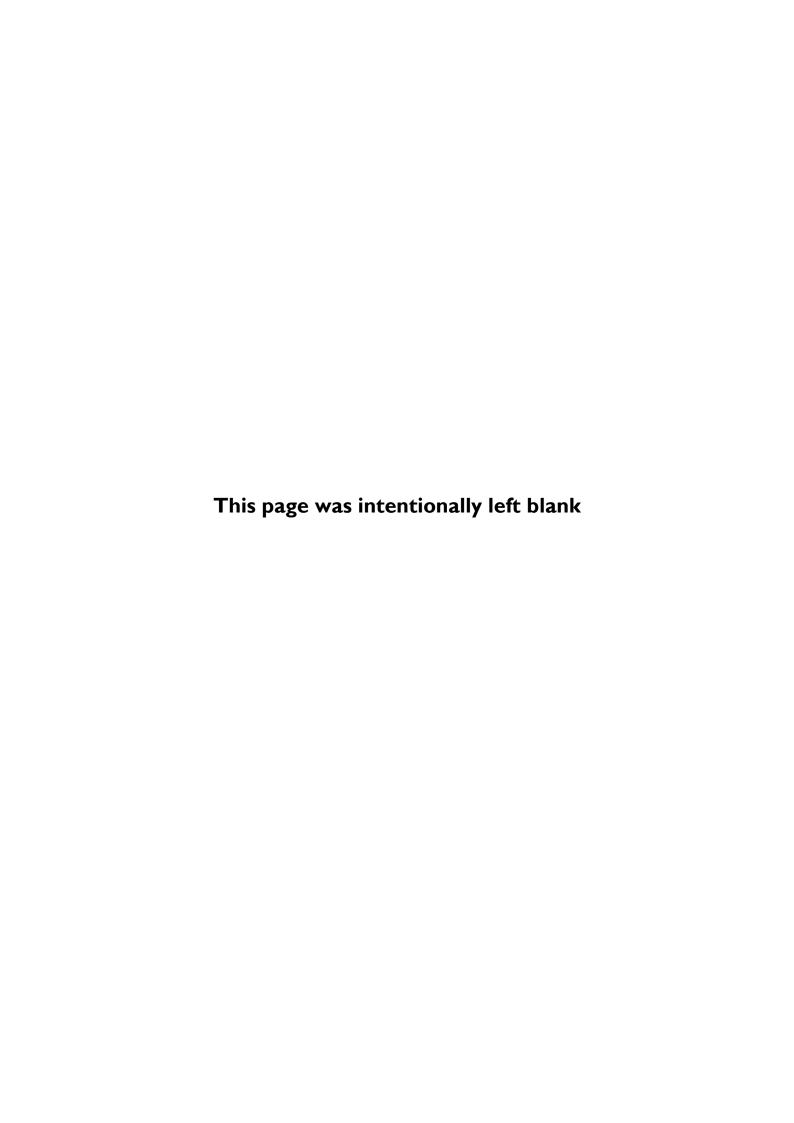
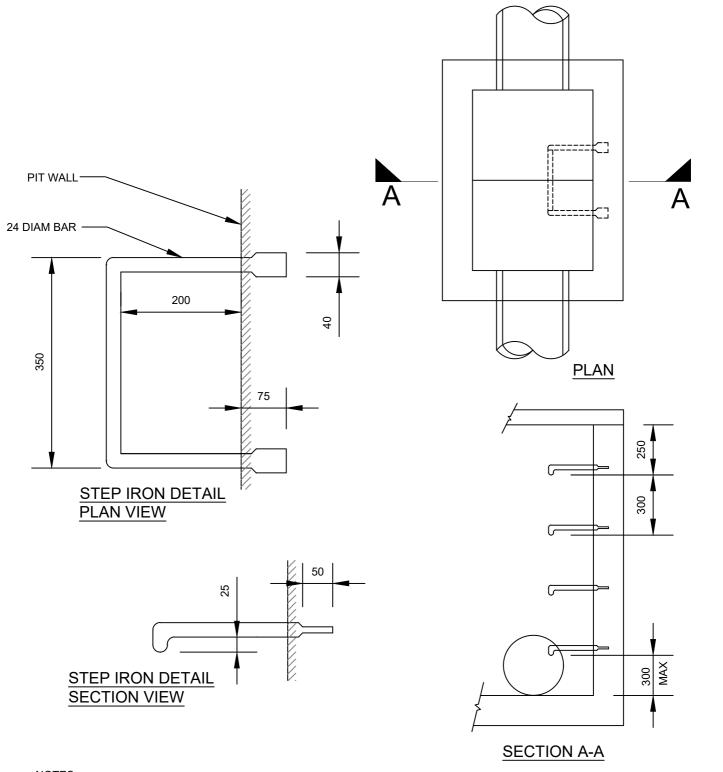
Pit Details







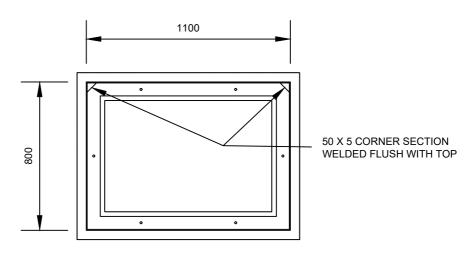


- 1. PITS DEEPER THAN 900mm SHALL BE FITTED WITH STEP IRONS
- 2. STEP IRONS SHALL BE LOCATED:
 - -DIRECTLY BELOW THE OPENING IN THE COVER
 - -DESIRABLY ON A WALL WITHOUT PIPE OPENINGS
 - -DESIRABLY ON ONE OF THE LONG SIDES OF THE PIT
- MATERIAL FOR STEP IRONS SHALL BE STRUCTURAL GRADE 250 TO AS1204
 STEP IRONS SHALL HAVE SHARP EDGES ROUNDED AND BE HOT DIP GALVANISED AFTER FABRICATION
- 5. APPROVED PROPRIETORY STEP IRONS MAY BE USED AND SHALL BE INSTALLED ACCORDING TO THE MANAFACTURERS INSTRUCTIONS

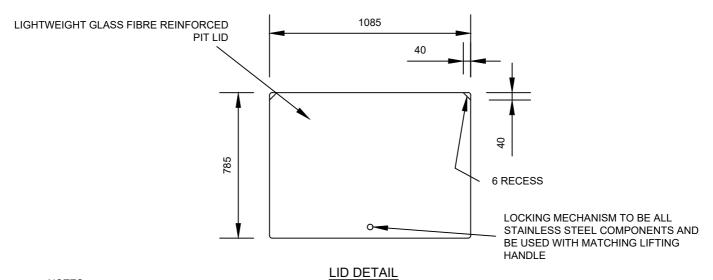
ALL MEASUREMENTS IN MILLIMETRES



75x50x5 GALVANISED IRON FRAME GROUT TO FILL 50 GAP BETWEEN TOP OF PIT WALL AND FRAME 10 DIA x 100 DYNABOLT JUNCTION PIT SECTION SIDE ENTRY PIT SECTION



FRAME DETAIL



NOTES:

- 1. ALL DIMENSIONS ARE IN MILLIMETRES
- THESE LIDS ARE TO BE USED ON ALL NEW PITS AND PIT RECONSTRUCTIONS WITHIN NATURE STRIPS, EASEMENTS AND RESERVES
- FOR LIDS WITHIN THE ROAD CARRIAGEWAY USE RELEVANT RATED GATIC LID OR AN APPROVED EQUIVALENT
- 4. DETAILS GIVEN ARE BASED ON PIT LIDS SUPPLIED BY 'TERRA FIRMA ENGINEERING P/L'.
 OTHER APPROVED MANUFACTURERS MAY BE USED. LOCKING MECHANISMS MUST USE THE SAME KEY.
- 5. DIMENSIONS GIVEN ARE FOR 900x600 JP's AND 900x675 SEP'S.

ALL MEASUREMENTS IN MILLIMETRES



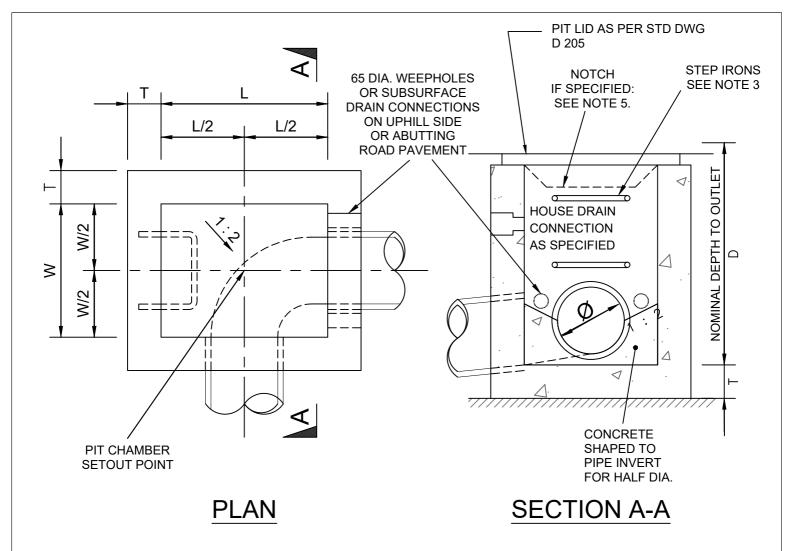
GLASS FIBRE REINFORCED PIT COVERS

Banyule's Standard Drawings A copy can be found on Banyule's website www.banyule.vic.gov.au

Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

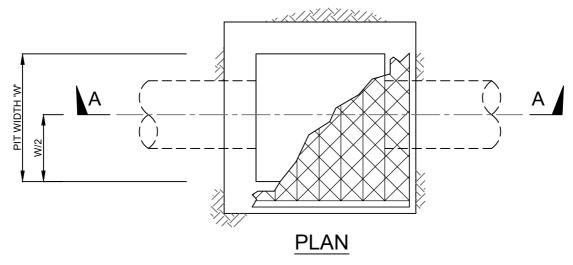
D 205

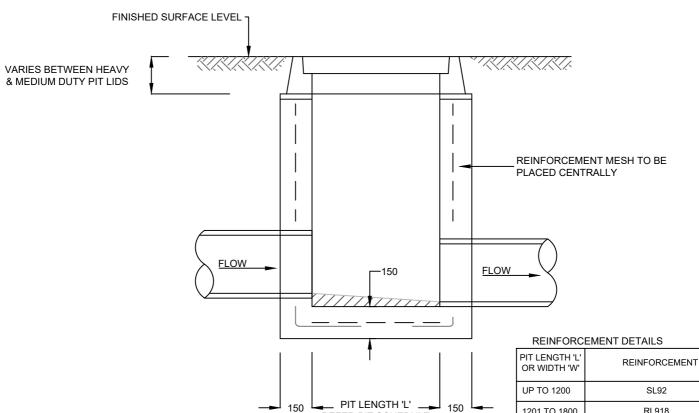


INTERNAL SIZE (L X W)	MAX DEPTH (D)	MAX PIPE DIA (ø)	WALL THICKNESS (T)
600 X 600	900	300	150
900 X 600	2400	600	150
1000 X 750	2400	750	150
LARGER SIZES TO BE SPECIFIED BY ENGINEER			

- 1. PIT WALLS ARE TO BE REINFORCED WITH SL72 MESH UNLESS SPECIFIED OTHERWISE
- 2. PIT WALLS ARE TO BE PLASTERED AS REQUIRED TO PRODUCE A SMOOTH CHAMBER WITHOUT VOIDS
- 3. USE STEP IRONS AS PER VICROADS STD DWG 1041 OR AN APPROVED EQUIVALENT FOR ALL PITS DEEPER THAN 900.
- 4. LIDS AND FRAMES AS SPECIFIED IN STD DWG D 205.
- 5. PROVIDE LIGHTWEIGHT COMPOSITE PIT LID AS PER BCC STD DWG D 205.
- 6. PROVIDE 100mm DEEP NOTCH IN WALL WHERE SPECIFIED FOR TABLE DRAIN INLET.

ALL MEASUREMENTS IN MILLIMETRES JUNCTION PIT Banyule's Standard Drawings A copy can be found on Banyule's website www.banyule.vic.gov.au Approved by: James Kelly Manager Delivery & Assets LAST UPDATED JULY 2019 D 210 NOT TO SCALE





SECTION A-A

REFER PIT SCHEDULE

NOTES:

- 1. HEAVY DUTY COVERS TO BE USED WHEN SUBJECT TO TRAFFICABLE LOADS (AS3996 CLASS D - 210 kN) OR APPROVED EQUIVALENT. MEDIUM DUTY COVERS TO BE USED IN OFF ROAD USE (AS3996 CLASS B - 80kN) OR APPROVED EQUIVALENT.
- CONCRETE STRENGTH FC = 25MPa. (MIN) AT 28 DAYS.
- JUNCTION PIT IN ROAD RESERVE TO HAVE MINIMUM INTERNAL PIT DIMENSIONS OF 600 X 900.

1201 TO 1800

1801 TO 2400

RI 918

RL1218

MINIMUM PIT SIZES (EASEMENTS)		
PIT DEPTH	PIT SIZE	
< 1000	600 x 600	
1000 to 1200	600 x 900	
> 1200	900 x 900	

MINIMUM PIT SIZES (ROAD RESERVE)

PIT DEPTH	PIT SIZE	
< 1200	600 x 900	
> 1200	900 x 900	

ALL MEASUREMENTS IN MILLIMETRES



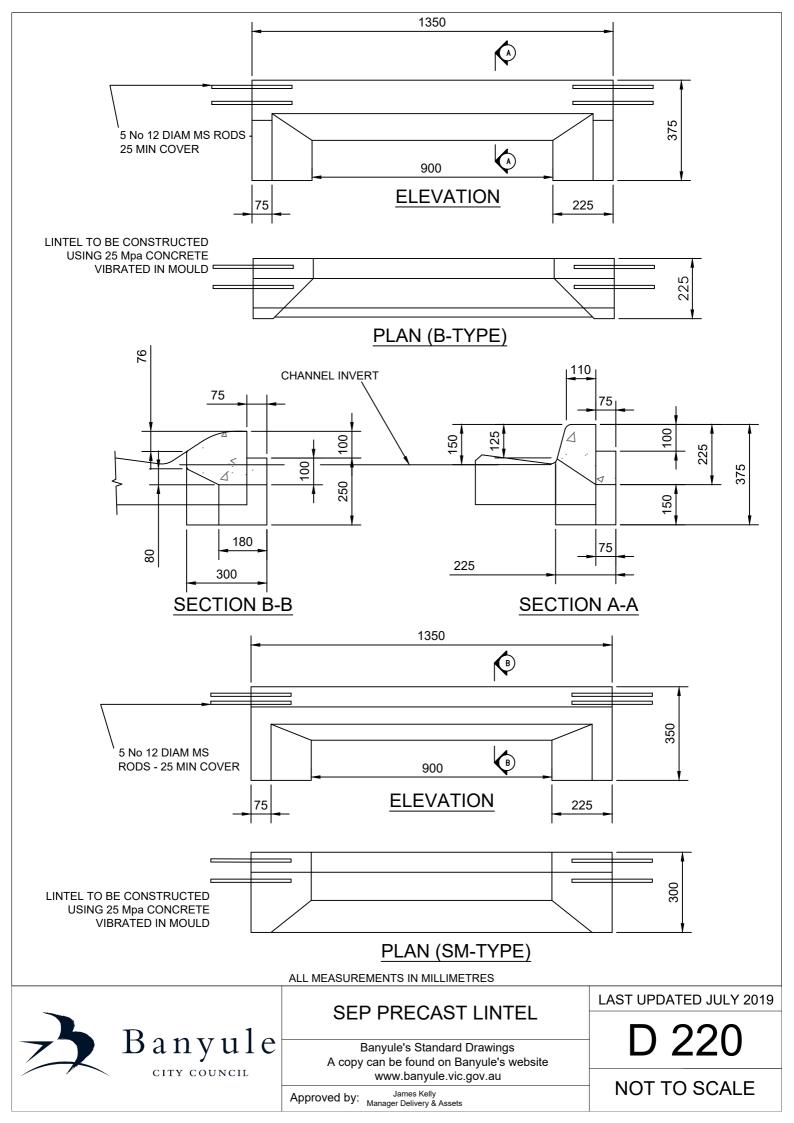
JUNCTION PIT - HEAVY DUTY/LIGHT DUTY/ FIBRE GLASS

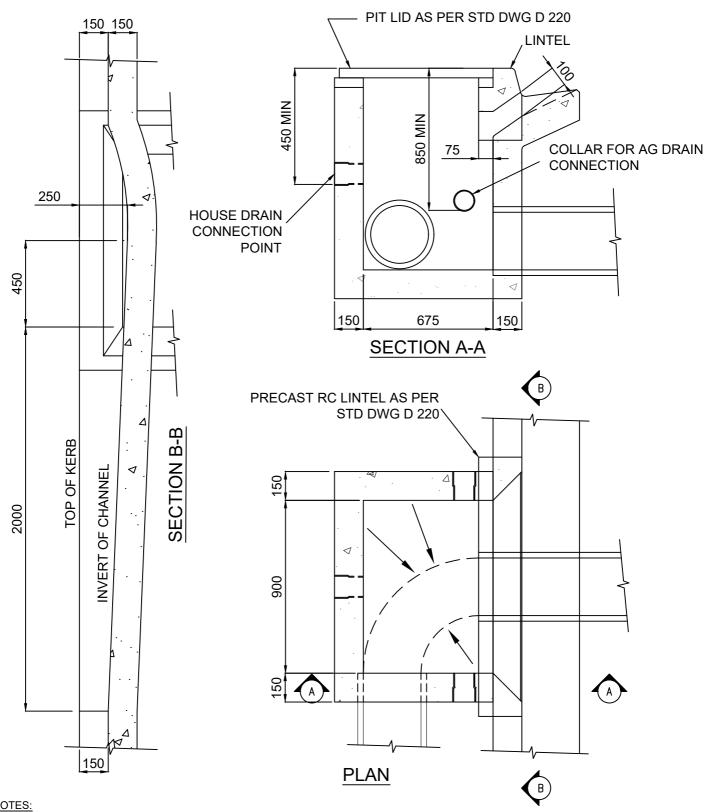
Banyule's Standard Drawings A copy can be found on Banyule's website www.banyule.vic.gov.au

Approved by: James Nelly
Manager Delivery & Assets

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D 215





- PIT LID AS PER D 205
- STEP IRONS TO USED FOR PITS WITH DEPTHS GREATER THAN 900mm.
- 3. WHENEVER DOUBLE SEP's ARE NEEDED CONSTRUCT TWO SEPARATE PITS 300 APART
- HOUSE DRAIN CONNECTION COLLARS ARE TO BE LOCATED TO GIVE ADEQUATE FALL FROM LOWEST POINT OF ALLOTMENT.

ALL MEASUREMENTS IN MILLIMETRES

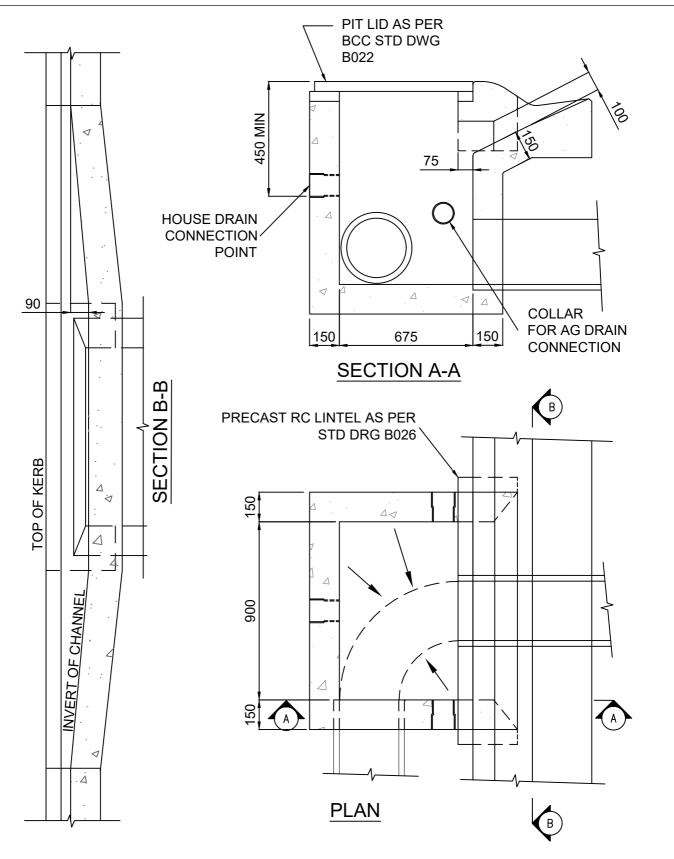


SIDE ENTRY PIT B-TYPE KERB

Banyule's Standard Drawings A copy can be found on Banyule's website www.banyule.vic.gov.au

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Manager Delivery & Assets

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- 1. PIT LID AS PER BCC STD DWG D205.
- 2. STEP IRONS TO USED FOR PITS WITH DEPTHS GREATER THAN 900mm.
- 3. WHENEVER DOUBLE SEP's ARE NEEDED CONSTRUCT TWO SEPARATE PITS 300 APART.
- 4. HOUSE DRAIN CONNECTION COLLARS ARE TO BE LOCATED TO GIVE ADEQUATE FALL FROM LOWEST POINT OF ALLOTMENT.

ALL MEASUREMENTS IN MILLIMETRES



SIDE ENTRY PIT SM-TYPE KERB

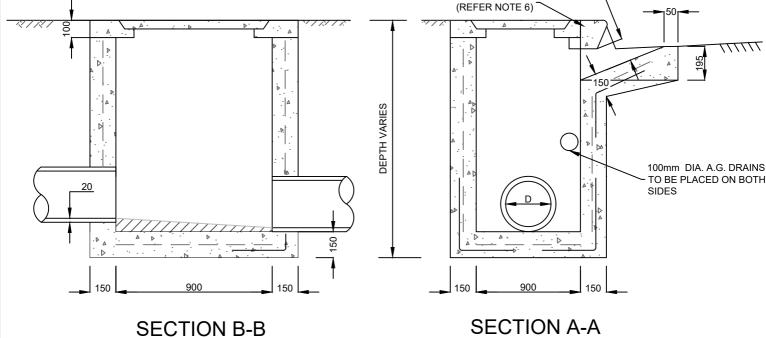
Banyule's Standard Drawings
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D 230

INTERNAL OPENING OF COVER 600mm x 350mm NOTES: KERB PIT TO BE CONSTRUCTED IN 2 STAGES 2-TOP 500mm OF PIT IN CONJUNCTION WITH KERB AND CHANNEL. В WHERE PIT AT LOW POINT CONSTRUCT - 100mm DIA. P.V.C. PIPE WITH CONSTRUCTION WORKS TO DRAIN WATER FROM 150 PAVEMENT. AT LOW POINT TRANSITION 600mm BOTH SIDES. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS. FIBERGLASS PIT LIDS WITH EA FRAME AND LIGHTWEIGHT LOCKING LID OR APPROVED EQUIVALENT CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH AS3996 MAY BE USED INSTEAD OF CONCRETE. PRECAST LINTEL TO MATCH REQUIRED KERB TYPE (SM2,B2) INSERT : REFER TO D 225 FOR MINIMUM HOUSE DRAIN CONNECTION. 150 480 Я BACK **PLAN** 100 THROAT PRECAST LINTEL (REFER NOTE 6)



ALL MEASUREMENTS IN MILLIMETRES



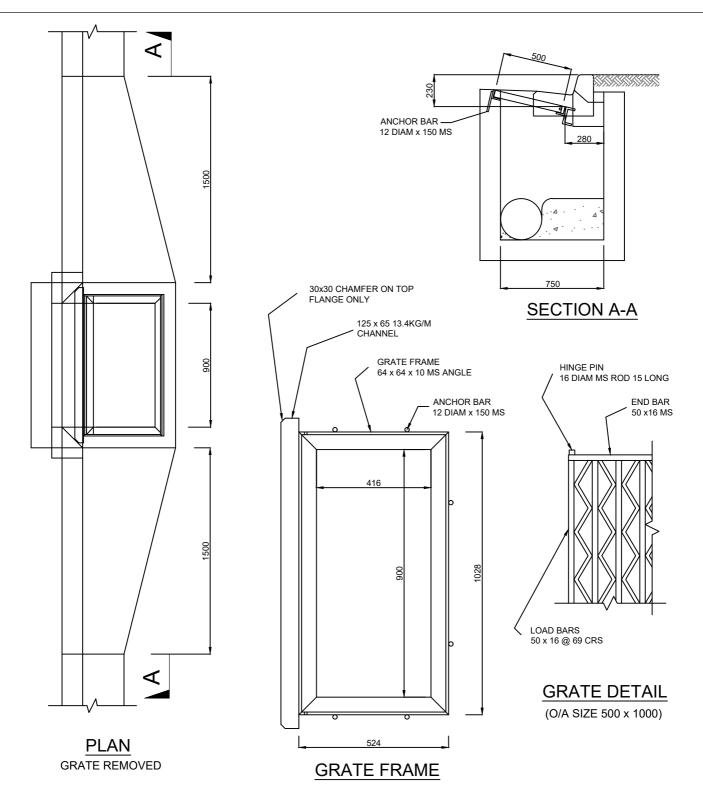
SIDE ENTRY PIT WITH PRECAST LINTEL

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D 235



- DETAILS FOR THE ABOVE GRATE HAVE BEEN DERIVED FROM THAT MANUFACTURED BY
- 'R & S GRATING'. SIMILAR BICYCLE SAFE GRATINGS FROM OTHER MANUFACTURERS MAY BE USED. GRATE FRAME SHALL BE CONSTRUCTED FROM 64x64x10 MS ANGLE AND BE WELDED TO 25x65 13.4kg/m TF CHANNEL
- GRATE UNITS SHALL BE MADE FROM 50x16 MS WITH 40x12 WEAVE BARS AND CONTINUOUSLY WELDED ALL ROUND
- GRATE AND FRAME SHALL BE HOT DIP GALVANISED TO AS 1650/1989 UNLESS SPECIFIED OTHERWISE. PITS DEEPER THAN 1000 SHALL BE FITTED WITH STEP IRONS

ALL MEASUREMENTS IN MILLIMETRES



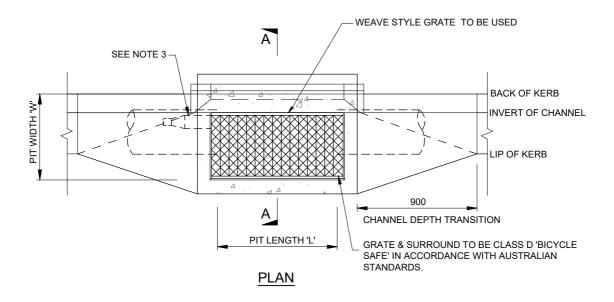
GRATED SIDE ENTRY PIT

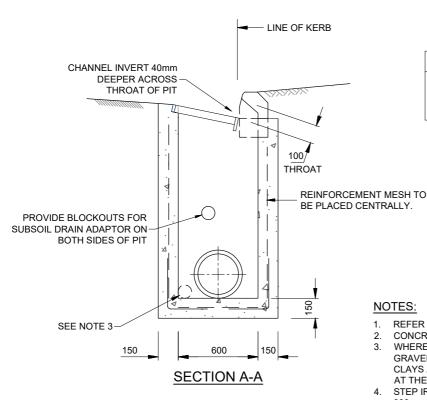
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D 240





REINFORCEMENT DETAILS

PIT LENGTH 'L' OR WIDTH 'W'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218

NOTES:

- REFER TO R 150 FOR KERB DETAILS.
- CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.
- WHERE NO SUBSOIL DRAIN INSTALLED, OR WHERE GRAVEL BACKFILL IS USED, OR WHERE EXPANSIVE CLAYS ARE PRESENT; INSTALL 1m LONG SUBSOIL DRAIN AT THE BOTTOM OF THE PIT.
- STEP IRONS REQUIRED FOR DEPTHS GREATER THAN 900mm. REFER D 200 FOR THE DETAIL DRAWING.

ALL MEASUREMENTS IN MILLIMETRES



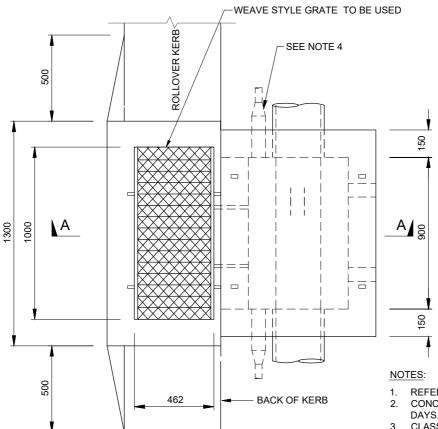
GRATED SIDE ENTRY PIT INLET WITH CONCRETE SURROUND

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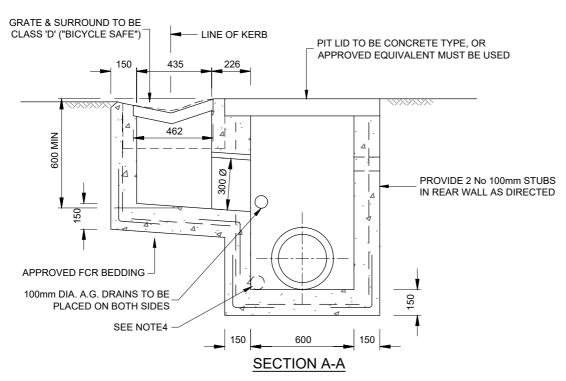
D 245



PLAN

I. REFER TO SD100 FR KERB DETAILS.

- 2. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS
- 3. CLASS D LOADING IS REQUIRED FOR LID.
- WHERE NO SUBSOIL DRAIN INSTALLED, OR WHERE GRAVEL BACKFILL IS USED, OR WHERE EXPANSIVE CLAYS ARE PRESENT; INSTALL 1m LONG SUBSOIL DRAIN AT THE BOTTOM OF THE PIT
- STEP IRONS REQUIRED FOR DEPTHS GREATER THAN 900mm. REFER D 200 FOR THE DETAIL DRAWING.



ALL MEASUREMENTS IN MILLIMETRES



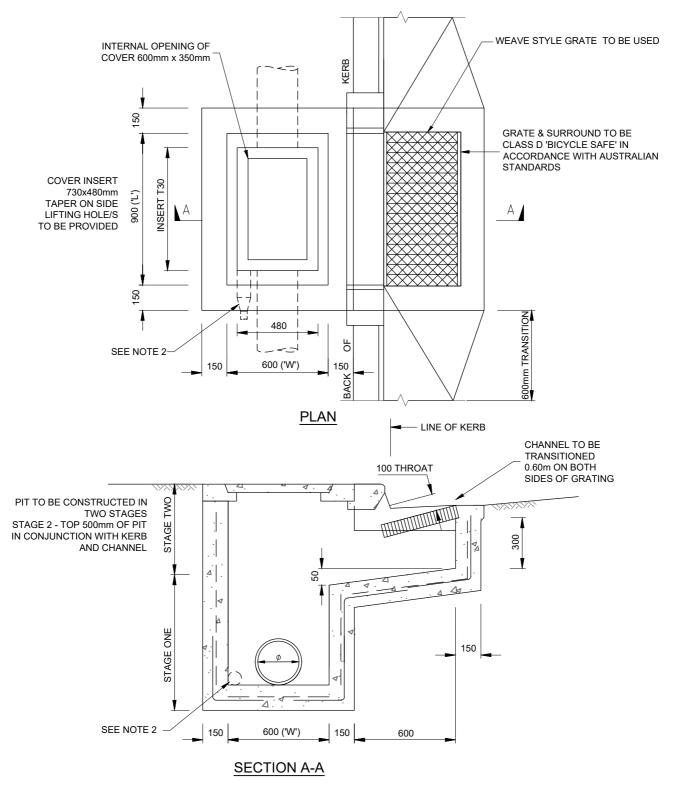
GRATING PIT FOR SM2 MODIFIED KERB & CHANNEL

Banyule's Standard Drawings
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D 250



- 1. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS
- WHERE NO SUBSOIL DRAIN INSTALLED, OR WHERE GRAVEL BACKFILL IS USED, OR WHERE EXPANSIVE CLAYS ARE PRESENT; INSTALL 1m LONG SUBSOIL DRAIN AT THE BOTTOM OF THE PIT.
- STEP IRONS ARE REQUIRED FOR DEPTHS GREATER THAN 900mm. REFER D 200 FOR THE DETAIL DRAWING.

ALL MEASUREMENTS IN MILLIMETRES



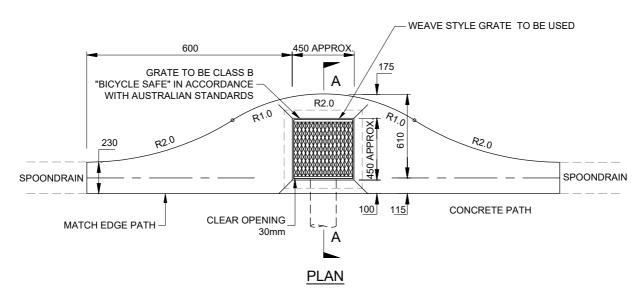
SIDE ENTRY PIT WITH GRATING

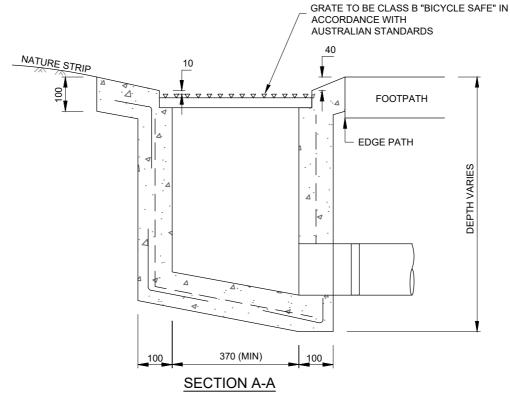
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D 255





- 1. EDGE CONCRETE AROUND PERIMETER OF GRATE.
- 2. TOP OF GRATE 50mm BELOW EDGE OF PATH.
- 3. DO NOT BOND GRATE TO TO CONCRETE TO ALLOW EASY ACCESS TO PIT.
- 4. CONCRETE TO BE SMOOTH TROWELLED FINISH.
- 5. GRATE FRAME TO BE OILED IF INSTALLED IN WET CONCRETE.
- 6. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS

ALL MEASUREMENTS IN MILLIMETRES



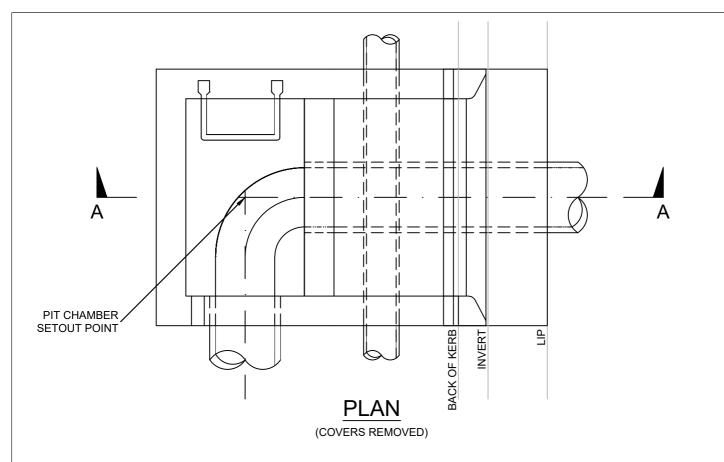
SPOON PIT WITH GRATING

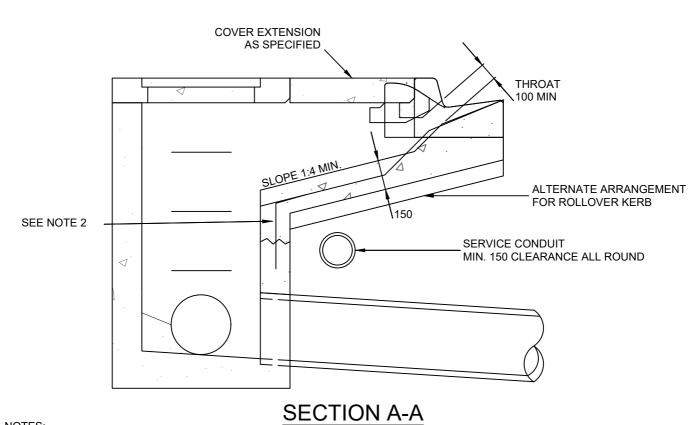
Banyule's Standard Drawings
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LAST UPDATED JULY 2019

D 260





- FOR STANDARD COVER EXTENSIONS REFER VICROADS STANDARD DRAWING SD1051 ISSUE C
- 2. Y12 DEFORMED STARTER BARS TO BE PROVIDED WHERE EXTENDED THROAT IS TO BE CONSTRUCTED TO AN EXISTING PIT.

ALL MEASUREMENTS IN MILLIMETRES



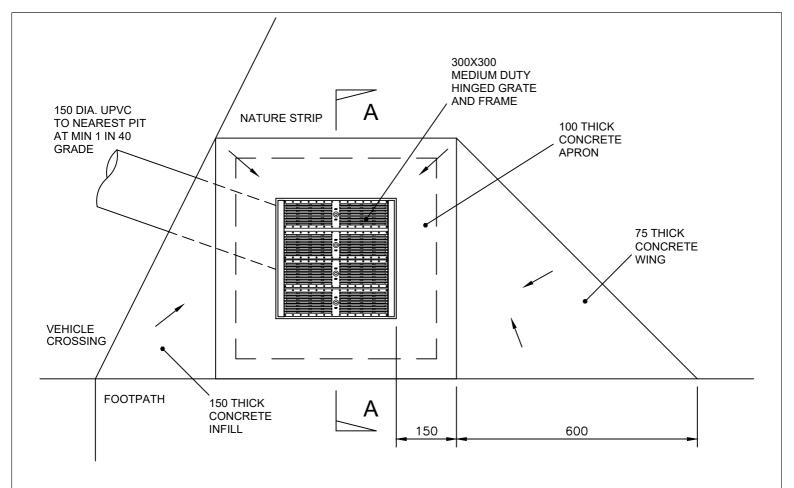
EXTENDED THROAT SIDE ENTRY PIT

Banyule's Standard Drawings
A copy can be found on Banyule's website
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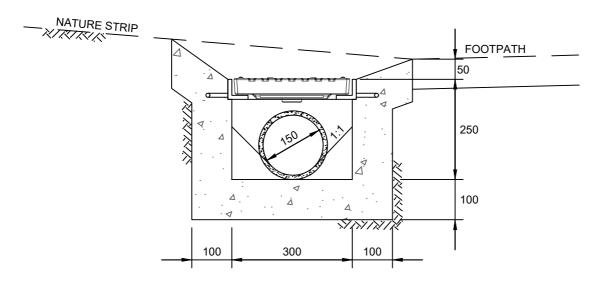
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LAST UPDATED JULY 2019

D 265



PLAN



SECTION A-A

NOTES:

- 1. GRATE & FRAME TO BE HOT DIPPED GALVANISED AFTER WELDING.
- GRATED PIT IS NOT TO BE LOCATED IN PEDESTRIAN/CYCLE TRAFFIC AREAS
- 3. HEAL PROOF GRATE TO BE USED FOR PEDESTRIAN TRAFFIC, OTHERWISE WEAVE GRATE IS REQUIRED

ALL MEASUREMENTS IN MILLIMETRES



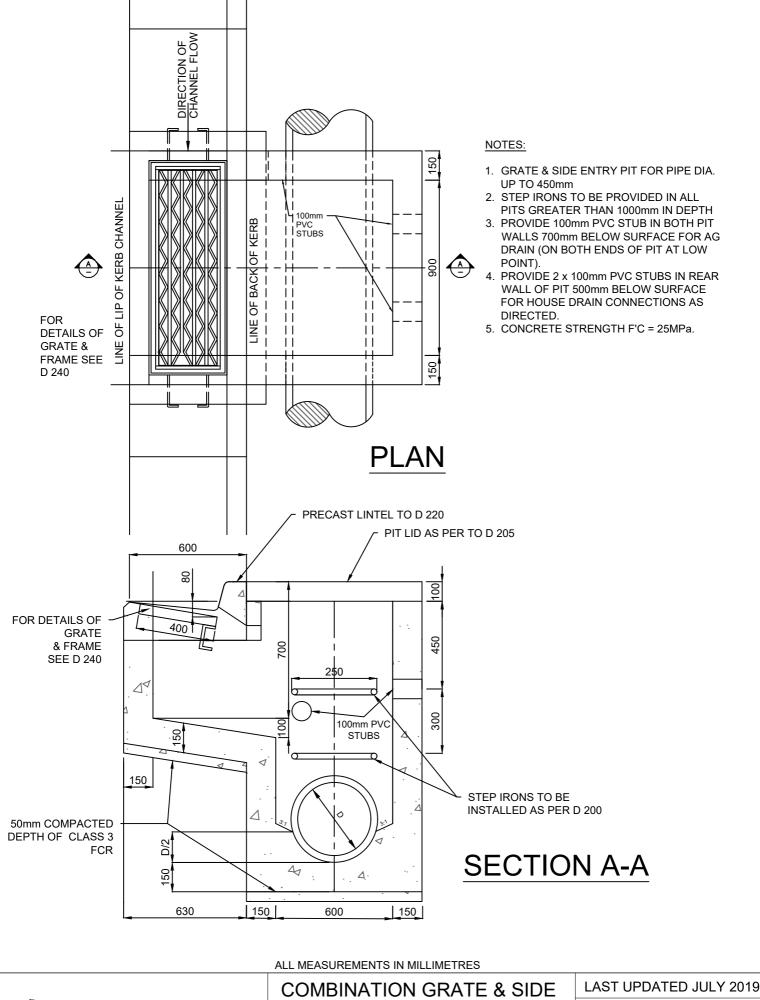
FOOTPATH GRATED PIT

Banyule's Standard Drawings
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Manager Delivery & Assets

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D 270



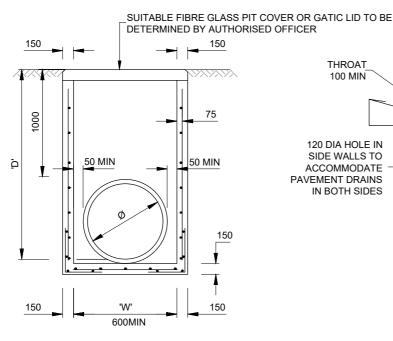


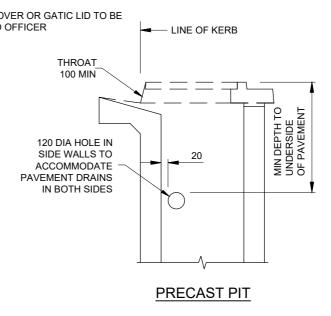
ENTRY PIT

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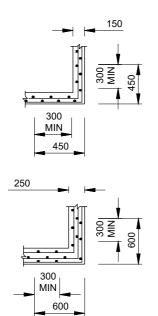
Approved by: James Nelly
Manager Delivery & Assets

D 275





PITS UP TO 3600mm DEPTH



PLAN VIEW

CORNER DETAILS

REINFORCEMENT DETAILS

PIT LENGTH 'L' OR WIDTH 'W'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218

NOTES:

MINIMUM PIT SIZES:

PIPE DIAMETER		BASE DIMENSIONS 'W'
JP SEP		RASE DIMENSIONS M.
UP TO 450Ø	UP TO 450Ø	600
450Ø & UPWARDS	450Ø & UPWARDS	900

- 2 PIPES GREATER THAN 450mm DIA MAY REQUIRE HAUNCHING REFER TO D 285
- 3. FOR DETAILS OF SPECIFIC PITS, REFER TO PIT SCHEDULE.
- PIT REINFORCEMENT SHALL HAVE 300mm MIN LAPS. CLEAR COVER TO BE 50mm MIN. CORNER RETURN REINFORCEMENT MAY BE FABRIC OR EQUIVALENT BARS.
- FOR TOP OF PIT DETAILS, REFER TO PIT SCHEDULE AND RELEVANT STANDARD DRAWINGS.
- 6. PRECAST PITS WITH THINNER WALLS AND LESS STEEL MAY BE ACCEPTED WHERE THE MANUFACTURER CAN DEMONSTRATE THAT THE PITS HAVE ADEQUATE CAPACITY TO SUPPORT A COMBINATION OF THE FOLLOWING LOADS:
 - EARTH PRESSURE WITH 210 kN SURCHARGE
 - HYDROSTATIC PRESSURE
 - COMPACTION PRESSURE (25 kPa MIN)
 - VERTICAL LOAD 210 kN
- 7. SUBSURFACE DRAIN HOLES TO BE SEALED IF NOT USED.
- 8. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.
- EXCAVATED MATERIAL SHOULD NOT BE USED AROUND PIT SURROUND. 3% CEMENT STABLISER MUST BE USED.
- 10. STEP IRONS ARE REQUIRED FOR ALL PITS WHICH ARE ≥ 1M IN DEPTH

ALL MEASUREMENTS IN MILLIMETRES



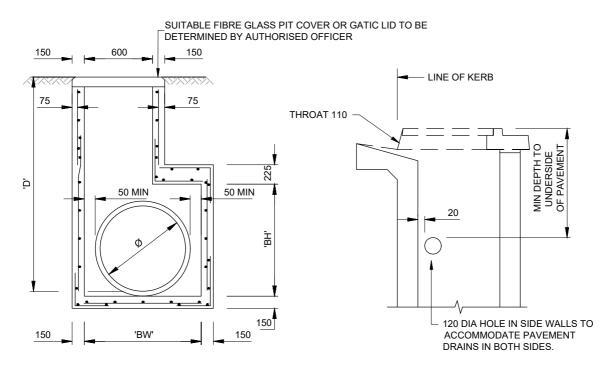
UNHAUNCHED PITS (SIDE ENTRY)

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Manager Delivery & Assets

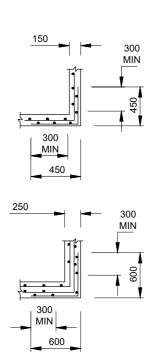
LAST UPDATED JULY 2019

D 280



PITS UP TO 3600mm DEPTH

PRECAST PIT



PLAN VIEW
CORNER DETAILS

NOTES:

- 1. PIPES LESS THAN 525mm DIA. MAY NOT REQUIRE HAUNCHING. REFER D 280.
- 2. PITS WITH HAUNCHING IN TWO DIRECTIONS REQUIRE SPECIAL STRUCTURAL DESIGN.
- 3. FOR DETAILS OF SPECIFIC PITS, REFER TO PIT SCHEDULE.
- PIT REINFORCEMENT SHALL HAVE 300mm MIN LAPS. CLEAR COVER TO BE 50mm MIN. CORNER RETURN REINFORCEMENT MAY BE FABRIC OR EQUIVALENT BARS.
- 5. FOR TOP OF PIT DETAILS, REFER TO PIT SCHEDULE AND RELEVANT STANDARD DRAWINGS.
- 6. PRECAST PITS WITH THINNER WALLS AND LESS STEEL MAY BE ACCEPTED WHERE THE MANUFACTURER CAN DEMONSTRATE THAT THE PITS HAVE ADEQUATE CAPACITY TO SUPPORT A COMBINATION OF THE FOLLOWING LOADS:
 - EARTH PRESSURE WITH 210kN SURCHARGE
 - HYDROSTATIC PRESSURE
 - COMPACTION PRESSURE (25 kPa MIN)
- VERTICAL LOAD 210 kN
- SUBSURFACE DRAIN HOLES TO BE SEALED IF NOT USED.
- 8. CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.
- STEP IRONS REQUIRED FOR DEPTHS GREATER THAN 900mm. REFER D 200 FOR THE DETAIL DRAWING.

REINFORCEMENT DETAILS

PIT BASE LENGTH 'BL' OR BASE WIDTH 'BW'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218

PIT SIZING

'BW' & 'BH'	'ø'
(mm)	(mm)
900	525
"	600
"	675
"	750
"	825
1200	900
"	975
"	1050
"	1125
1500	1200

ALL MEASUREMENTS IN MILLIMETRES



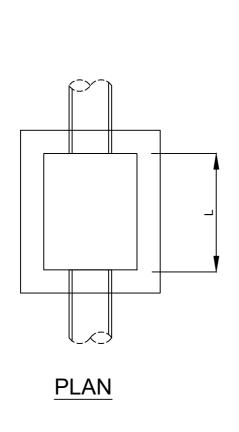
HAUNCHED PITS (SIDE ENTRY)

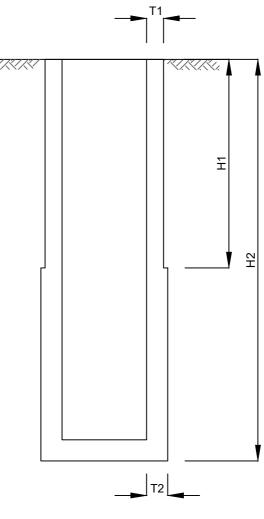
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D 285





REINFORCED CONCRETE
SHOULD BE DESIGNED ON
SHOOKSE BY CASE BASIS 6.0 5.4 4.8 DEPTH (H1 AND H2), METRES 4.2 3.6 3.0 2.7 2.4 2.1 1.8 1.5 0.45 0.6 PIT LENGTH(L), METRES

SECTION

ALL MEASUREMENTS IN MILLIMETRES



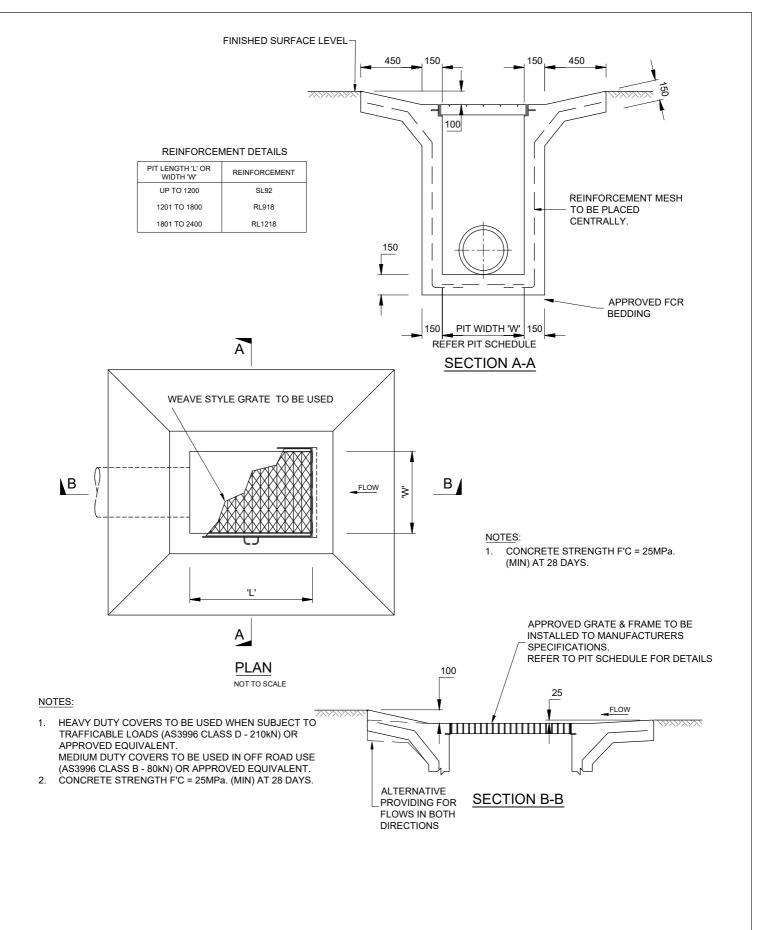
MIN. WALL THICKNESS FOR REINFORCEMENT IN MASS CONCRETE PITS (CAST IN-SITU)

Banyule's Standard Drawings
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D 290



ALL MEASUREMENTS IN MILLIMETRES



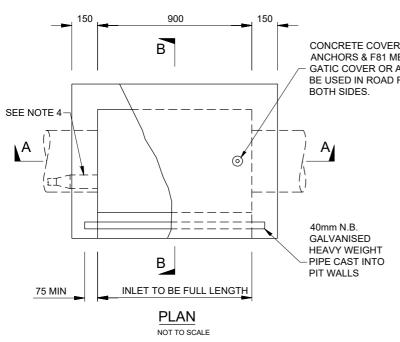
DEPRESSED GRATED PIT

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Manager Delivery & Assets

LAST UPDATED JULY 2019

D 295



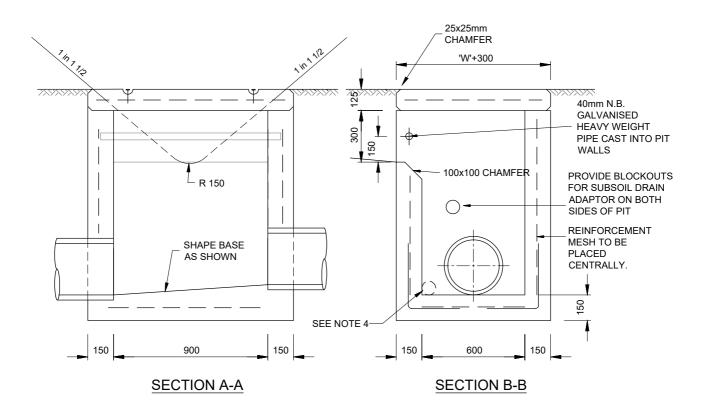
CONCRETE COVER WITH APPROVED LIFTING ANCHORS & F81 MESH PLACED CENTRALLY. GATIC COVER OR APPROVED EQUIVALENT TO BE USED IN ROAD RESERVES OR OPENING ON BOTH SIDES.

REINFORCEMENT DETAILS

PIT LENGTH 'L' OR WIDTH 'W'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218

NOTES:

- PLACEMENT OF PIT WITHIN ROAD RESERVE / MUNICIPAL RESERVE SUBJECT TO COUNCIL APPROVAL.
- 2. REFER TO PIT SCHEDULE FOR CORRECT PIT ORIENTATION.
- CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.
- 4. WHERE NO SUBSOIL DRAIN INSTALLED, OR WHERE GRAVEL BACKFILL IS USED, OR WHERE EXPANSIVE CLAYS ARE PRESENT; INSTALL 1m LONG SUBSOIL DRAIN AT THE BOTTOM OF THE PIT.



ALL MEASUREMENTS IN MILLIMETRES



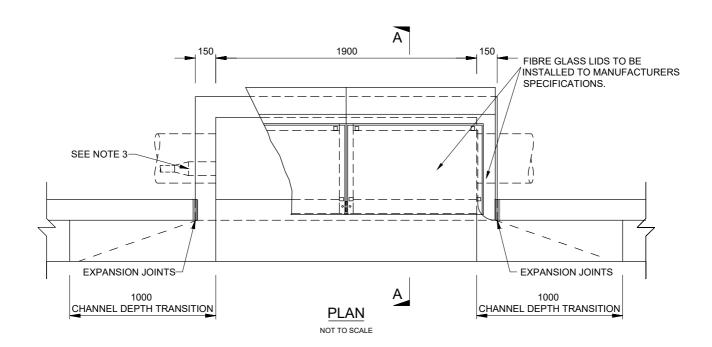
INLET CATCH PIT

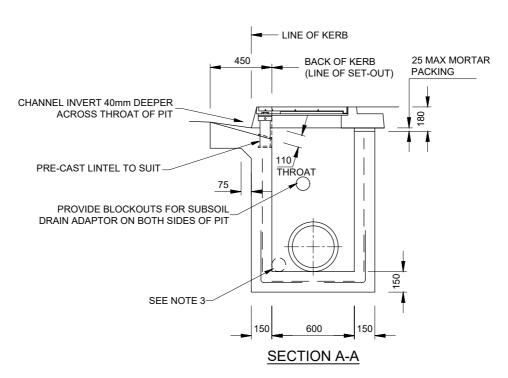
Banyule's Standard Drawings
A copy can be found on Banyule's website
www.banyule.vic.gov.au

Approved by: James Kelly
Manager Delivery & Assets

LAST UPDATED JULY 2019

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REINFORCEMENT DETAILS

PIT LENGTH 'L' OR WIDTH 'W'	REINFORCEMENT
UP TO 1200	SL92
1201 TO 1800	RL918
1801 TO 2400	RL1218

NOTES:

- REFER TO SD100 FR KERB DETAILS.

 CONCRETE STRENGTH F'C = 25MPa. (MIN) AT 28 DAYS.

 WHERE NO SUBSOIL DRAIN INSTALLED, OR WHERE GRAVEL BACKFILL IS USED, OR WHERE EXPANSIVE CLAYS ARE PRESENT; INSTALL 1m LONG SUBSOIL DRAIN AT THE BOTTOM OF THE PIT.

ALL MEASUREMENTS IN MILLIMETRES



DOUBLE SIDE ENTRY PITS

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Approved by: James Nelly Manager Delivery & Assets James Kelly

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