



NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT C.S. UNLESS OTHERWISE AGREED WITH THE ENGINEER.
3. WHERE THERE IS A DISCREPANCY BETWEEN THE REQUIREMENTS IN THE SPECIFICATION AND THOSE SHOWN ON THIS DRAWING THE SPECIFICATION SHALL TAKE PRECEDENCE.
4. VARIATION TO STANDARD DETAILS ARE PERMISSIBLE TO MEET SITE SPECIFIC REQUIREMENTS SUBJECT TO ENGINEERS APPROVAL.
5. SEE DRAWING NO. SD 8-4-106 FOR STANDARD NOTES AND DETAILS.
6. ALL JOINTS BETWEEN SECTIONS OF GRP LINERS SHALL BE LAMINATED OVER WITH 200mm wide RESIN RICH GLASS.
7. ALL JOINTS BETWEEN PIPES, FIXTURES AND GRP LINERS ARE SEALED.
8. ALL JOINTS BETWEEN PIPES AND CONCRETE SECTIONS ARE WATERTIGHT.
9. ALL INCOMING PIPES ARE LAID OFFSET TO SOFFIT WITH THE OUTGOING PIPE UNLESS A RAMP/BACKDROP IS CONSTRUCTED OR AS SHOWN ON THE PLAN.
10. ROCKER PIPE IS 600mm IN LENGTH OR 15xD WHICHEVER IS GREATER. MAXIMUM LENGTH OF ROCKER TO BE 1/2 OF MANUFACTURER'S NOMINAL PIPE LENGTH OR AS AGREED ON SITE.
11. GRP PIPES AND FABRICATIONS CAST INTO CONCRETE SHALL BE GRIT COATED.
12. SEE DRAWING NO. SD 8-4-103 FOR TANKING DETAILS.
13. DI MANHOLE COVERS SHALL BE BADGED 'FOUL WATER' IN ENGLISH AND ARABIC.
14. MANHOLES IN CARRIAGEWAY TO BE BACKFILLED TO THE UNDERSIDE OF THE SUB BASE, FROM THE EXCAVATED SURFACE WITH 150PA FLOWABLE FILT. AT TRENCH OPENINGS, ROUGH SHUTTERING SHALL BE PROVIDED TO GIVE A MINIMUM THICKNESS OF 300 AROUND THE MANHOLE. WHERE FLOWABLE FILT IS USED FOR BACKFILL, TANKING MEMBRANE TO WALLS IS REQUIRED ONLY TO 300 ABOVE THE HIGHEST PIPE CROWN LEVEL. POLYTHENE SHEETING SHALL BE USED TO PREVENT THE FLOWABLE FILT ENTERING THE GRANULAR BED AND SURROUND. TANKING MEMBRANE IS NOT REQUIRED FOR PRC MANHOLES.
15. INTERNAL BACKDROP SHALL BE MAXIMUM 300 DIAMETER AND SHALL BE PROVIDED WHERE EXTERNAL BACKDROP IS NOT POSSIBLE AND SUBJECT TO APPROVAL OF THE ENGINEER. INTERNAL BACKDROP MAY BE FORMED IN GRP OR DUCTILE IRON PIPES AND FITTINGS SHALL BE SUITABLE FOR 16 BAR (PPA) WITH EXTERNAL COATING. THE CONTRACTOR SHALL SUBMIT DETAILS OF ALTERNATIVE PROPOSAL FOR THE APPROVAL OF THE ENGINEER.
16. DRG NO. SD 6-1-201 TO SD 6-1-205 FOR CONSTRUCTION IN EXISTING PAVEMENT.
17. THERE SHALL BE A MINIMUM OF 1 AND MAXIMUM OF 4 PRECAST CONCRETE SEATING RINGS INSTALLED SUBJECT TO THE APPROVAL OF THE ENGINEER.
18. FOR RAMP AND VERTICAL BACKDROP CONNECTION DETAILS, REFER TO DRG NO. SD 8-4-227.

NOTES APPLICABLE TO BACKDROP MANHOLES:

- WHERE THERE IS A DIFFERENCE IN LEVEL BETWEEN THE INVERT LEVEL OF INCOMING AND OUTGOING SEWERS THE FOLLOWING RULES SHALL APPLY:
  - a. WHERE THE DIFFERENCE IN LEVEL IS LESS THAN 600 THE PIPE CONNECTION MAY BE DIRECT THROUGH THE MANHOLE OR GRADIENT ADJUSTED TO SUIT.
  - b. WHERE THE DIFFERENCE IN LEVEL IS GREATER THAN 600 AND LESS THAN 1200 A RAMP BACKDROP SHALL BE CONSTRUCTED.
  - c. WHERE THE DIFFERENCE IN LEVEL IS 1200 AND LESS THAN 8000 A VERTICAL BACKDROP SHALL BE CONSTRUCTED.
  - d. EXTERNAL BACKDROPS ARE PREFERRED. INTERNAL BACKDROPS MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.
  - e. FOR INTERNAL BACKDROPS WHERE DIFFERENCE IN LEVEL IS 4000 OR GREATER, A VERTICAL RISER SHALL BE CONSTRUCTED.
- 2. WHERE INCOMING AND OUTGOING PIPE DIA. DIFFER, THEY SHALL BE SET SLOTTING LEVEL AND A TAPERED CHANNEL SHALL BE PROVIDED.
- 3. THE MINIMUM DIAMETER FOR A BACKDROP IS 200. WHERE INCOMING PIPE CONNECTING TO BACKDROP IS LESS THAN THE SPECIFIED MINIMUM DIA. OF THE BACKDROP, A LEVEL INVERT TAPER SHALL BE PROVIDED IN THE GRP FABRICATION IF INCOMING PIPE IS GREATER THAN OR EQUAL TO MIN DIA. THE BACKDROP SHALL BE OF THE SAME DIAMETER AS THE INCOMING PIPE.
- 4. VORTEX DROP TO BE USED WHEN DIFFERENCE IN PIPE INVERT LEVELS IS GREATER THAN 800mm AND FLOW IS GREATER THAN 30 L/SEC OR VELOCITY IS GREATER THAN 12 M/SEC. TYPE OF VORTEX DROP AND DESIGN TO BE APPROVED BY THE ENGINEER.

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قطر تستحق الأفضل  
أفضل وأتمتع بخدمات

**PA**  
**PROJECTS AFFAIRS**

QCS Section: Section 8 - Drainage Works  
Part 4 - Pipeline Installation

Drawing Title:

FOUL SEWER  
MANHOLE DETAILS

Approved:	Sheet No:	1 OF 1
Date:	Scale:	1:25 ON A1
Drawing Number:	Revision:	
SD 8-4-204	4	