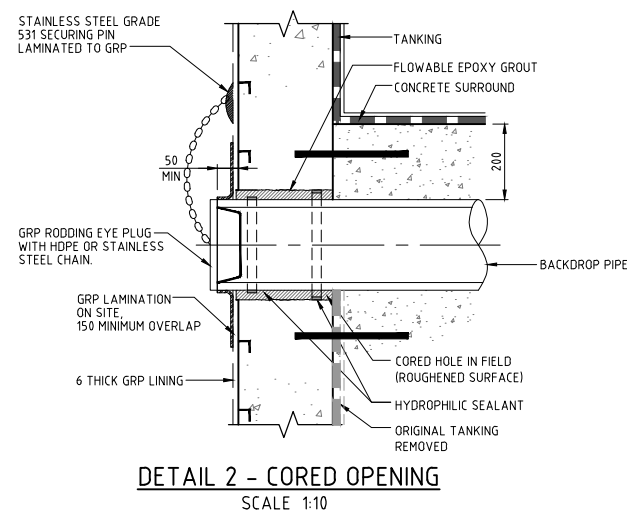
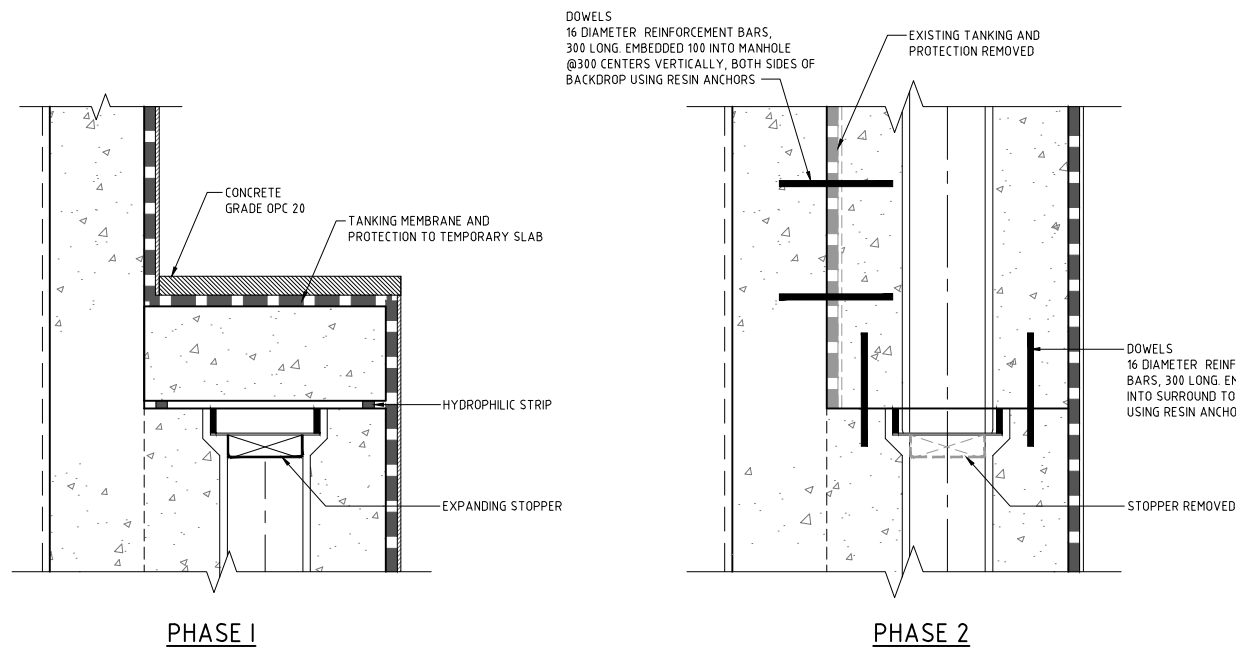
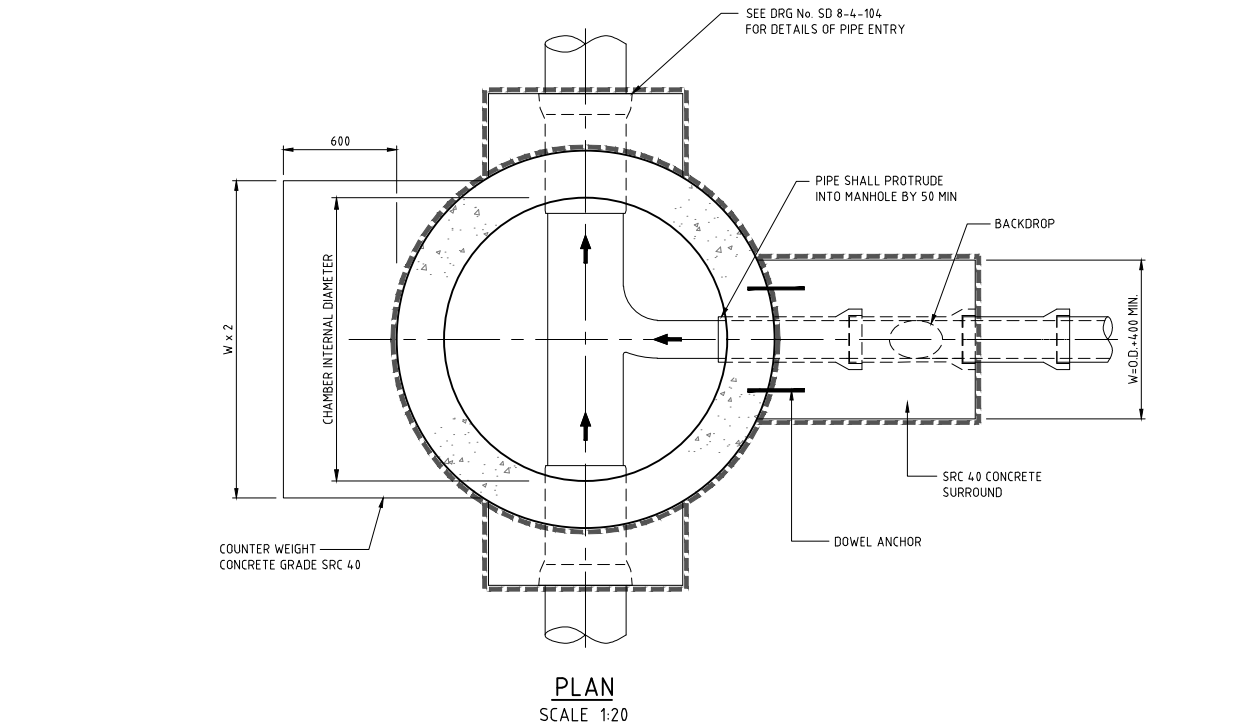
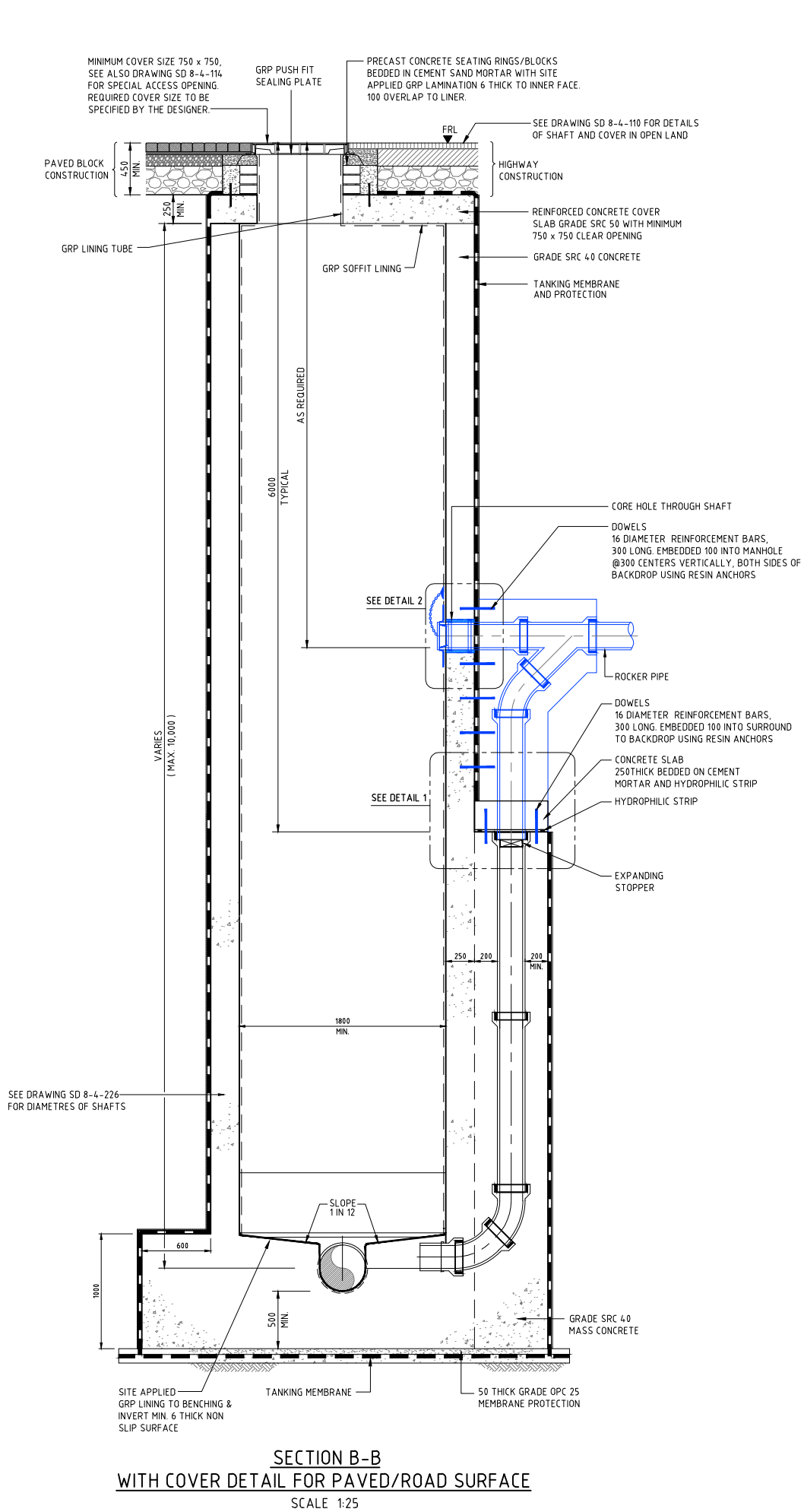




- NOTES:**
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
 - ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT Q.C.S. UNLESS OTHERWISE AGREED WITH THE ENGINEER.
 - WHERE THERE IS A DISCREPANCY BETWEEN THE REQUIREMENTS IN THE SPECIFICATION AND THOSE SHOWN ON THIS DRAWING THE SPECIFICATION SHALL TAKE PRECEDENCE.
 - VARIATION TO STANDARD DETAILS ARE PERMISSIBLE TO MEET SITE SPECIFIC REQUIREMENTS SUBJECT TO ENGINEERS APPROVAL.
 - DRAWING No. SD 8-4-106 FOR STANDARD NOTES AND DETAILS.
 - ALL JOINTS BETWEEN SECTIONS OF GRP LINERS SHALL BE LAMINATED OVER WITH 200mm WIDE RESIN RICH GLASS.
 - ALL JOINTS BETWEEN PIPES, FIXTURES AND GRP LINERS ARE SEALED.
 - ALL JOINTS BETWEEN PIPES AND CONCRETE SECTIONS ARE WATERTIGHT.
 - ALL INCOMING PIPES ARE LAID SOFFIT TO SOFFIT WITH THE OUTGOING PIPE UNLESS A RAMP/BACKDROP IS CONSTRUCTED OR AS SHOWN ON THE PLAN.
 - ROCKER PIPE IS 600mm IN LENGTH OR 1.5xD WHICHEVER IS GREATER.
 - GRP PIPES AND FABRICATIONS CAST INTO CONCRETE SHALL BE GRIT COATED.
 - DRAWING No. SD 8-4-103 FOR TANKING DETAILS.
 - DUCTILE IRON MANHOLE COVERS SHALL BE BADGED 'FOUL WATER' IN ENGLISH AND ARABIC.
 - WHERE THERE IS LIMITED WORKING SPACE FOR CONSTRUCTION OR WHERE WORKS HAVE TO BE COMPLETED WITHIN A RESTRICTED TIME PERIOD, MANHOLES IN THE CARRIAGEWAY AND PAVED AREAS MAY BE BACKFILLED FOR FULL HEIGHT FROM THE EXCAVATED SURFACE TO THE MANHOLE TO UNDERSIDE OF THE SUB BASE WITH 4N/mm² FOAMED CONCRETE. MAXIMUM AGGREGATE SIZE IS 5mm. AT TRENCH OPENINGS, ROUGH SHUTTERING SHALL BE PROVIDED TO GIVE A MINIMUM THICKNESS OF 300mm OF FOAMED CONCRETE AROUND THE MANHOLE. WHERE FOAMED CONCRETE IS USED FOR BACKFILL, TANKING MEMBRANE TO WALLS IS NOT REQUIRED. USE OF FOAMED CONCRETE SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.
 - 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 DUCTILE IRON. DUCTILE IRON PIPES AND FITTINGS SHALL BE SUITABLE FOR 16 BAR (PFA) WITH EXTERNAL COATING. THE CONTRACTOR SHALL SUBMIT DETAILS OF ALTERNATIVE PROPOSAL FOR THE APPROVAL OF THE ENGINEER.
 - DRG No. SD 6-1-201 TO SD 6-1-205 FOR CONSTRUCTION IN EXISTING PAVEMENT.
 - THERE SHALL BE A MINIMUM OF 1 AND MAXIMUM OF 4 PRECAST CONCRETE SEATING RINGS INSTALLED SUBJECT TO THE APPROVAL OF THE ENGINEER.
 - REFER TO DRG No. SD 8-4-204 FOR MANHOLE DIMENSION SCHEDULE AND COVER SIZE.
- NOTES APPLICABLE TO BACKDROP MANHOLES:**
- WHERE THERE IS A DIFFERENCE IN LEVEL BETWEEN THE INVERT LEVEL OF INCOMING AND OUTGOING SEWERS THE FOLLOWING RULES APPLY:
 - WHERE THE DIFFERENCE IN LEVEL IS LESS THAN 600 THE PIPE CONNECTION MAY BE DIRECT THROUGH THE MANHOLE OR GRADIENT ADJUSTED TO SUIT.
 - WHERE THE DIFFERENCE IN LEVEL IS GREATER THAN 600 AND LESS THAN 1200 A RAMP BACKDROP SHALL BE CONSTRUCTED.
 - WHERE THE DIFFERENCE IN LEVEL IS 1200 AND LESS THAN 8000 A VERTICAL BACKDROP SHALL BE CONSTRUCTED.
 - FOR INTERNAL BACKDROPS WHERE DIFFERENCE IN LEVEL IS 4,000 OR GREATER, A VERTICAL RISER SHALL BE CONSTRUCTED.
 - EXTERNAL BACKDROPS ARE PREFERRED. INTERNAL BACKDROP MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER.
 - WHERE INCOMING AND OUTGOING PIPE DIA. DIFFER, THEY SHALL BE SET SOFFIT LEVEL AND A TAPERED CHANNEL SHALL BE PROVIDED.
 - 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.
 - VORTEX DROP TO BE USED WHEN DIFFERENCE IN PIPE INVERT LEVELS IS GREATER THAN 8.0m 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.

1	APR 19	ISSUED FOR USE		
0	01 MAR 19	ISSUED FOR USE		
Rev.	Date	Revision Details	Appd.	
هيئة الأشغال العامة Public Works Authority				
P.O.Box: 22188 Tel.: 00974 44950000 Fax: 00974 44950999 قطر تستحق الأفضل Qatar Deserves The Best www.ashghal.gov.qa				
PROJECTS AFFAIRS				
QCS Section:				
Section 8 - Drainage Works Part 4 - Pipeline Installation				
Drawing Title:				
FOUL SEWER MANHOLE DETAILS STAGED DEEP CONNECTIONS				
Approved:	Sheet No: 1 OF 1			
Date:	APRIL 2019	Scale:	AS SHOWN	Revision:
Drawing Number:	SD 8-4-228			1