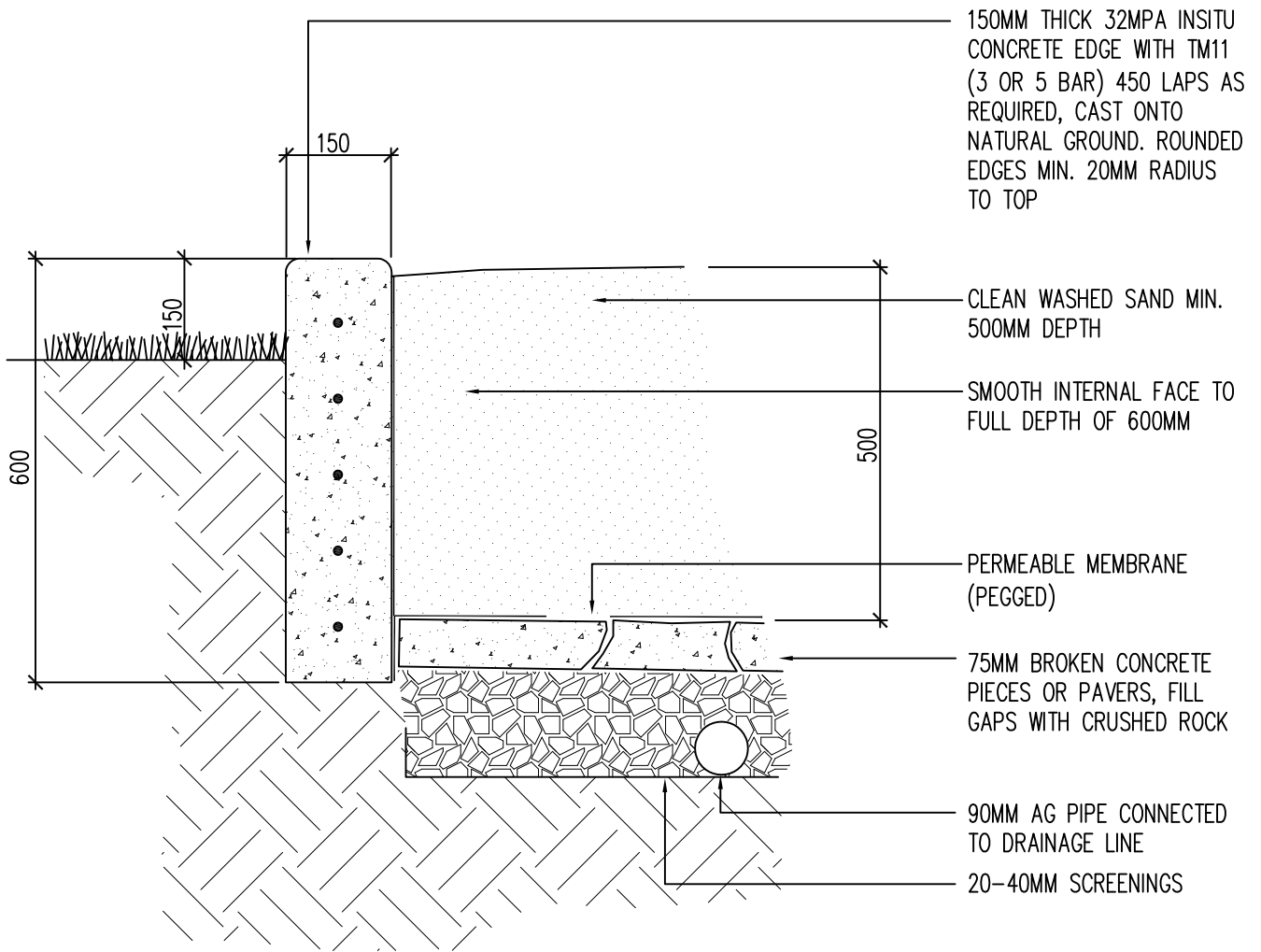
PLAYGROUND ELEMENTS
PLAYGROUND CONCRETE EDGE DETAIL

Robert

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1011



TYPICAL CROSS SECTION FOR
PLAYGROUND CONCRETE EDGE (RAISED)

NOTES

1. PROVIDE TOOLED JOINTS AT 1M CENTRES, 5MM MINIMUM DEPTH.

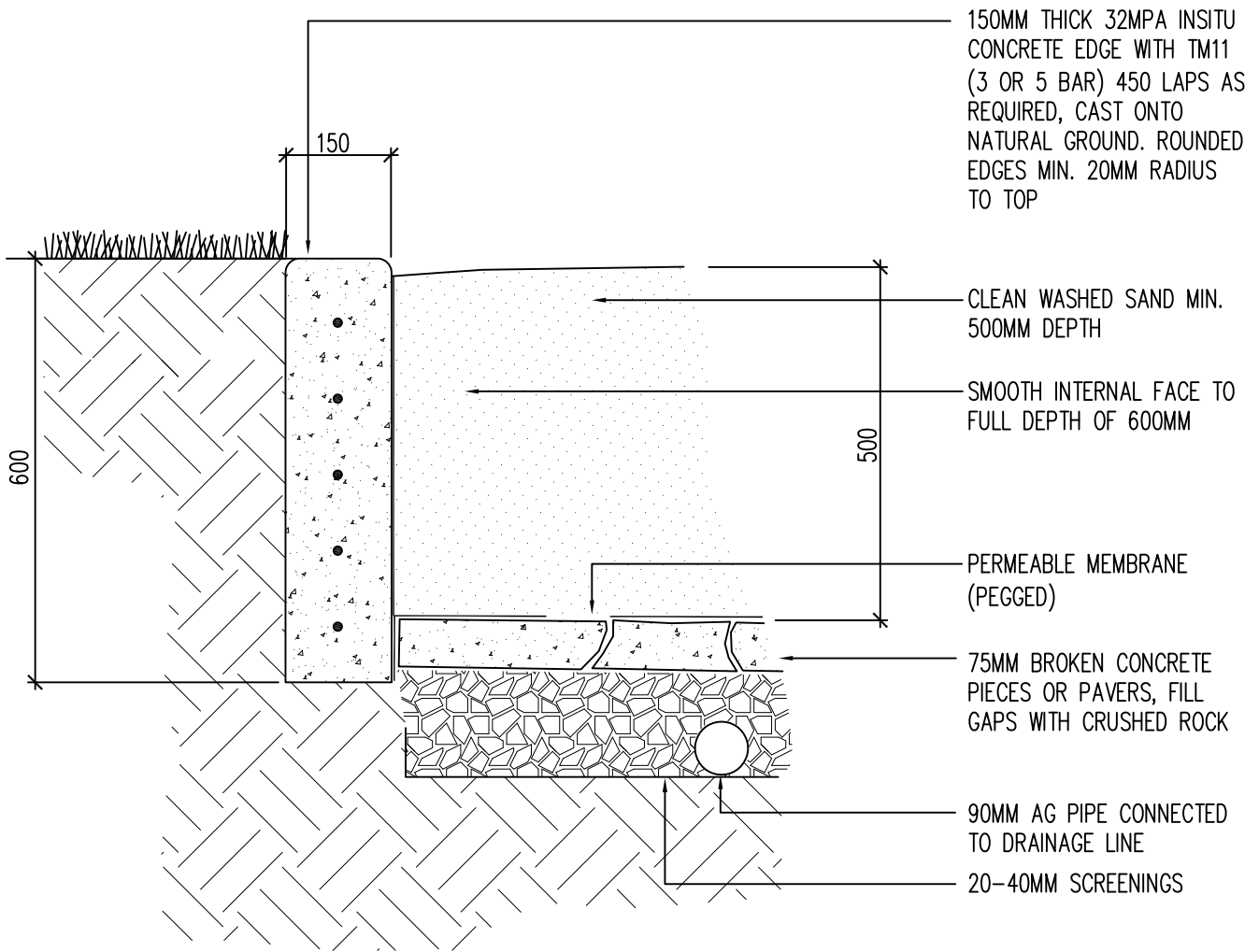
CITY OF CASEY

PLAYGROUND ELEMENTS
PLAYGROUND CONCRETE EDGE (RAISED) DETAIL

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ENVIRONMENTAL SERVICES
LAST UPDATE 09.11.2012

AMENDMENTS:

S-1012



TYPICAL CROSS SECTION FOR
PLAYGROUND CONCRETE EDGE (FLUSH)

NOTES

1. PROVIDE TOOLED JOINTS AT 1M CENTRES, 5MM MINIMUM DEPTH.

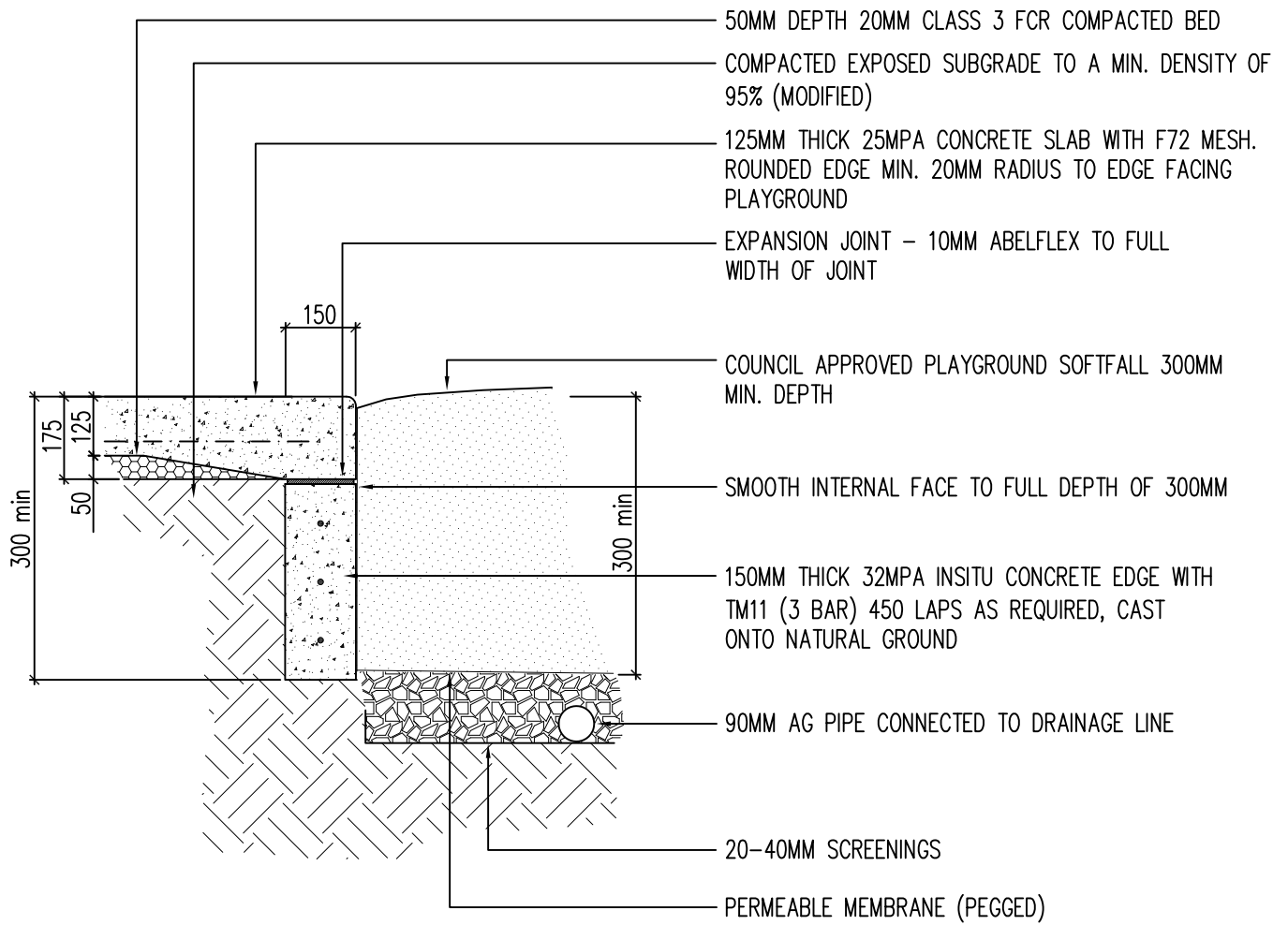
CITY OF CASEY

PLAYGROUND ELEMENTS
PLAYGROUND CONCRETE EDGE (FLUSH) DETAIL

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1013



TYPICAL CROSS SECTION FOR PLAYGROUND
CONCRETE EDGE AND FOOTPATH

NOTES

1. PROVIDE VERTICAL TOOLED JOINTS AT 1M CENTRES, 5MM MINIMUM DEPTH.
2. REFER CITY OF CASEY STANDARD DRAWING S-402, FOR FOOTPATH DETAILS.

CITY OF CASEY

PLAYGROUND ELEMENTS

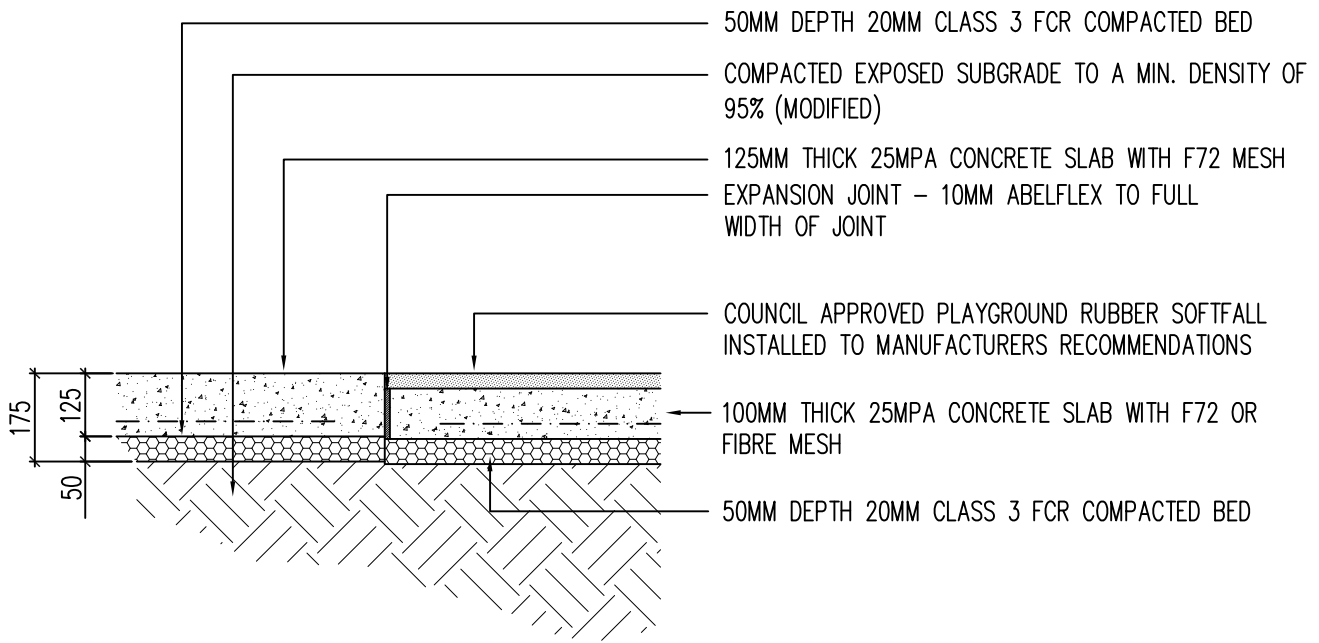
PLAYGROUND CONCRETE EDGE AND FOOTPATH DETAIL

MANAGER OF ENGINEERING &
ENVIRONMENTAL SERVICES

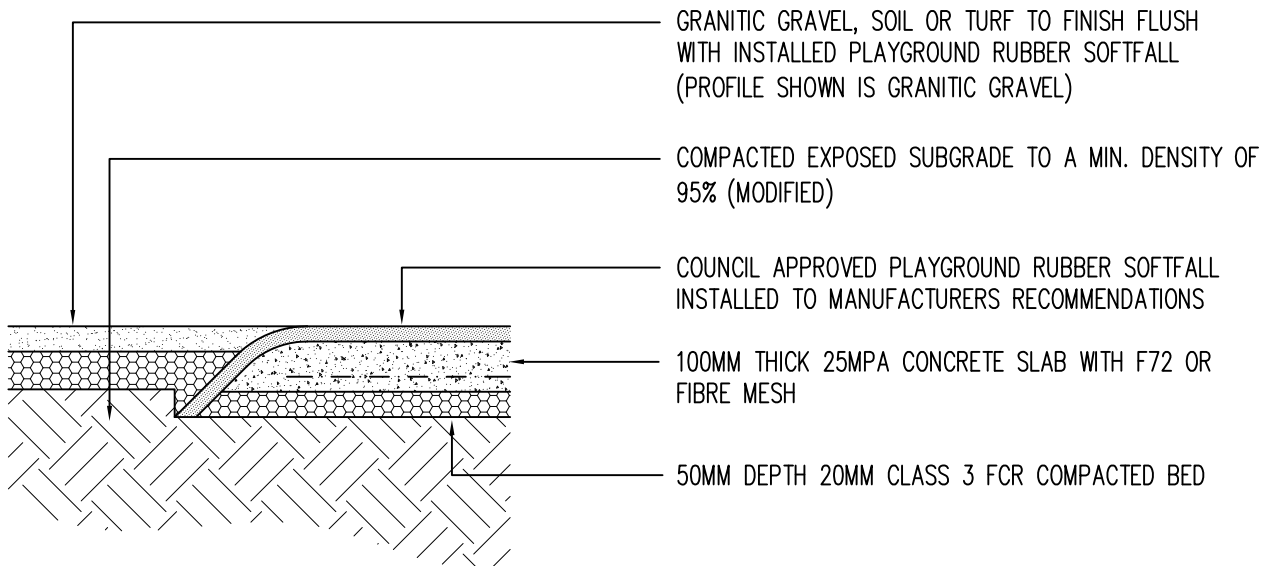
LAST UPDATE 09.11.2012

AMENDMENTS:

S-1014



TYPICAL CROSS SECTION FOR PLAYGROUND
RUBBER SOFTFALL AND CONCRETE EDGE



TYPICAL CROSS SECTION FOR PLAYGROUND
RUBBER SOFTFALL AND TIMBER EDGE

NOTES

1. REFER CITY OF CASEY STANDARD DRAWING S-402, FOR FOOTPATH DETAILS.

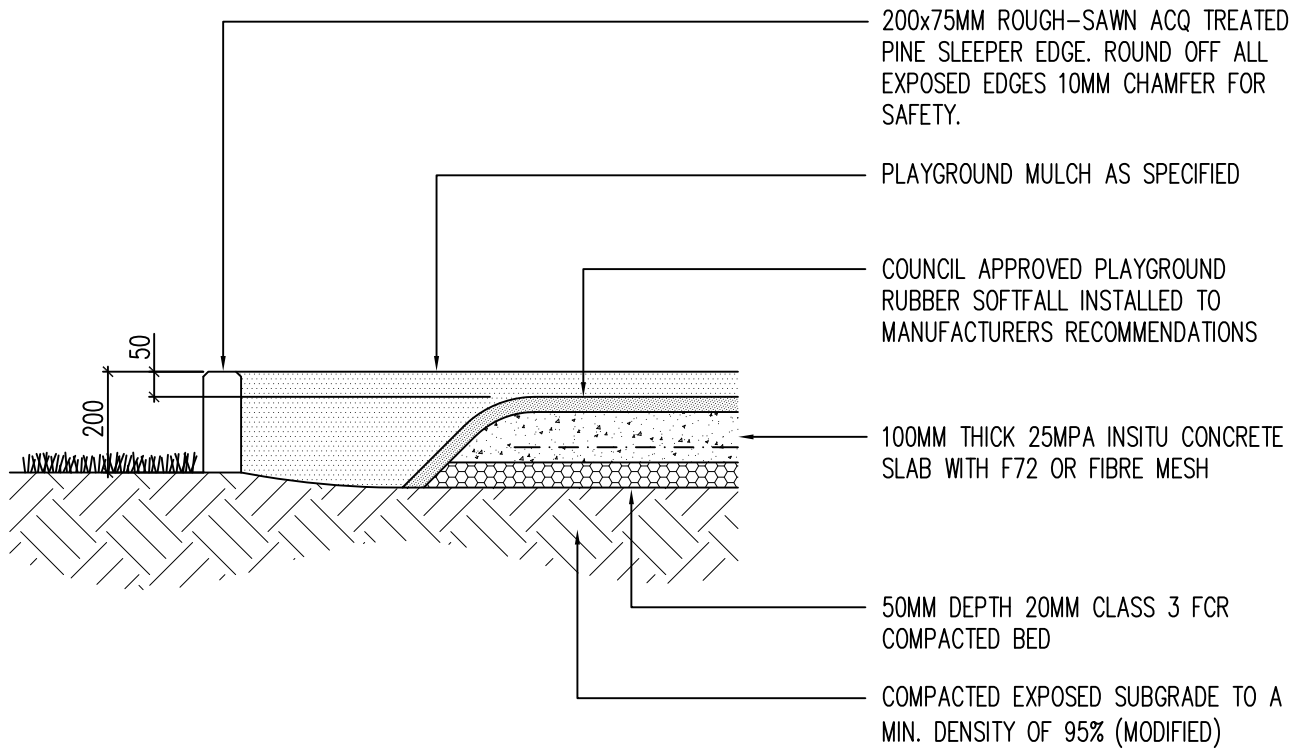
CITY OF CASEY

PLAYGROUND ELEMENTS
PLAYGROUND RUBBER SOFTFALL EDGE DETAILS

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LAST UPDATE 09.11.2012

AMENDMENTS:

S-1015



TYPICAL CROSS SECTION FOR PLAYGROUND
RUBBER SOFTFALL TOUCH DOWN PAD

CITY OF CASEY

PLAYGROUND ELEMENTS

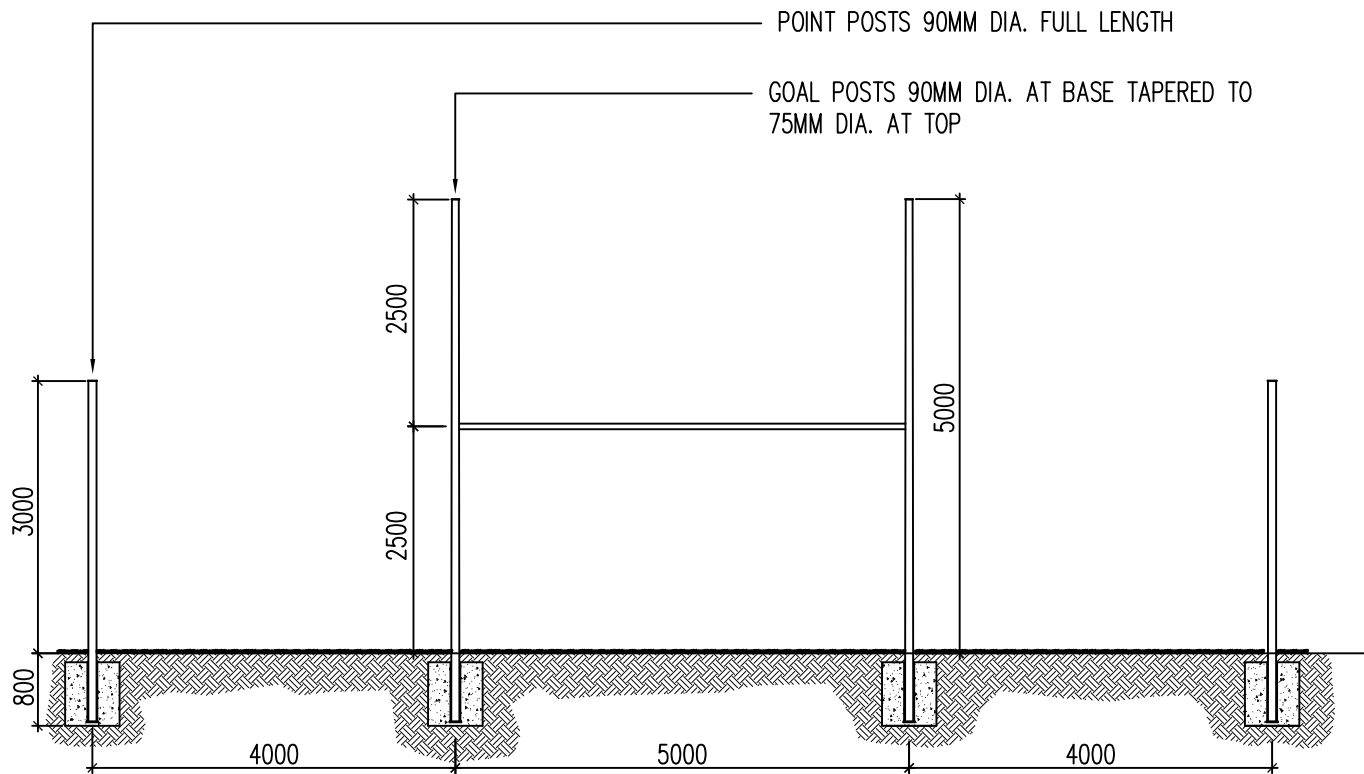
PLAYGROUND RUBBER SOFTFALL TOUCH DOWN PAD DETAIL

AMENDMENTS:

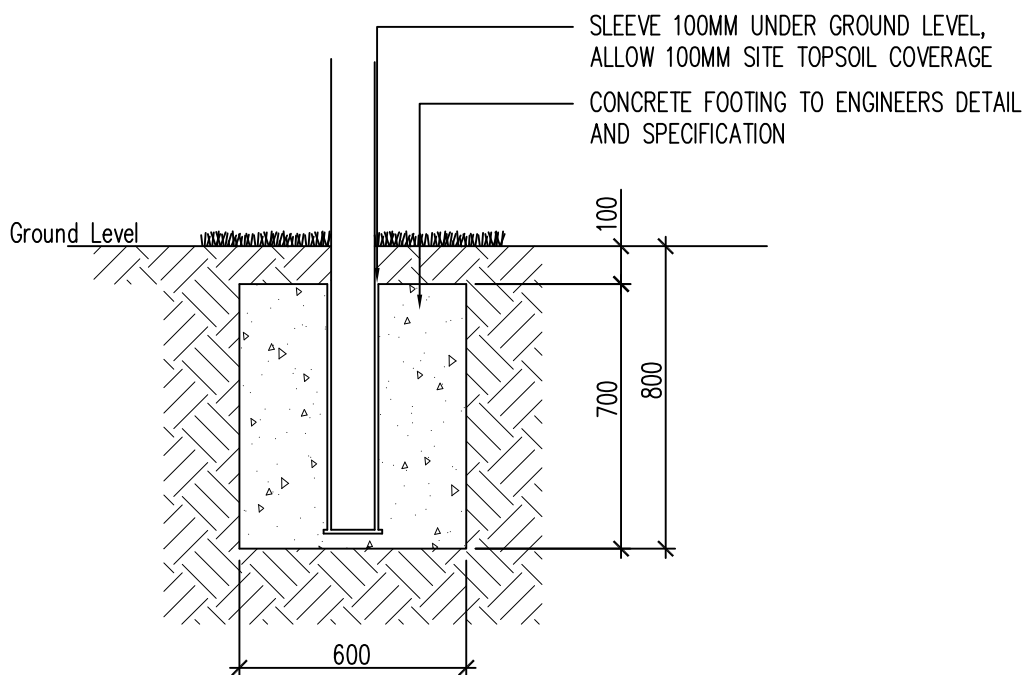
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S-1016



TYPICAL CROSS SECTION FOR
RECREATIONAL FUN GOAL POST



TYPICAL FOOTING DETAIL FOR
RECREATIONAL FUN GOAL POST

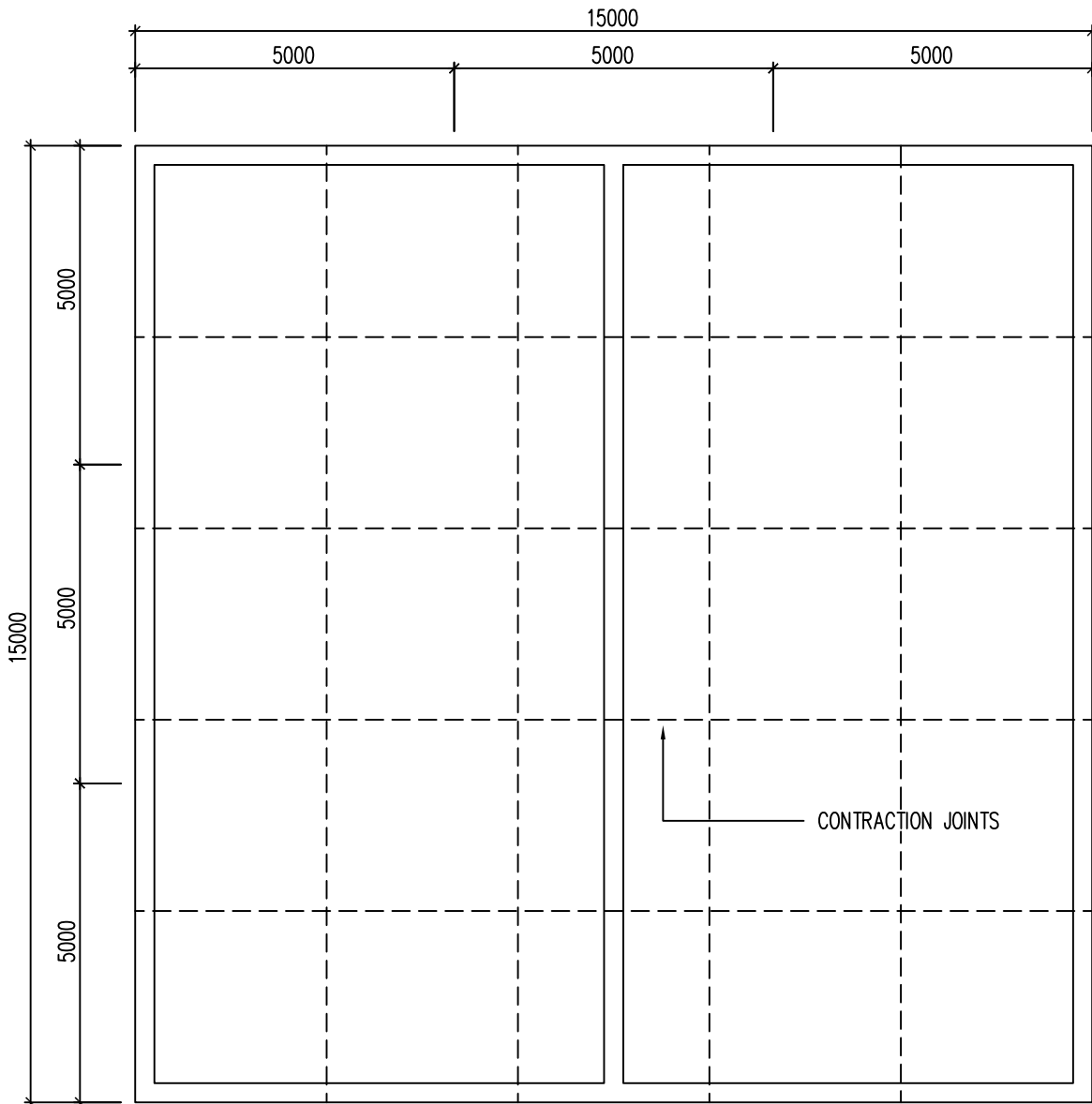
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RECREATIONAL ELEMENTS
FUN GOAL POST DETAIL

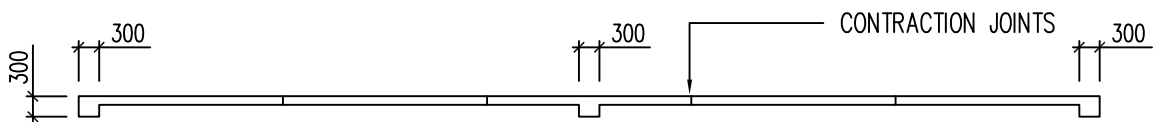
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AMENDMENTS:

S-1017



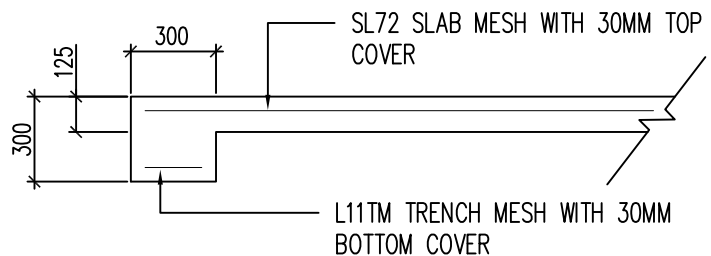
TYPICAL PLAN OF CONCRETE SLAB SHOWING CONTRACTION JOINTS



TYPICAL CROSS SECTION OF CONCRETE SLAB

NOTES

1. SIZE OF SMALL HARD COURT MAY VARY AS SPECIFIED
EG 13Mx13M, 13Mx14M, 13Mx15M, 14Mx14M,
14Mx15M, 15Mx15M.
2. PLACE TOWER OUTSIDE SLAB AT BEST LOCATION.
3. REFER TO STANDARD BASKETBALL RING AND TOWER
DETAIL DRAWING S-1020
4. TO BE READ IN CONJUNCTION WITH STANDARD
HARD COURT LAYOUT DETAIL DRAWING S-1019.
5. SURFACE GRADIENT 1 IN 100, CONSTANT ONE WAY FALL
ALONG NORTH-SOUTH ORIENTATION IN EITHER DIRECTION
TO SUIT NATURAL SURFACE.



TYPICAL CROSS SECTION OF CONCRETE
SLAB SHOWING REINFORCEMENT

CITY OF CASEY

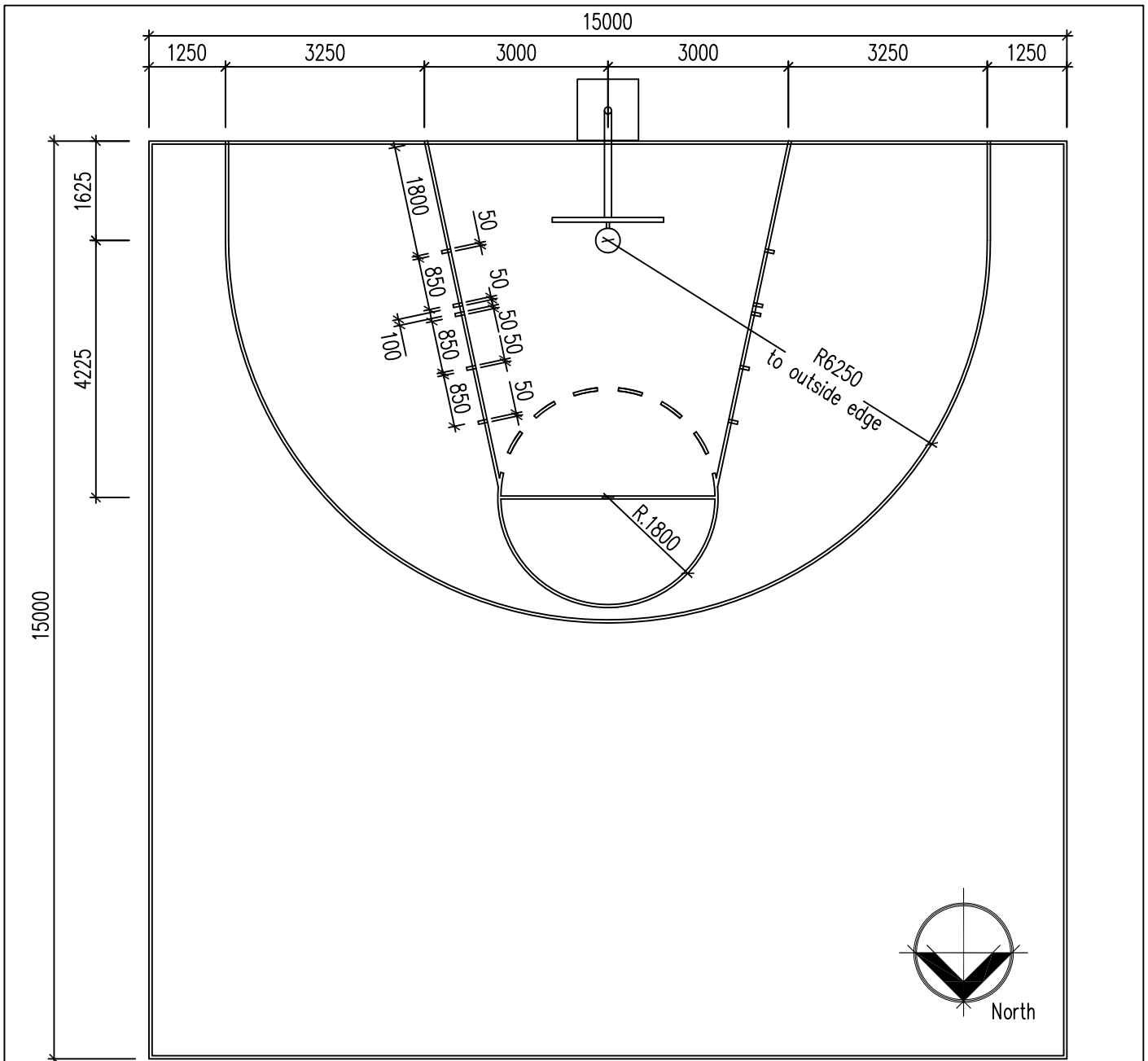
RECREATIONAL ELEMENTS
HARDCOURT SLAB DETAIL

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AMENDMENTS:

S-1018



TYPICAL PLAN FOR RECREATIONAL HARD COURT LAYOUT

NOTES

1. BACKBOARD RING AND TOWER CONFIGURATION INSTALLED TO MANUFACTURERS INSTRUCTIONS, REFER TO BASKETBALL RING AND TOWER DETAIL S-1020.
2. ALL LINE MARKING TO BE 50MM WIDE.
3. FINISHED SURFACE LEVEL TO BE 50MM ABOVE EXISTING GROUND LEVEL.
4. TOP OF BASKETBALL RING TO BE 3050MM ABOVE PLAYING SURFACE.
5. ALL NUTS AND BOLTS TO BE GALVANISED ISO METRIC THREAD.
6. PAINTED COURT CONFIGURATION COULD VARY WITH SCALE OF PLAY REQUIRED AND SIZE PROVIDED.
7. ENSURE ORIENTATION OF DIRECTION OF PLAY IS ALONG A NORTH-SOUTH AXIS, PLACE BASKETBALL TOWER AT SOUTHERN END.
8. REFER TO 'TRULINE' CATALOGUE, OR SIMILAR, FOR MORE INFORMATION AND DIMENSIONS. DIMENSIONS WILL VARY WITH SIZE OF HARD COURT.

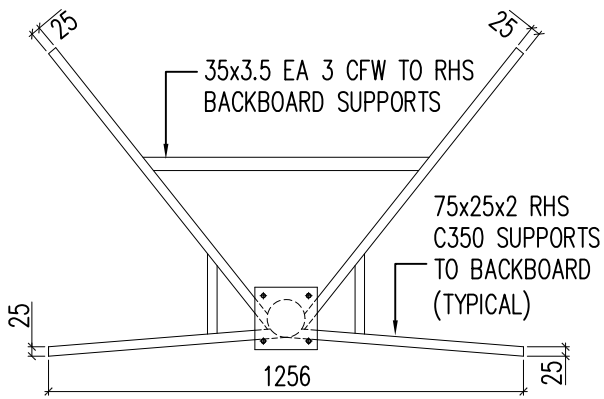
CITY OF CASEY

RECREATIONAL ELEMENTS
HARD COURT LAYOUT DETAIL

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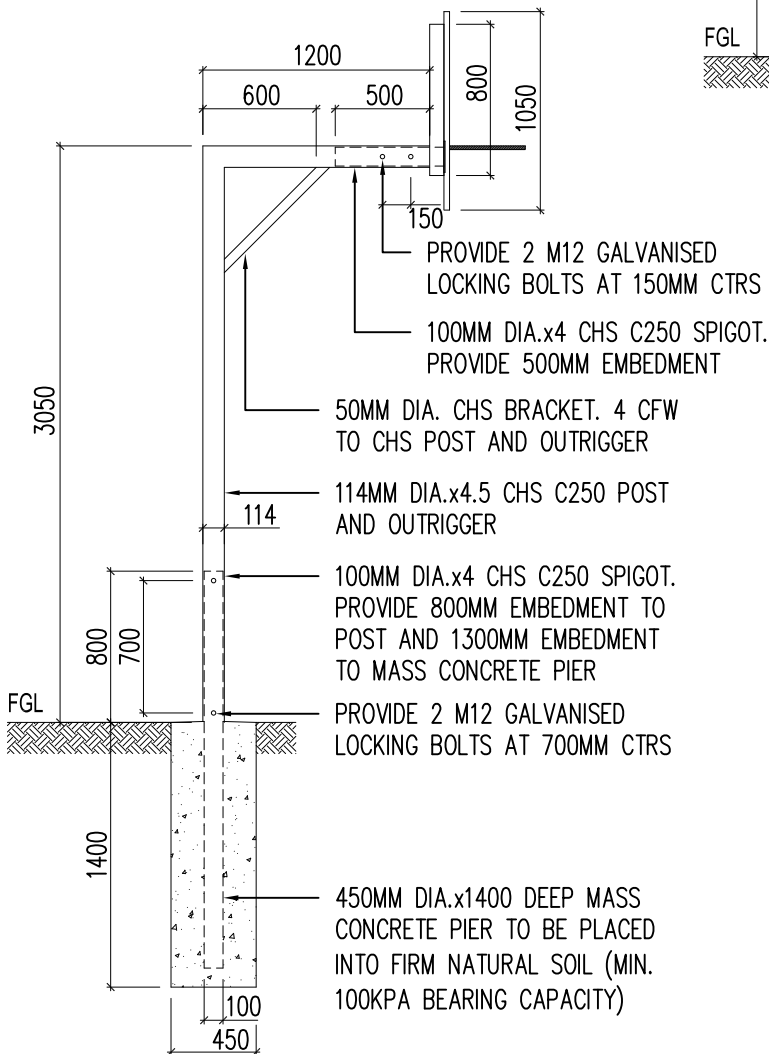
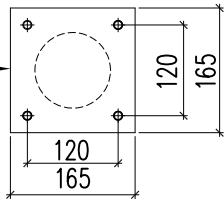
S-1019



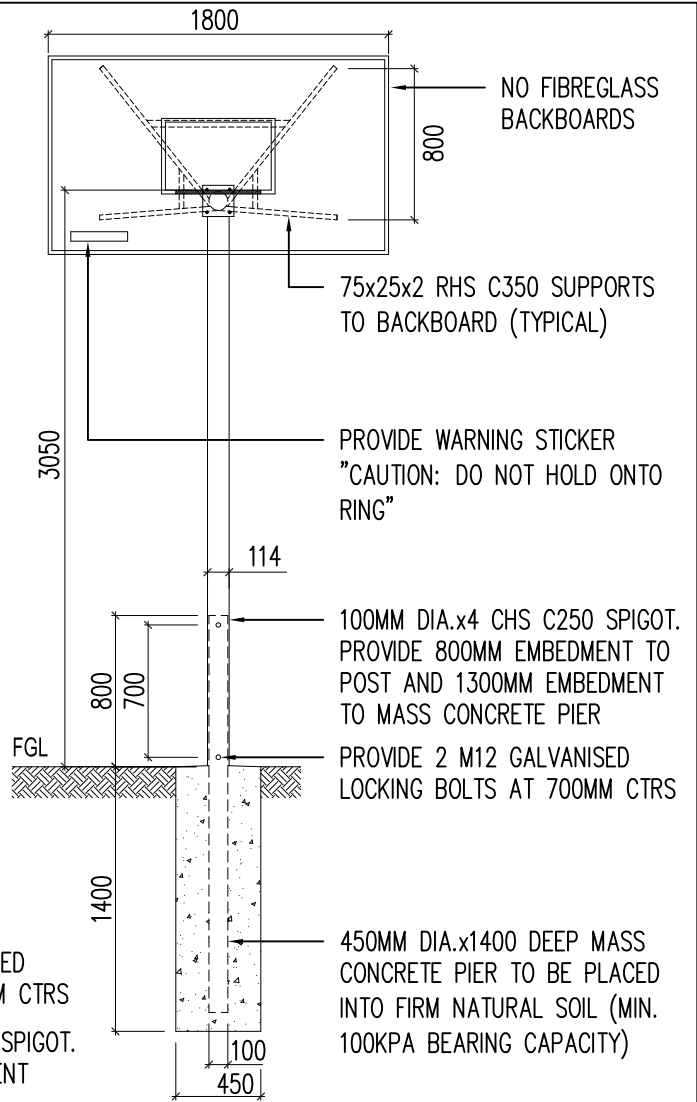
BACKBOARD SUPPORT DETAIL

165x165x6 MS BASE PLATE. 6 CFW TO CHS SPIGOT AND RHS OUTRIGGERS

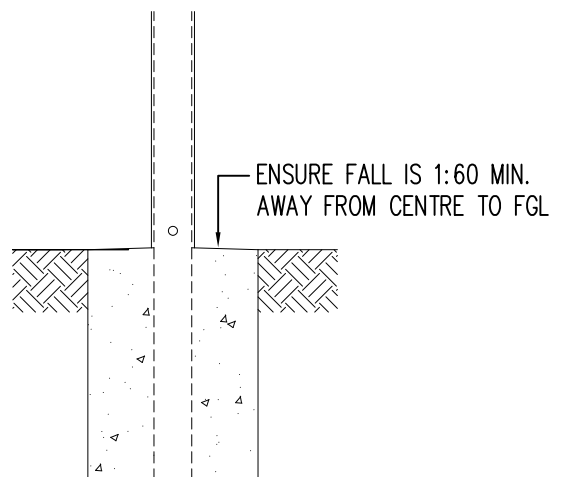
PLATE DETAIL



SIDE ELEVATION



FRONT ELEVATION



FOOTING ENLARGEMENT

CITY OF CASEY

**RECREATIONAL ELEMENTS
BASKETBALL RING AND TOWER DETAIL**

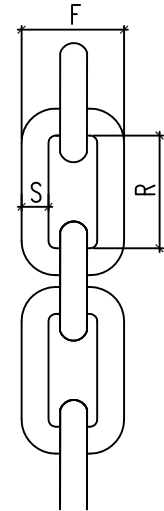
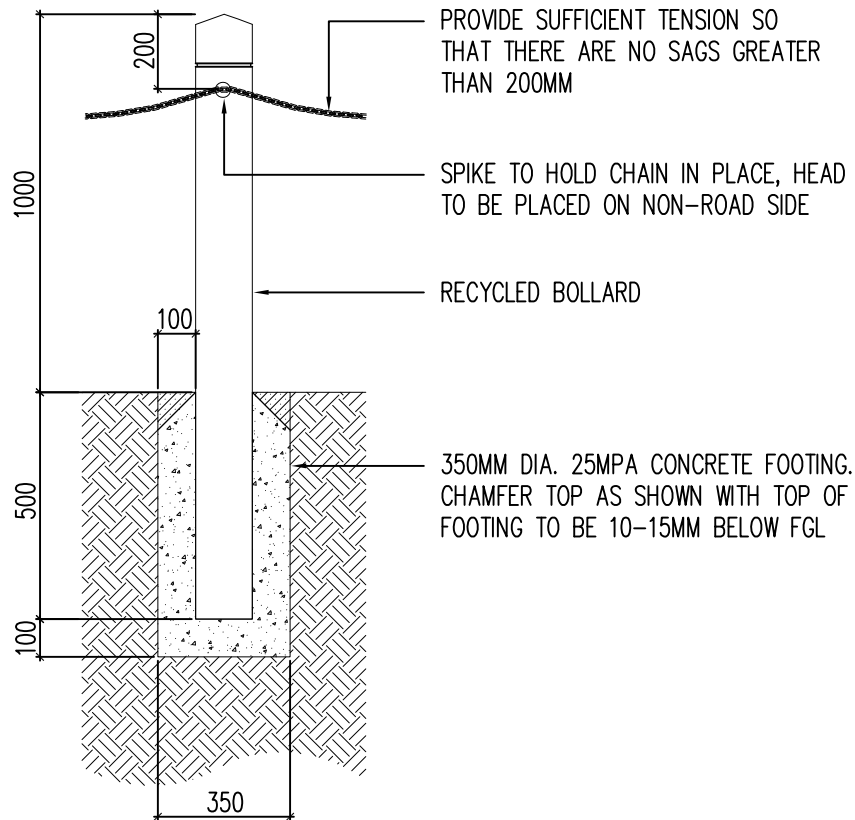
Shah

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AMENDMENTS:

S-1020

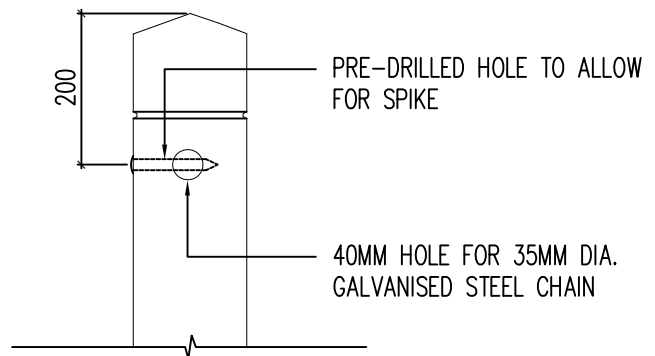


TYPICAL CHAIN

TYPICAL CROSS SECTION FOR RECYCLED BOLLARD WITH CHAIN

NOTES

1. CHAIN TO BE REGULAR LINK GALVANISED STEEL.
2. CHAIN SIZE TO BE 10MM
F 36MM
R 41.5MM
S 10MM
3. SPIKE PLACED IN EACH POST TO SECURE CHAIN FROM MOVING.



TYPICAL CHAIN CONNECTION

CITY OF CASEY

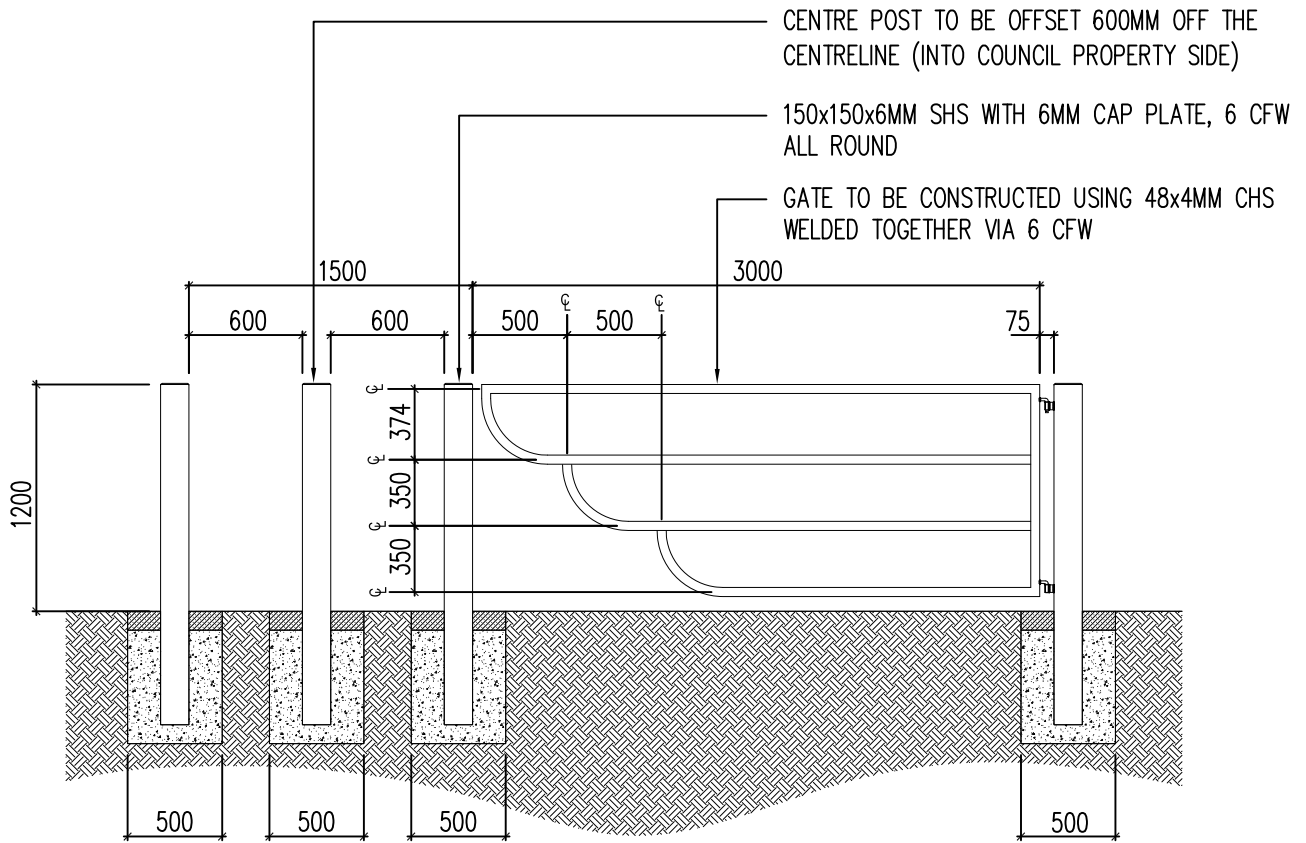
FURNITURE
RECYCLED BOLLARD WITH CHAIN DETAIL

Robert

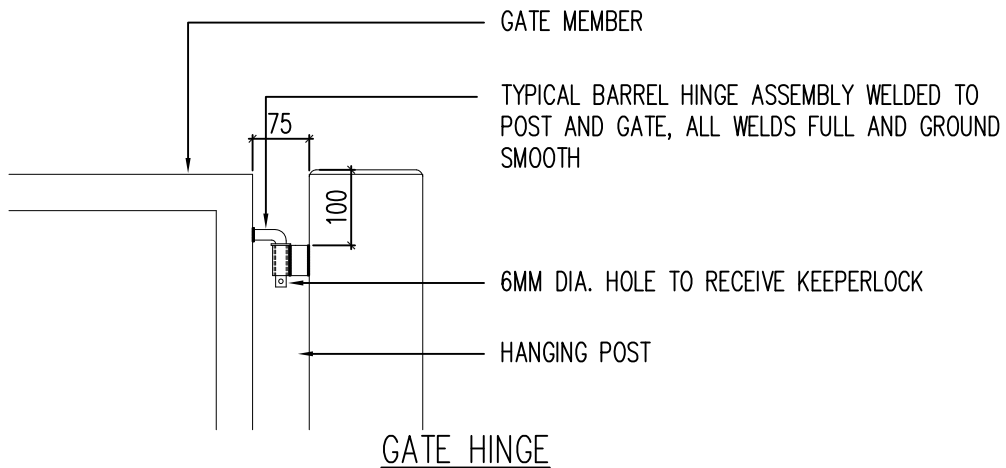
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AMENDMENTS:

S-1021



TYPICAL CROSS SECTION FOR GATE



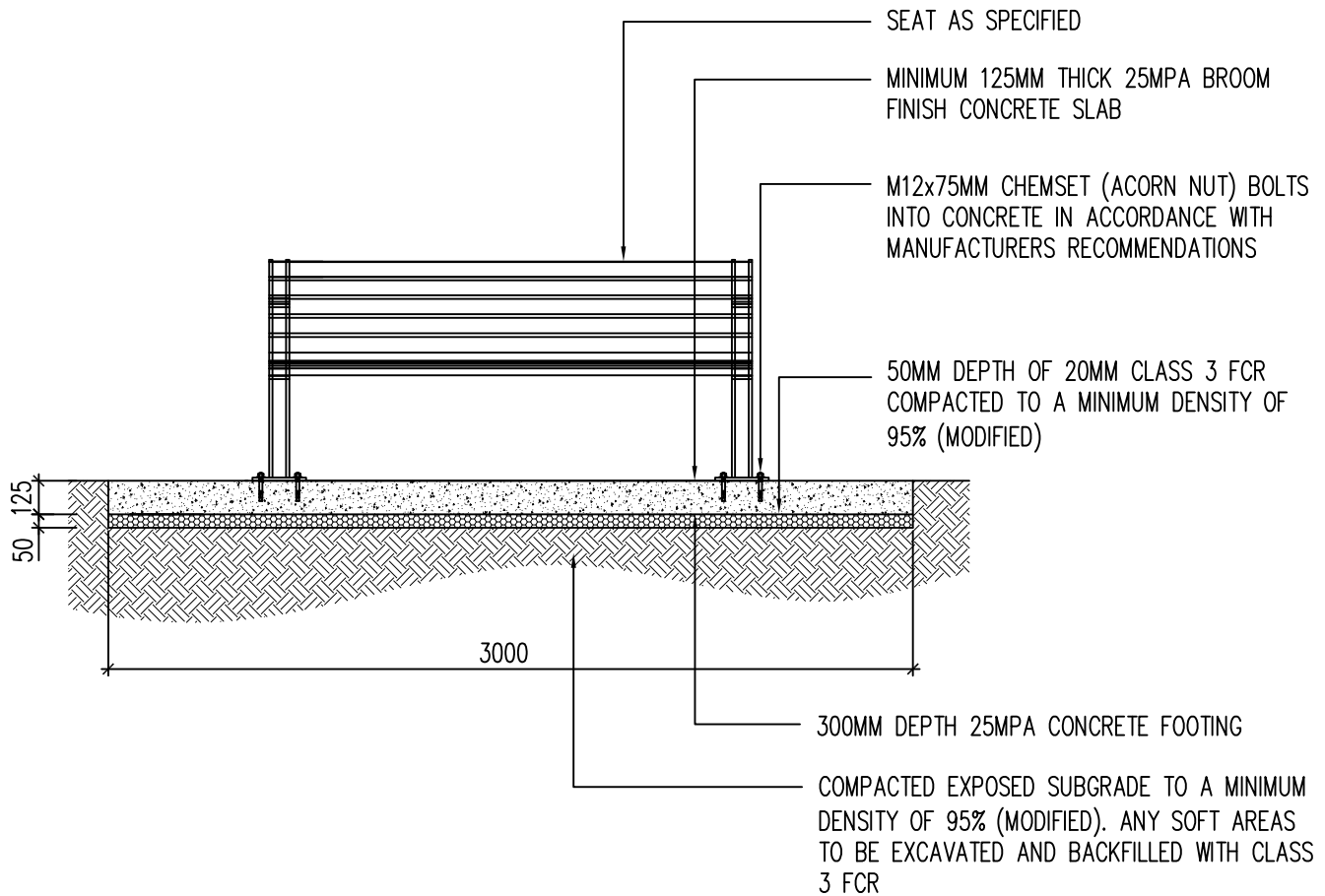
CITY OF CASEY

FURNITURE
GATE DETAIL

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AMENDMENTS:

S-1022



TYPICAL CROSS SECTION
FOR SEAT

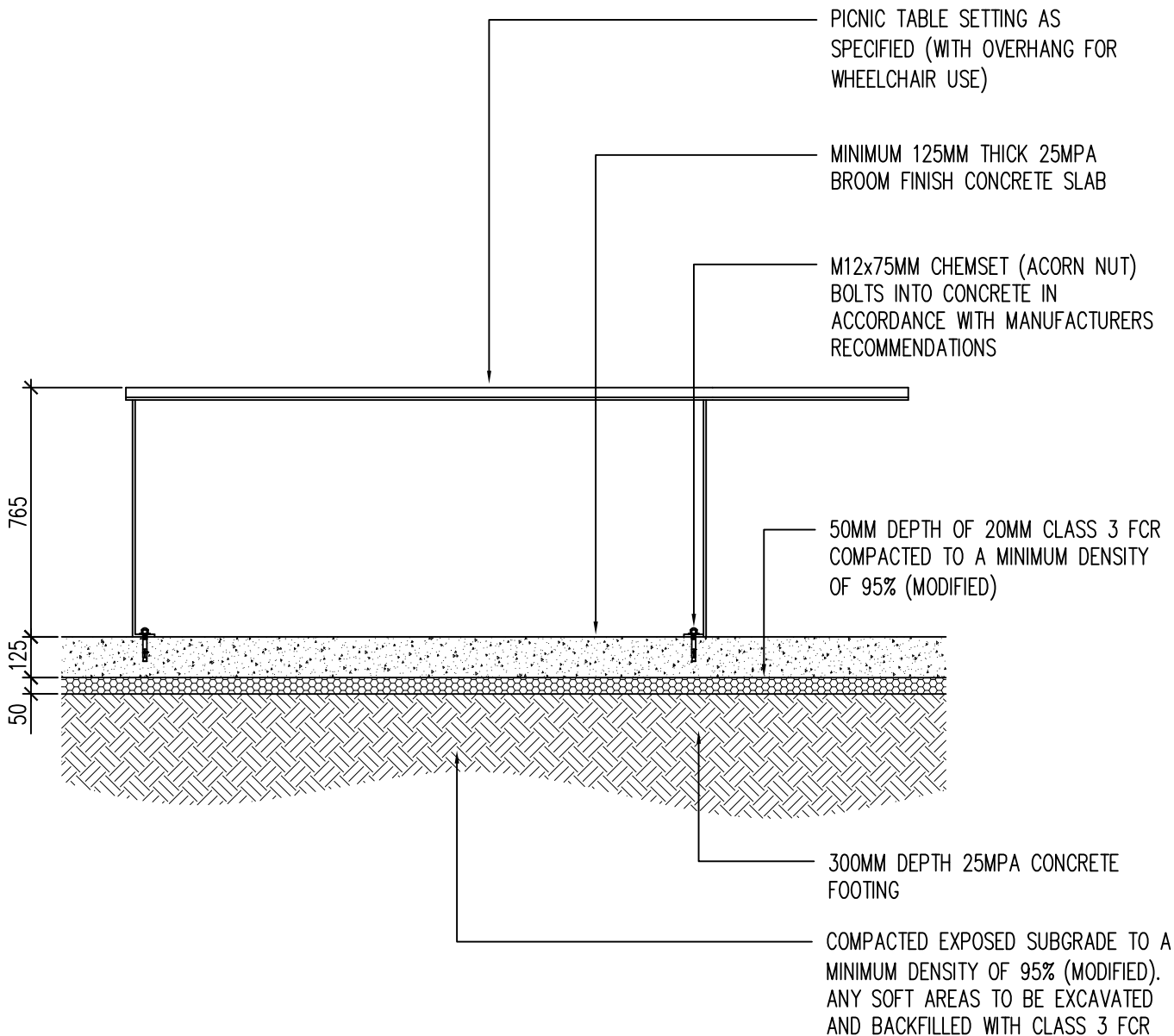
CITY OF CASEY

FURNITURE
SEAT DETAIL

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AMENDMENTS:

S-1023



TYPICAL CROSS SECTION FOR PICNIC TABLE SETTING

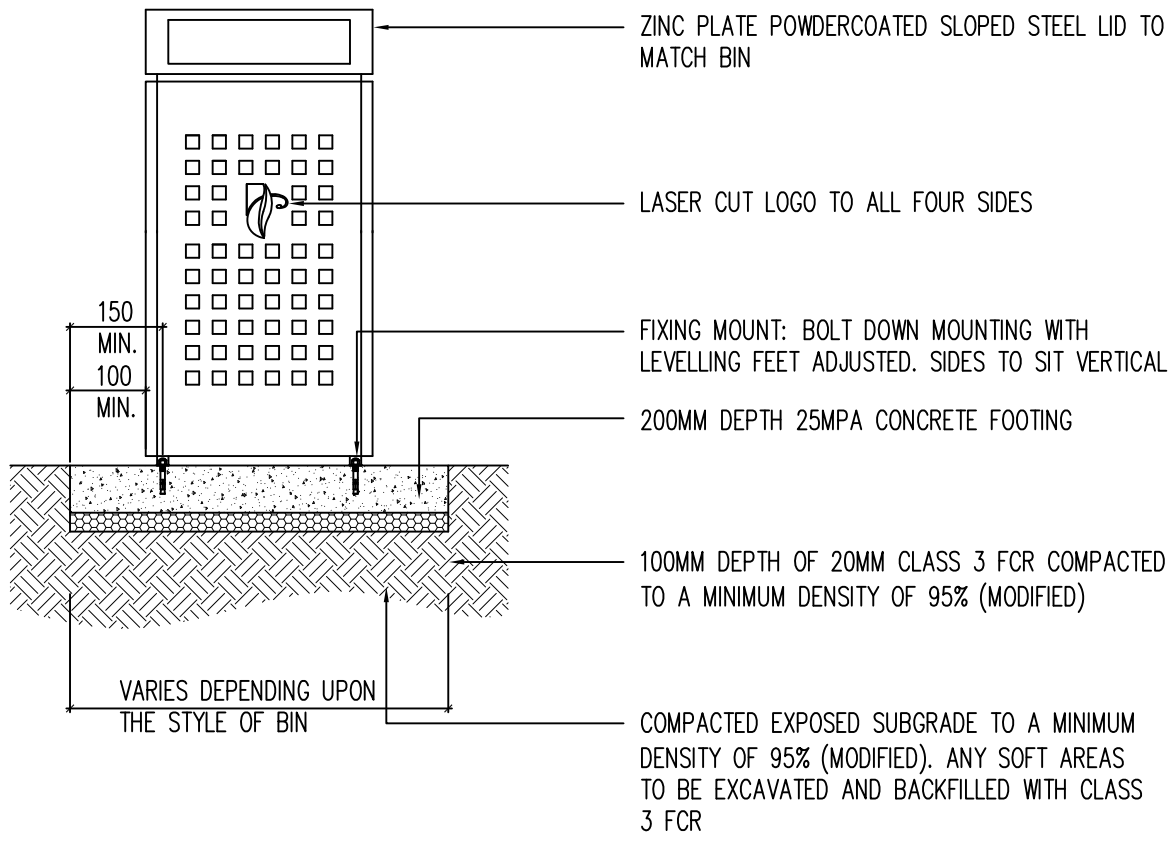
CITY OF CASEY

FURNITURE
PICNIC TABLE SETTING DETAIL

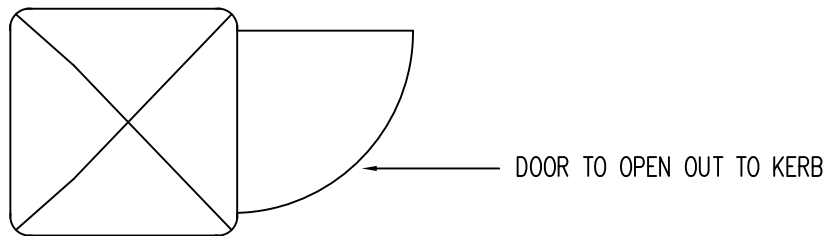
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S-1024

AMENDMENTS:



TYPICAL CROSS SECTION FOR BIN SURROUND



TYPICAL PLAN FOR BIN SURROUND

NOTES

1. LITTER BIN SURROUND TO BE POWDERCOATED 'CASEY' GREEN TO SIDES AND DOOR, UNLESS SPECIFIED OTHERWISE.
2. TRIANGULAR KEY OPERATED LOCK.
3. 120 LITRE WHEELIE BIN SIZE WITH 1315x600x600MM SURROUND.

CITY OF CASEY

FURNITURE
BIN SURROUND DETAIL

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AMENDMENTS:

S-1025

SECTION 4

WATER SENSITIVE URBAN DESIGN

CASEY STANDARD WATER SENSITIVE URBAN DESIGN DRAWINGS REQUIREMENTS

CLAUSE 56 OF THE PLANNING SCHEME REQUIRES THAT ALL NEW DEVELOPMENTS COMPLY WITH BEST PRACTICE STORMWATER QUALITY OBJECTIVES AS STATED IN THE URBAN STORMWATER BEST PRACTICE ENVIRONMENTAL GUIDELINES (1999). THIS DRAWING SET HAS BEEN PREPARED TO AID CONSULTANTS AND DEVELOPERS IN REGARD TO MEETING THIS REQUIREMENT.

THE DRAWINGS CONTAINED IN THIS SET ARE NOT EXHAUSTIVE. CHANGES AND ADDITIONS CAN BE MADE TO SUIT DIFFERENT SITE REQUIREMENTS AND PROJECTS PROVIDED COUNCIL AGREES TO THESE CHANGES. THE AIM OF THE DRAWING SET IS TO CREATE SUCCESSFUL, LOW MAINTENANCE WSUD PROJECTS WHICH WILL BE SELF SUSTAINING WELL INTO THE FUTURE AND WHICH WILL SUPPLEMENT THE LOCAL LANDSCAPE AND ECOLOGY OF URBAN ENVIRONMENTS.

DESIGN

1. AS INDICATED ON THE STANDARD DRAWINGS DIMENSIONS OF SWALES AND ROAD RESERVE WIDTHS ARE MINIMUM ONLY. THE DESIGNER IS RESPONSIBLE FOR SIZING THE SWALES TO CATER FOR THE 5 YEAR ARI FLOW AND UNDERGROUND PIPE SYSTEM FOR BOTH WATER QUALITY TREATMENT. THE TOTAL ROAD RESERVE MUST BE DESIGNED TO HANDLE A 100 YEAR EVENT.
2. THE DESIGNER IS DIRECTED TO USE THE MELBOURNE WATER CORPORATION W.S.U.D. ENGINEERING PROCEDURES (STORMWATER) MANUAL TO ADEQUATELY SIZE SWALES, BIORETENTION AND NODAL SYSTEMS. DRAINAGE SYSTEM TO CATER FOR RUNOFF FLOWS FROM AUSTRALIAN RAINFALL AND RUNOFF
3. SWALES CANNOT BE USED IN DRAINAGE EASEMENTS WITHIN LOTS UNDER ANY CIRCUMSTANCES.
4. SOIL TESTS TO OCCUR PRIOR TO THE DESIGN OF W.S.U.D ELEMENTS. W.S.U.D ELEMENTS MAY NOT BE USED UNDER ANY CIRCUMSTANCES IN AREAS WITH CLAY SUBSURFACES.
4. THE DESIGNER MUST MAKE PROVISION FOR THE FLUSHING OUT AND/OR RODDING OF THE BIORETENTION SYSTEMS PERFORATED PIPES.
5. EARTHWORKS CONSTRUCTION TOLERANCES SHALL BE +/- 10-20 mm.
6. IF LOT DENSITIES ARE SUCH THAT LOT FRONTAGES ARE LESS THAN 14 – 15m STREETScape SYSTEMS ARE CONSIDERED INAPPROPRIATE AND THE DESIGNER IS DIRECTED TO PROVIDE A NODAL END OF LINE TREATMENT.
7. ALL CULVERT CROSSING AND INLETS TO THE PIPE SYSTEM DOWN STREAM OF BIORETENTION SWALES ARE TO BE SET 100mm ABOVE THE INVERT OF THAT SWALE TO FACILITATE PONDING.
8. THE IMPERVIOUS MEMBRANE SURROUNDING THE LOWER SECTION OF THE BIORETENTION TRENCH IS NOT REQUIRED IF THE TRENCH IS GREATER THAN 2.40m OFFSET FROM THE BACK OF KERB AND THE SURROUNDING GROUND IS NON DISPERSIVE.
9. EVEN THOUGH VELOCITIES WITHIN THE SWALE SYSTEM SHOULD BE MINIMAL, TO ACHIEVE SUITABLE WATER QUALITY TREATMENT, THE DESIGNER SHOULD CONSIDER ROCK BEACHING EROSION PROTECTION AROUND INLET AND OUTLET STRUCTURES.
10. EROSION PROTECTION IS TO BE PROVIDED ON BOTH SIDES OF, SWALES IMMEDIATELY AFTER TOP SOILING, IN THE FORM OF A 1.0m WIDE STRIP OF INSTANT TURF. REFER DETAIL PROVIDED.

LANDSCAPING NOTES:

- 1, LANDSCAPE DESIGNERS ARE DIRECTED TO USE THE RECOMMENDED PLANT LIST PROVIDED IN THE MELBOURNE WATER CORPORATION WSUD ENGINEERING PROCEDURES : STORMWATER MANUAL.
2. COUNCILS LANDSCAPE SECTION MUST APPROVE THE PLANT SPECIES PRIOR TO CONSTRUCTION..
3. TREE ROOT BARRIERS ARE TO BE PROVIDED WHERE TREES ARE IN THE VICINTY OF BIORETENTION TRENCHES. "TREEMAX TYPE 1400" OR EQUIVALENT IS TO BE USED.
4. WHERE PLANTED SWALES OR BIORETENTION SWALES ARE ADJACENT TO EXOTIC FLORA, HARD WOOD EDGING SHALL BE SUPPLIED TO DELINEATE A MAINTENANCE EDGE.
5. VEGETATED BIORETENTION SWALES ARE TO BE TOPSOILED TO A MINIMUM DEPTH OF 200mm.

CITY OF CASEY

WATER SENSITIVE URBAN DESIGN
NOTES AND CONSTRUCTION REQUIREMENTS

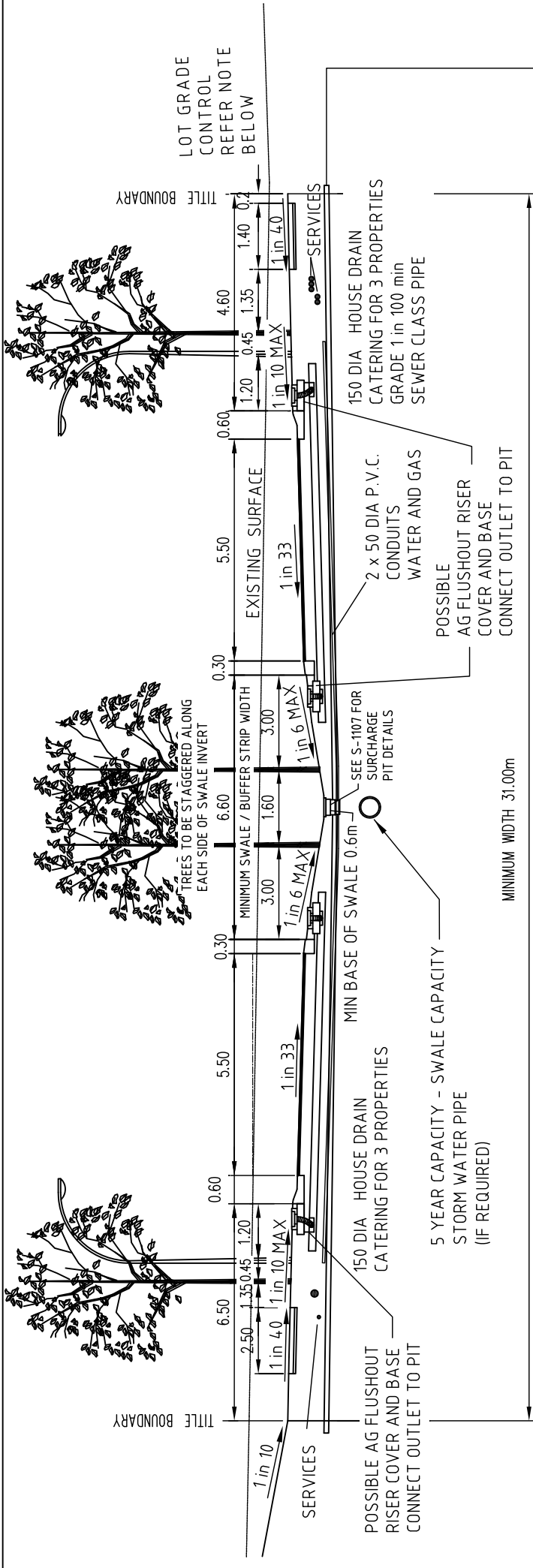


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AMENDMENTS:

S-1101



WIDER ROAD RESERVE REQUIRED FOR LARGER SWALE

NOTES

1. KERB AND CHANNEL TO BE OUTFALL TRAY AS PER VICROADS SM3 AND MEDIAN KERB TO BE SEMI MOUNTABLE KERB AND CHANNEL(VICROADS SM1)
2. REFER TO CODE OF PRACTICE FOR COORDINATION OF STREET WORKS, VICTORIA FOR SERVICE LOCATION.
3. W.S.U.D ELEMENTS DESIGNED AS PER REQUIREMENTS OF CASEY STD S-1100 AND MELBOURNE WATER CORPORATION WSUD ENGINEERING PROCEDURES "STORMWATER MANUAL"
4. REFER TO CASEY STD S-1106 FOR FILTER MATERIAL SPECIFICATIONS
5. REFER TO CASEY STD S-1107 FOR SURCHARGE PIT DETAIL
6. GUARD RAIL TO BE PROVIDED AS PER VIC ROAD CLEAR ZONE REQUIREMENTS

DIRECT STORM WATER FROM LOW SIDE ONLY WHEN EXISTING SURFACE FALLS AWAY AT 1 in 150 OR LESS AND FOOTPATH MATCHES EXISTING SURFACE ON THIS SIDE. OTHERWISE DIRECT STORM WATER TO CONVENTIONAL DRAINAGE AT REAR.

CITY OF CASEY

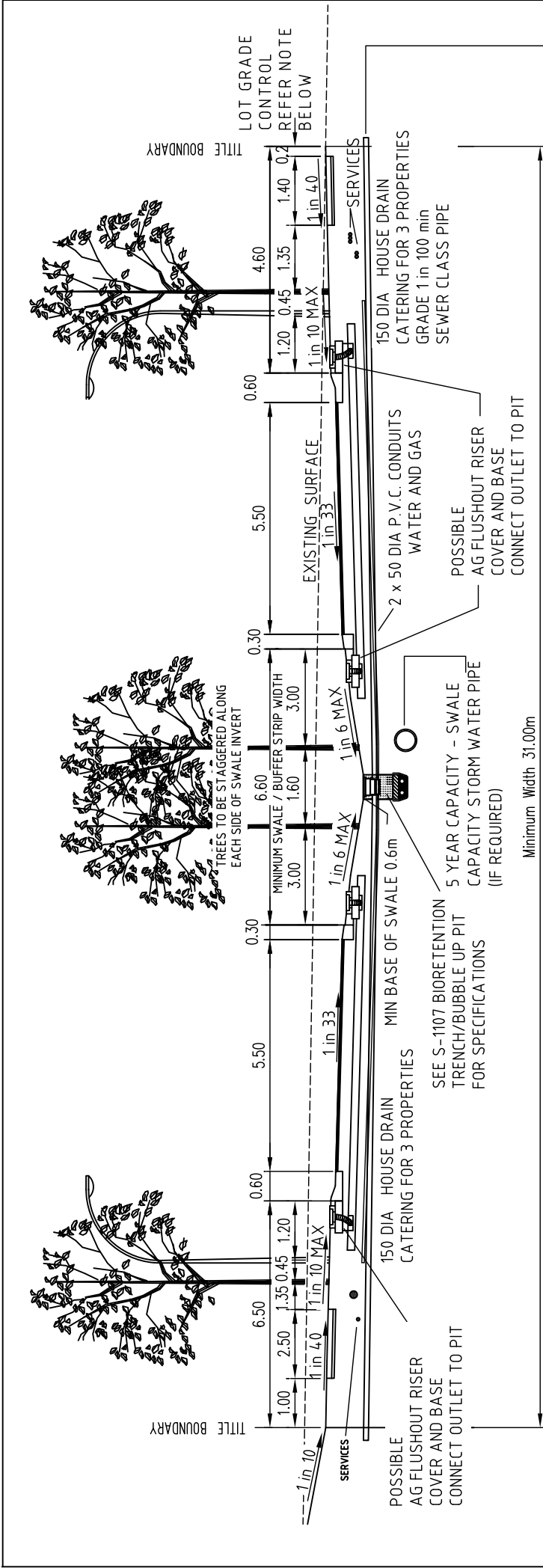
MEDIAN SWALE AT GRADE
COLLECTOR ROADS (31.00m ROAD RESERVE)

AMENDMENTS:



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S-1102




NOTES

1. KERB AND CHANNEL TO BE OUTFALL TRAY AS PER VICROADS SM3 AND MEDIAN KERB TO BE SEMI MOUNTABLE KERB AND CHANNEL VICROADS SM1
2. REFER TO CODE OF PRACTICE FOR COORDINATION FOR STREET WORKS, VICTORIA FOR SERVICE LOCATION.
3. W.S.U.D ELEMENTS DESIGNED AS PER REQUIREMENTS OF CASEY STD S-1101 AND MELBOURNE WATER CORPORATION WSUD ENGINEERING PROCEDURE "STORMWATER MANUAL"
4. REFER TO CASEY STD S-1106 FOR FILTER MATERIAL SPECIFICATIONS
5. REFER TO CASEY STD S-1107 FOR BIORETENTION TRENCH DETAIL
6. GUARDRAIL TO BE PROVIDED AS PER VIC ROADS CLEAR ZONE REQUIREMENTS

DIRECT STORM WATER FROM LOW SIDE ONLY WHEN EXISTING SURFACE FALLS AWAY AT 1 in 150 OR LESS AND FOOTPATH MATCHES EXISTING SURFACE ON THIS SIDE. OTHERWISE DIRECT STORM WATER TO CONVENTIONAL DRAINAGE AT REAR.

CITY OF CASEY

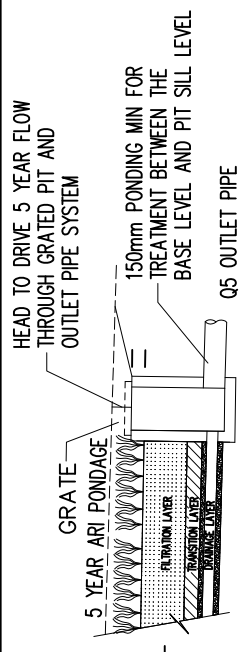
MEDIAN BIORETENTION SWALE
COLLECTOR ROADS (31.00m ROAD RESERVE)



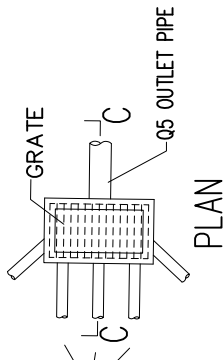
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S-1103

AMENDMENTS:



SECTION C - C



PLAN OUTLET STRUCTURE

NODAL BIORETENTION SYSTEM BASE AREA SHAPE AND STORAGE AREA SHAPE VARY DEPENDING ON SITE CONSTRAINTS, APPLICATION AND LANDSCAPE CONSIDERATIONS. THE BASE AREA MUST BE SIZED TO MEET CLAUSE 56 REQUIREMENTS IN REGARD TO STORMWATER POLLUTANT TREATMENT. PERFORMANCE CAN INCLUDE THE PERFORMANCE OF THE UPSTREAM SWALE SYSTEM IN A TREATMENT TRAIN SENSE.

THIS APPLICATION CAN BE USED WHEN STREETSCAPE APPLICATIONS ARE NOT FEASIBLE AND AN END OF PIPE TREATMENT FACILITY IS REQUIRED.
 TYPICAL CONCEPT DESIGN "END OF LINE" NODAL BIORETENTION SYSTEMS, TYPICALLY LOCATED WITHIN LOCAL PARKS. SYSTEM SIZE IN W.S.U.D. TREATMENT TABLE REFERS TO BIORETENTION BASE AREA.
 DETAILED DESIGN MUST BE CONSISTENT WITH REQUIREMENTS OF MELBOURNE WATER'S W.S.U.D. ENGINEERING PROCEDURES, 2005.

CITY OF CASEY

NODAL BIORETENTION SYSTEMS FOR USE IN SUBDIVISIONS

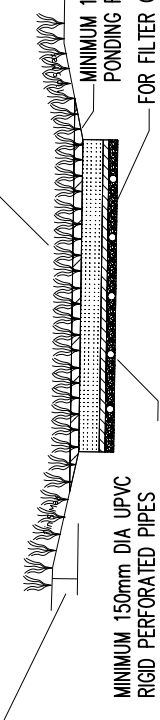
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 S-1104

VEGETATION AS PER SPECIFIED IN MELBOURNE WATER W.S.U.D. ENGINEERING PROCEDURES, 2005.



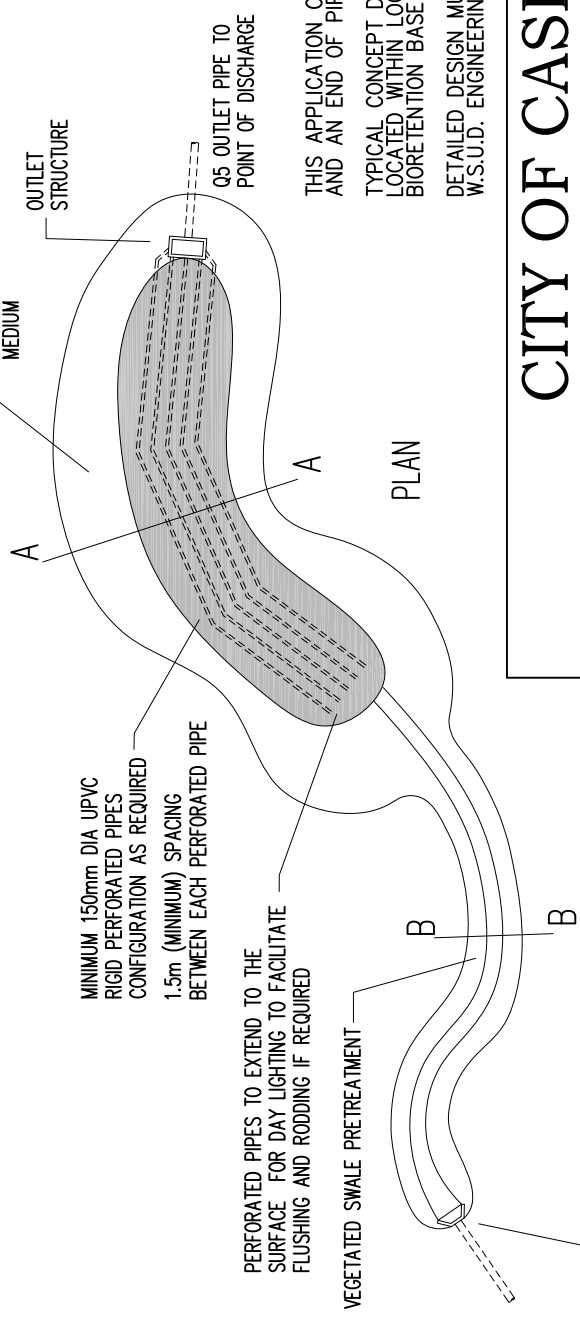
SECTION B - B
GRASSED SWALE

EXCAVATION DEPTH DEPENDANT ON UPSTREAM PIPE OUTFALL DEPTH, PIPE/SWALE DEPTHS AND SITE TERRAIN



SECTION A - A
BIORETENTION SYSTEM

PERFORATED PIPES TO BE INSTALLED NO CLOSER THAN 1.5m BETWEEN EACH OTHER



PLAN

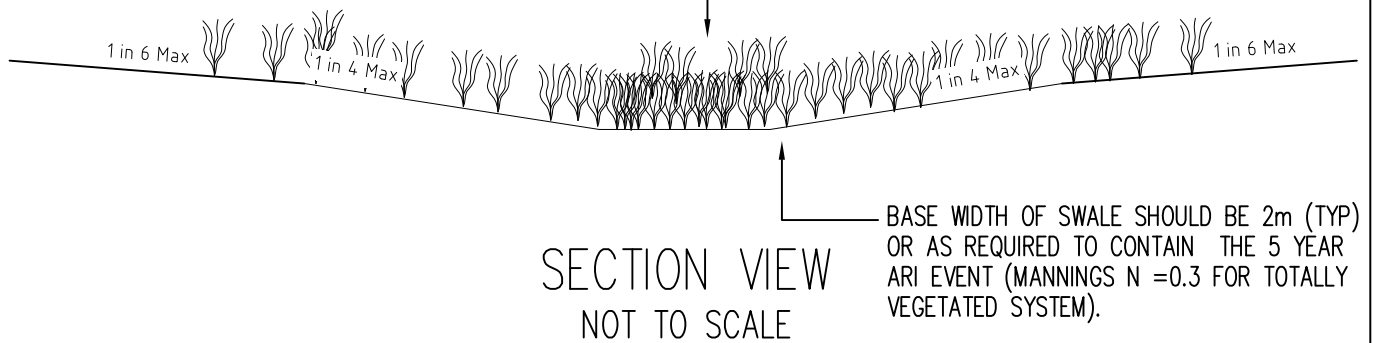
AMENDMENTS:



EXAMPLE OF A TYPICAL APPLICATION

VEGETATION AS SPECIFIED IN THE MELBOURNE WATER W.S.U.D MANUAL FOR "BOULEVARD MEDIAN SWALE OR BIORETENTION SYSTEM"

DENSE PLANTING OF SEDGES AND RUSHES IS REQUIRED. (4 - 6 PLANTS PER SQ.M.) ROCK WORK ONLY REQUIRED IN LOCALISED AREAS FOR LANDSCAPE TREATMENT (AS REQUIRED BY THE LANDSCAPE ARCHITECT) OR AT INLET LOCATIONS (PIPE INLETS, BUBBLE UP PIT LOCATIONS, ETC) FOR EROSION PROTECTION. ROCK SPALLS WHEN USED TO BE NO LESS THAN 50mm IN DIA.



CITY OF CASEY

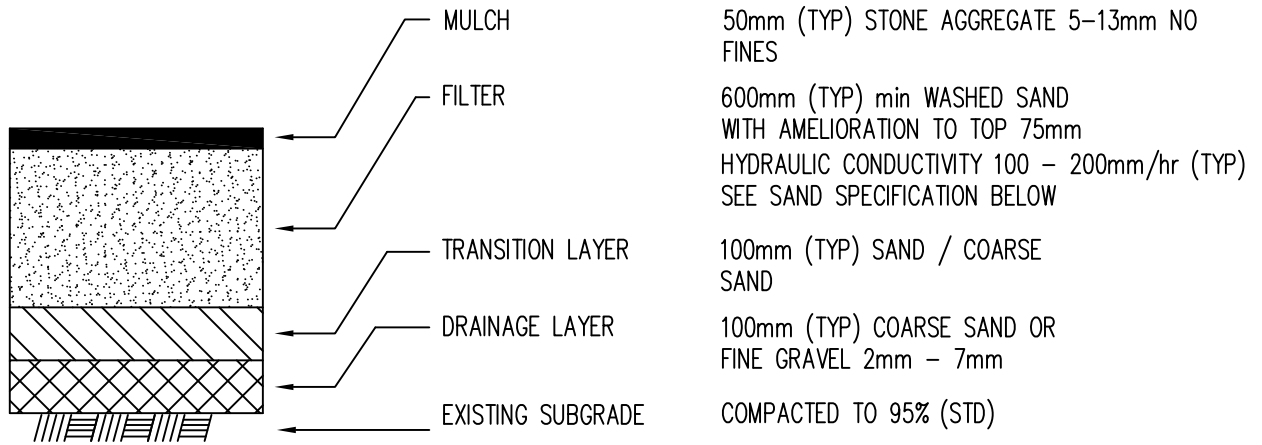
EPHEMERAL SWALE
FOR USE IN RESERVES

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AMENDMENTS:

S-1105



BIORETENTION FILTER LAYERS

MATERIAL
NOT TO SCALE

1. pH 6.0 - 7.0
2. SALT (ppm) < 500
3. PARTICLE SIZE (% RETAINED)

Fine Gravel (>2mm)	0
Very Coarse Sand (1mm)	< 10
Coarse Sand (0.5mm)	20-30
Medium Sand (0.25mm)	40-75
Fine Sand (0.106mm)	< 30
Very Fine Sand (0.053mm)	< 15
Silt & Clay (<0.053mm)	< 5

NOTE: Combined % RETAINED OF COURSE, MEDIUM AND FINE SAND SHALL EXCEED 75%

4. HYDRAULIC CONDUCTIVITY (mm/hr) 300 - 400
THE HYDRAULIC CONDUCTIVITY IS TO BE MEASURED USING A SATURATED HYDRAULIC CONDUCTIVITY TEST.
THE pH OF THE TURF SAND IS TO BE AMENDED PRIOR TO DELIVERY TO BE WITHIN THE RANGE OF pH 6.0 - 7.0
ALL MATERIALS ARE TO BE TESTED AND APPROVED BY AN APPROVED LABORATORY, PRIOR TO DELIVERY

FILTER SAND SPECIFICATION

1. SPECIFICATION SHOWN IS BASED ON RECOMMENDATIONS WITHIN "REVIEW OF STREETScape WSUD IN MELBOURNE" BY Dr NICHOLAS SOMES AND MATTHEW POTTER, 2007" AND ARE SUBJECT TO CHANGE OVER TIME GIVEN FURTHER INVESTIGATION OF THESE SYSTEMS.

CITY OF CASEY

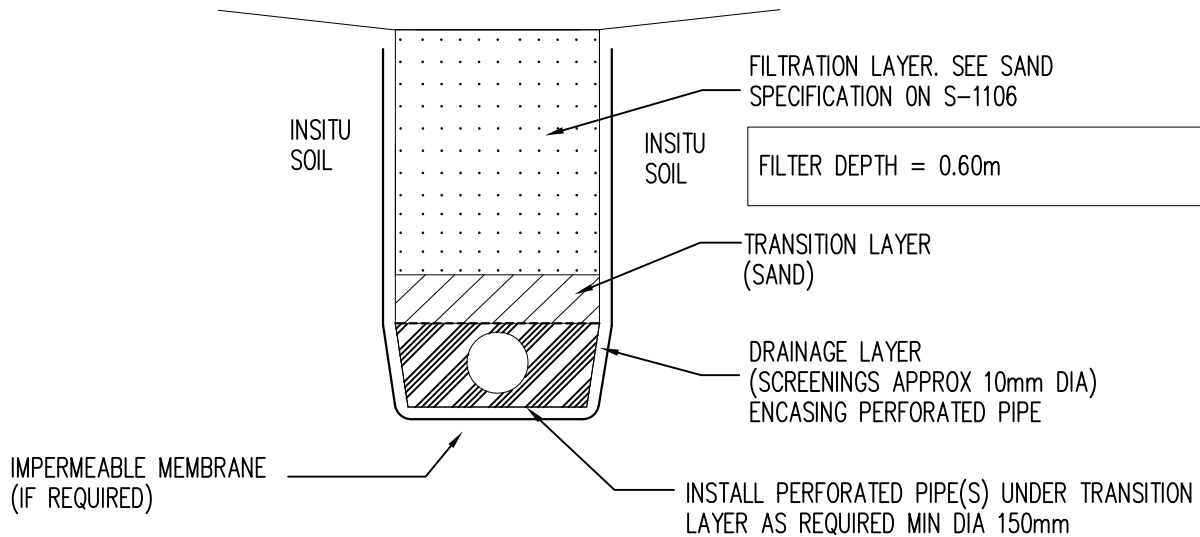
FILTER MATERIAL
WSUD STANDARD ELEMENT

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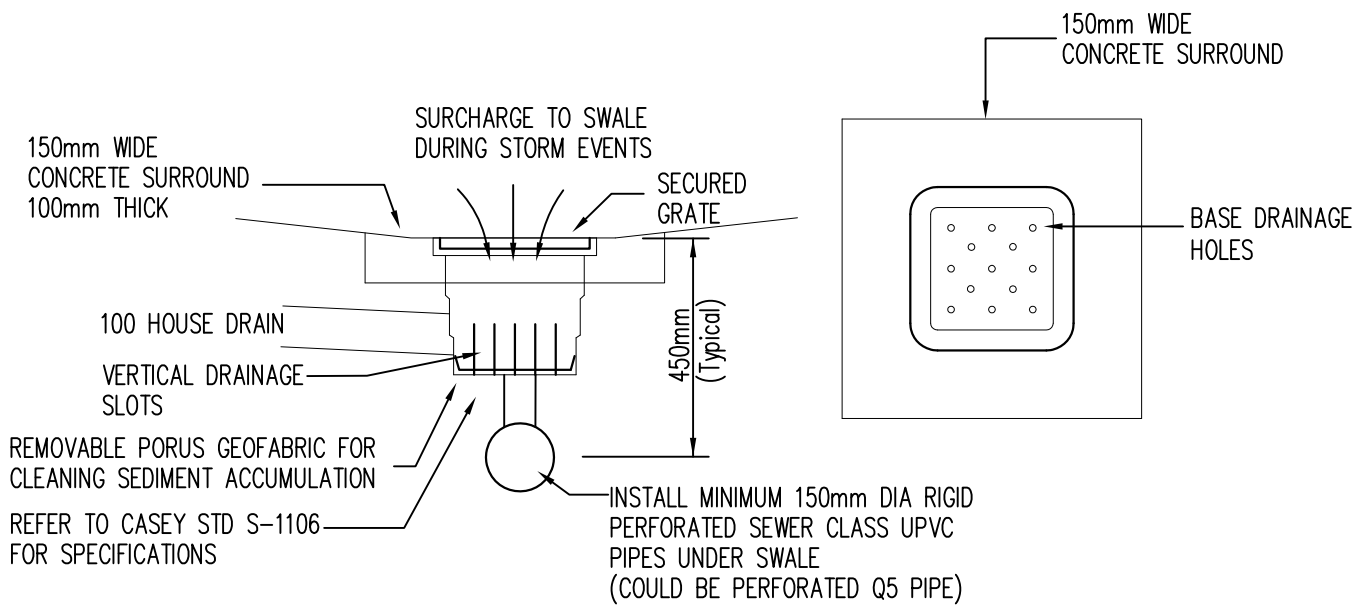
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S-1106

AMENDMENTS:



BIORETENTION TRENCH
NOT TO SCALE



DETAILS OF SURCHARGE TO PIT TO SWALES AND BIORETENTION SYSTEMS
NOT TO SCALE

NOTE:
1. REFER TO CASEY STD S-1106 FOR FILTER MATERIAL SPECIFICATION

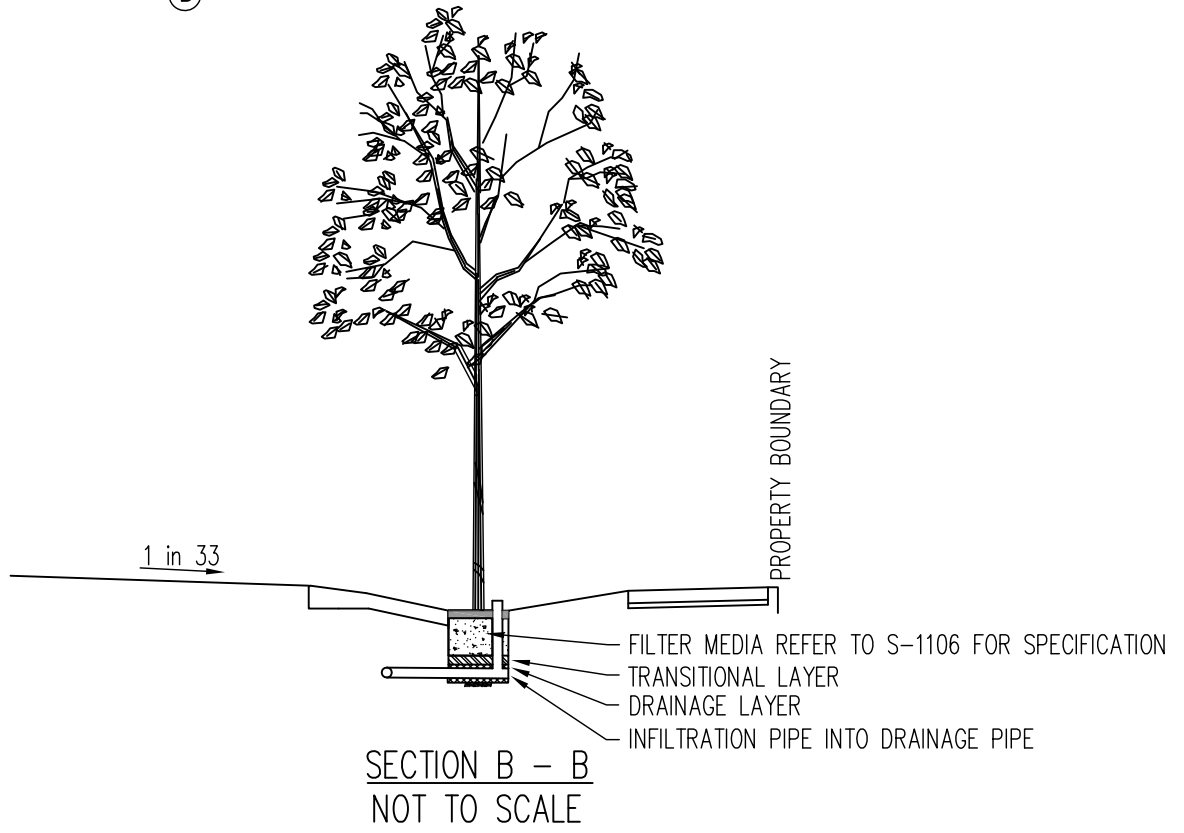
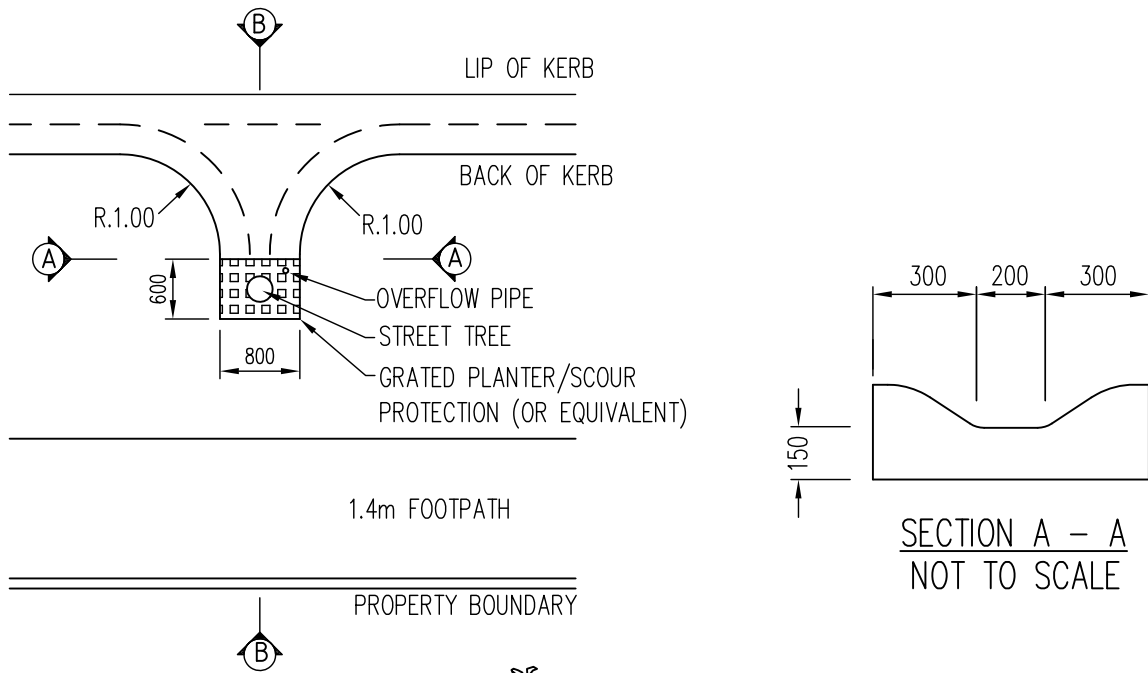
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BIORETENTION TRENCH
STANDARD ELEMENTS

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AMENDMENTS:

S-1107



NOTES:

1. MODIFIED KERB TO BE 150mm THICK CONCRETE F'C=25Mpa, SLUMP = 80mm MAX.
ALL CONCRETE TO BE CONSTRUCTED ON 50mm COMPACTED DEPTH OF 20mm CLASS 3 FCR
2. REFER TO CODE OF PRACTICE FOR COORDINATION OF STREET WORKS, VICTORIA FOR SERVICE LOCATION.
3. REFER TO CASEY STANDARD DRAWING S-1106 FOR FILTER SPECIFICATION.

CITY OF CASEY

BIORETENTION TREE PLANTER SYSTEM
FOR USE IN LOCAL STREETS

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AMENDMENTS:

S-1108