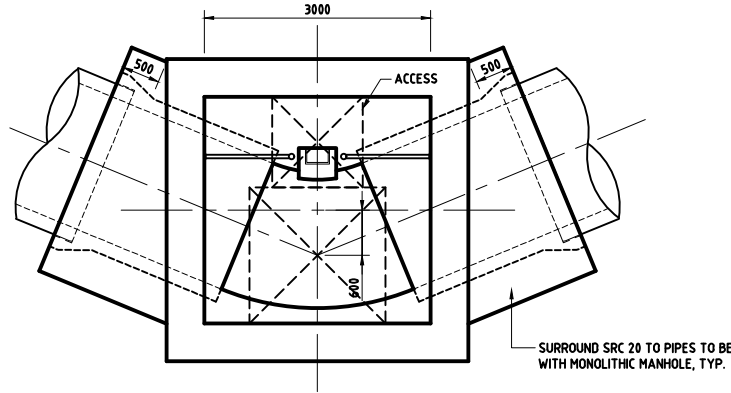
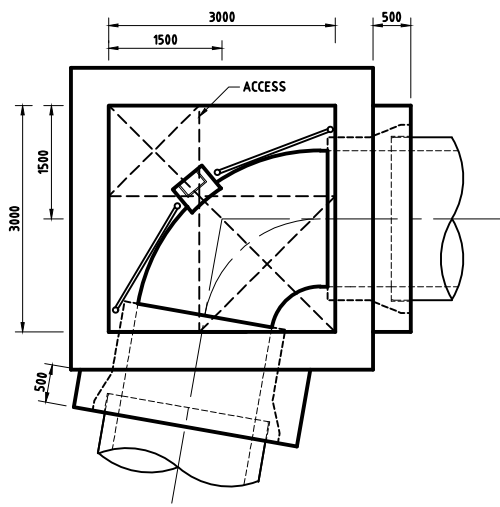


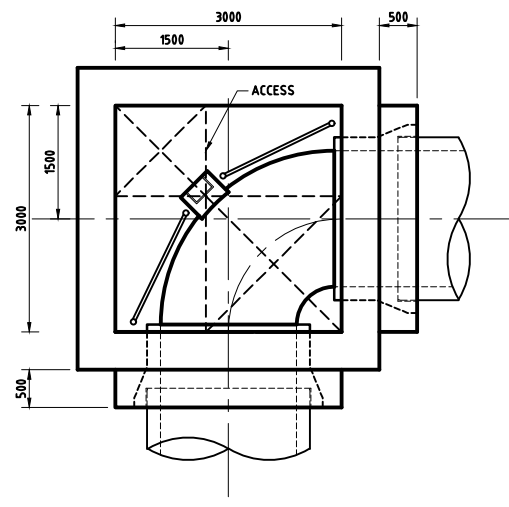
PIPE DEVIATION 30°-45 °



PIPE DEVIATION 45 °-60°



PIPE DEVIATION 60°-80°



PIPE DEVIATION 90°

RECTANGULAR (TYPE C & D) MANHOLES SHALL GENERALLY BE USED ON PIPELINES OF 1400mm-1800mm NOMINAL BORE. THEY SHALL ALSO BE USED AT JUNCTIONS OF SMALLER PIPELINES WHERE THE NUMBER OF PIPES PRECLUDES THE USE OF 2400mm DIAMETER MANHOLES (TYPE B) .

TABLE 1

| INTERNAL LININGS | |
|--|---|
| CONCRETE MANHOLES | GRP LINER TO WALLS AND BENCHING TO 300mm ABOVE INLET PIPE CROWN LEVEL THEN 2 COATS OF SOLVENT FREE EPOXY PAINT TO ALL REMAINING INTERNAL SURFACES |
| POLYMER RESIN CONCRETE (PRC) MANHOLES. PRECAST MANHOLES ONLY | NO LINING TO WALLS AND COVER SLAB REQUIRED. IF PRC NOT USED FOR BENCHING, GRP LINING TO BENCHING TO BE USED AS PER QCS. |

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
2. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT Q.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 TAKE PRECEDENCE.
4. VARIATION TO STANDARD DETAILS ARE PERMISSIBLE TO MEET SITE SPECIFIC REQUIREMENTS SUBJECT TO ENGINEER'S APPROVAL.
5. SEE DRAWING No. SD 8-4-106 FOR STRUCTURAL DETAILS AND NOTES.
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 CONCRETE SECTIONS ARE WATERTIGHT.
9. UNLESS DETAILED OTHERWISE, ALL INSITU CONCRETE SHALL BE GRADE SRC 40 AND ALL PRECAST CONCRETE SHALL BE GRADE SRC 50.
10. ALL INCOMING PIPES ARE LAID SOFFIT TO SOFFIT WITH THE OUTGOING PIPE UNLESS A RAMP/BACKDROP IS CONSTRUCTED OR AS SHOWN ON THE PLAN.
11. ROCKER PIPE IS 600mm IN LENGTH OR 1.5xD WHICH EVER IS GREATER.
12. GRP PIPES AND FABRICATIONS CAST INTO CONCRETE SHALL BE GRIT COATED.
13. DI MANHOLE COVERS SHALL BE BADGED 'SURFACE WATER' IN ENGLISH AND ARABIC.
14. MANHOLES IN CARRIAGEWAY TO BE BACKFILLED TO THE UNDERSIDE OF THE SUB BASE, FROM THE EXCAVATED SURFACE WITH SMPA FLOWABLE FILL. AT TRENCH OPENINGS, ROUGH SHUTTERING SHALL BE PROVIDED TO GIVE A MINIMUM THICKNESS OF 300 AROUND THE MANHOLE. WHERE FLOWABLE FILL 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 FILL ENTERING THE GRANULAR BED AND SURROUND. TANKING MEMBRANE IS NOT REQUIRED FOR PRC MANHOLES.
15. STAINLESS STEEL SAFETY CHAINS AND TOE HOLDS OR STEP IRONS SHALL BE CONSIDERED FOR ALL PIPES GREATER THAN 600 DIA.
16. DOUBLE STEP IRON TYPE C PLASTIC ENCAPSULATED. ANY SHAPE TREAD WITH PATTERNED SURFACE AND WITHOUT UPSTAND TO BS EN 13101:2002.
17. SEE DRAWING No.SD 8-4-103 FOR TANKING DETAILS.

| | | | |
|---|-----------|----------------|--|
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QCS Section:
Section 8 - Drainage Works
Part 4 - Pipe Installation

Drawing Title:
**TYPICAL CHAMBER LAYOUT
1800mm PIPE DIA**

| | |
|----------------------------|-------------------|
| Approved: | Sheet No: 1 OF 1 |
| Date: APRIL 2019 | Scale: 1:50 on A1 |
| Drawing Number: SD 8-4-305 | Revision: 4 |