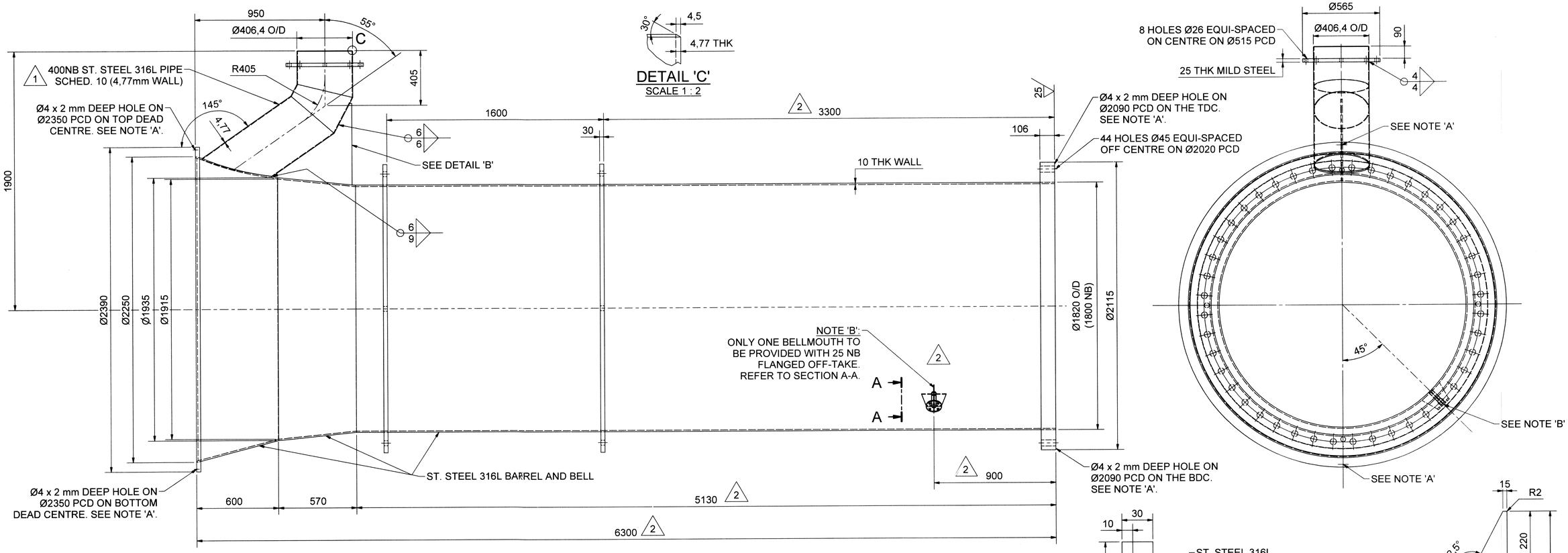
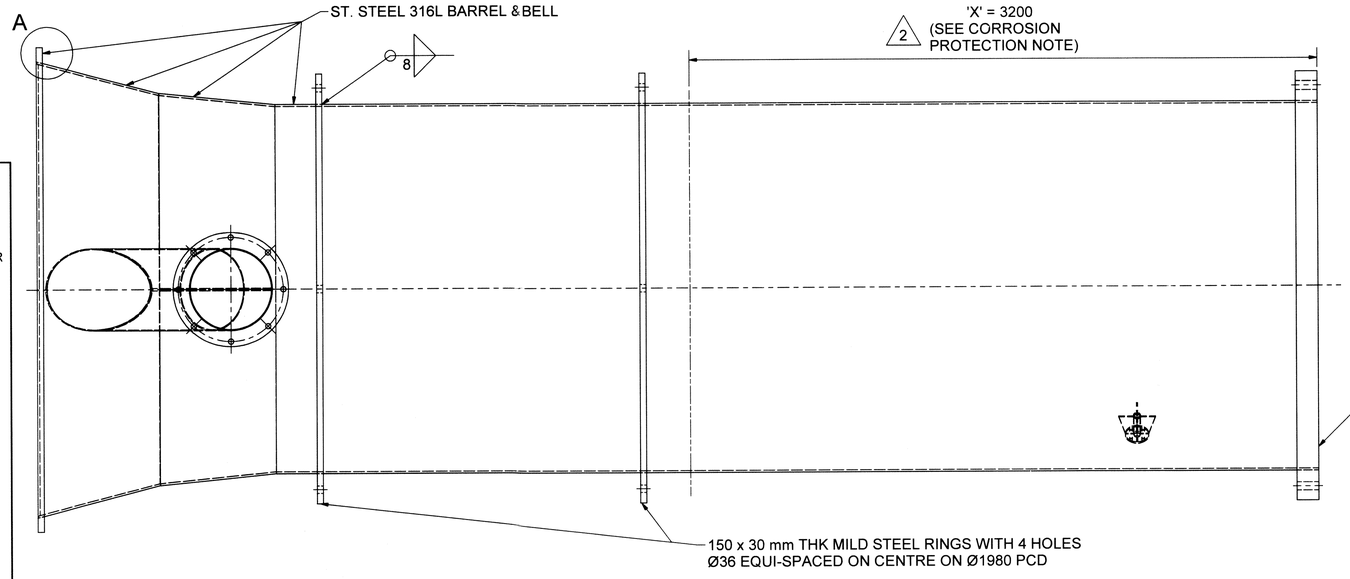
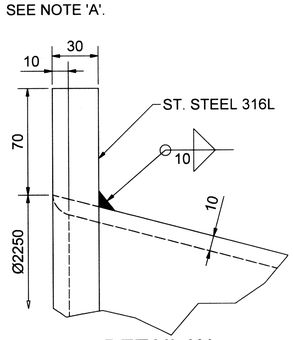
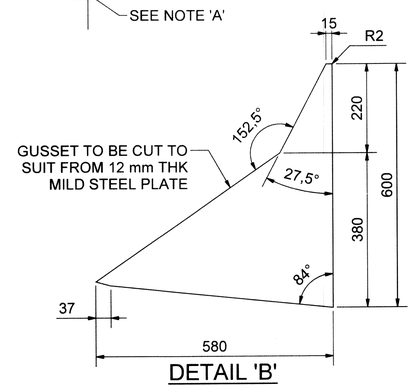


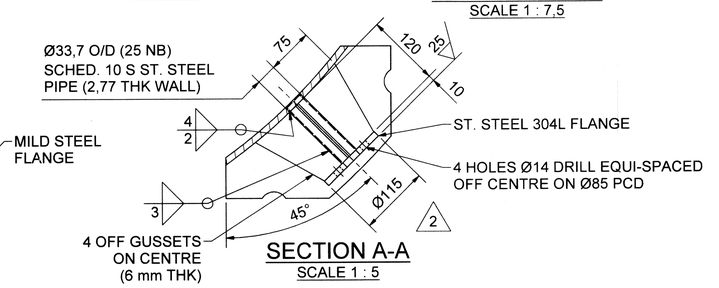




DETAIL 'A'
SCALE 1 :2



DETAIL 'B'
GUSSET PLATE DETAIL
SCALE 1 : 7,5



SECTION A-A
SCALE 1 : 5

NOTE 'A':
FILL Ø4 PILOT HOLES WITH SIGNAL RED PVC PAINT AFTER FINAL CORROSION PROTECTION.

GENERAL MANUFACTURING NOTES:
- HOLES IN PUDDLE COLLARS MUST ALIGN.
- PILOT HOLE IN BELLMOUTH RING AND FLANGE TO ALLIGN PRECISELY VERTICALLY.
- PIPE MANUFACTURING AND TOLERANCES SHALL BE IN ACCORDANCE WITH SANS 719.
- FABRICATION TO BE IN ACCORDANCE WITH PARTICULAR SPECIFICATION CWD44 - PIPES AND SPECIALS.

FLANGES:
- ALL FLANGES SHALL BE FLAT FACED.
- ALL FLANGES, EXCLUDING 1800 NB, SHALL BE IN ACCORDANCE WITH SANS 1123 TABLE 1000/3.
- 1800 NB FLANGES: OD, PCD, HOLE DIA AND NO-OFF BOLT HOLES TO BE IN ACCORDANCE WITH SANS 1123 TABLE 1000/1B.
- FLANGE THICKNESS AS PER DRAWING DETAIL.

GENERAL WELDING NOTES:
- PERFORM NECESSARY WELD PREPARATION.
- IDENTICAL WELDS SYMBOLISED ONCE ONLY.
- ALL WELDS SHALL BE CONTINUOUS FULL PENETRATION WELDS. REMOVE WELD SPATTER.
- WELDERS SHALL BE CERTIFIED (IN ACCORDANCE WITH ASME IX) FOR PIPE WELDING FOR THE RELEVANT SCOPE OF WELDS SPECIFIED.
- FLANGES TO BE WELDED ON PIPES IN ACCORDANCE WITH B.S. 806 TYPE 6.

MATERIAL
- PIPE BARRELS AND BELL TO BE ST. STEEL GRADE 316L UNLESS OTHERWISE STATED.
- ALL FLANGES, COLLARS, RINGS AND GUSSETS SHALL BE MILD STEEL UNLESS OTHERWISE STATED.
- MILD STEEL TO BE IN ACCORDANCE WITH SANS 50025 / EN 10025 GRADE S355JR OR SANS 1431 GRADE 350WA.

GENERAL DIMENSIONAL TOLERANCES (U.O.S)

DIMENSIONS UP TO 120:	± 0,3 mm
DIMENSIONS ABOVE 120 TO 400:	± 0,5 mm
DIMENSIONS ABOVE 400 TO 1000:	± 0,8 mm
DIMENSIONS ABOVE 1000:	± 2 mm
FLATNESS TOLERANCE:	3 mm/m WIDE

THE OVALITY TOLERANCE OF PIPE I/D AT PIPE ENDS SHALL BE ±1,6 mm ALL AROUND THE CIRCUMFERENCE OVER 150 mm DISTANCE FROM PIPE ENDS. PIPE END ROOT FACE SHALL NOT DEVIATE FROM SQUARENESS TO THE PIPE AXIS BY MORE THAN 3 mm.

ALL DIMENSIONS IN MILLIMETRES

CORROSION PROTECTION NOTES:
- IN ACCORDANCE WITH DWA STANDARD SPECIFICATION DWS 9900.
- COATING: TWO PACK EPOXY (150 µm DFT) (*PLUS A TOP COAT OF PURE ALIPHATIC POLYURETHANE (25 µm DFT) OVER INDICATED AREA MARKED 'X' ON DETAIL).
- LINING: TWO PACK EPOXY (250 µm DFT).
- PUDDLE COLLAR COATING: TWO PACK EPOXY (300 µm).

TESTING OF PIPES AND SPECIALS:
ALL PIPES AND SPECIALS SHALL BE HYDRAULICALLY PRESSURE TESTED TO 900 kPa. RADIOGRAPHIC TESTING SHALL BE PERFORMED WHERE HYDRAULIC PRESSURE TESTING IS NOT POSSIBLE.

DO NOT SCALE DRAWING

0 5 10 SCALE (mm) 100

PROJECTION (U.O.S.)

REMOVE ALL SHARP EDGES

REVISION

MOD No.	DATE	DESCRIPTION	FOR	DWA
0	10/13	ISSUED FOR CONSTRUCTION.		
1	11/13	AIR PIPE WALL THICKNESS ALTERED.		
2	08/15	BELLMOUTH LENGTH EXTENDED FROM 4000 TO 6300 mm & 25 NB OFFTAKE DETAIL ADDED (SECTION A-A).		

DEPARTMENT OF WATER AND SANITATION
REPUBLIC OF SOUTH AFRICA
HEAD OFFICE
MECH. /ELEC. ENG.
PRIVATE BAG X313
PRETORIA 0001
SEDIBENG BUILDING
185 SCHOEMAN STREET
PRETORIA
(012) 336-7500
Ms. M DIEDRICKS
DIRECTOR GENERAL

CHECKED	17/09/15 DATE	DESIGN: J.J. THERON	
ENGINEER	15/9/2015 DATE	DRAWN: J.J. THERON	
CHIEF ENGINEER / APP (Pr. Eng)	21/9/2015 DATE	EXT. APPROVAL / DESIGN CHECKED: 07/09/2015 DATE	
		DIRECTOR (Pr. Eng): 19.08.2015 DATE	

OLIFANTS-DOORN RIVER WATER RESOURCES PROJECT

RAISING OF CLANWILLIAM DAM

OUTLET WORKS

PIPES & SPECIALS

-DETAILS-

1 BELLMOUTH

MATL.:	MILD & ST. STEEL	MASS:	4285 kg ea.
NO. OFF:	7	SCALE:	1:15

PROVINCE: WESTERN CAPE	DISTRICT: CLANWILLIAM	KEYCODES	OUW	BEL	PIP	DET		OTHER NUMBER CWD 7009
LOCALITY No: E100-02	TENDER/ CONTRACT No.	SHEET 10 OF	REG No. 169327/13 ME					REV No. 2
CALCULATION FILE: ME/E100-02								