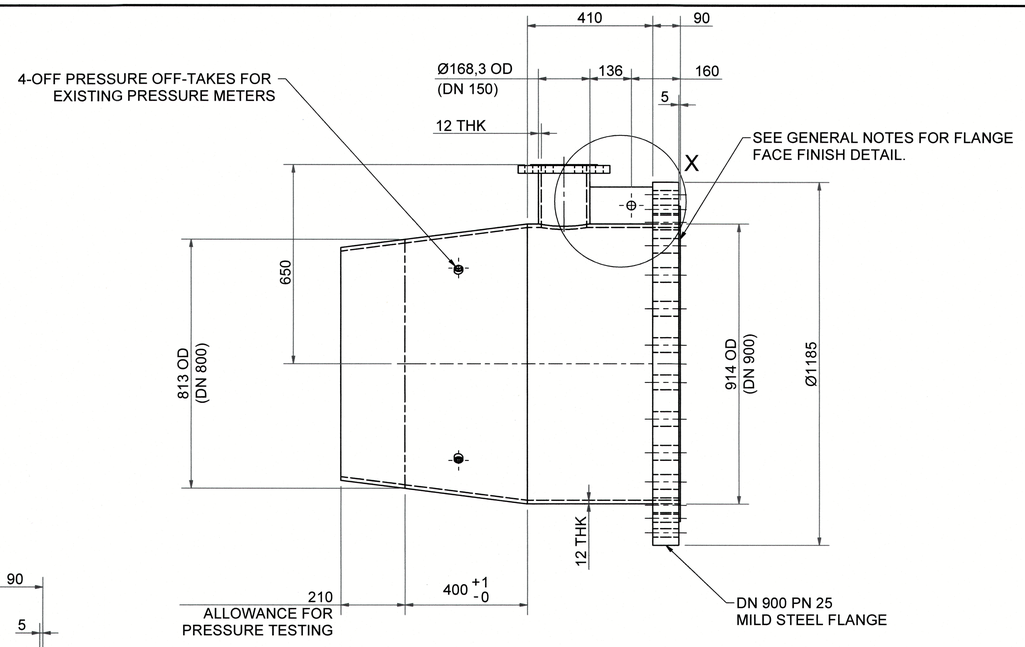
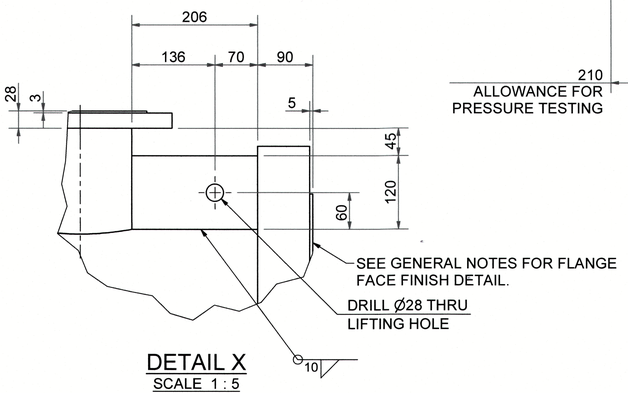
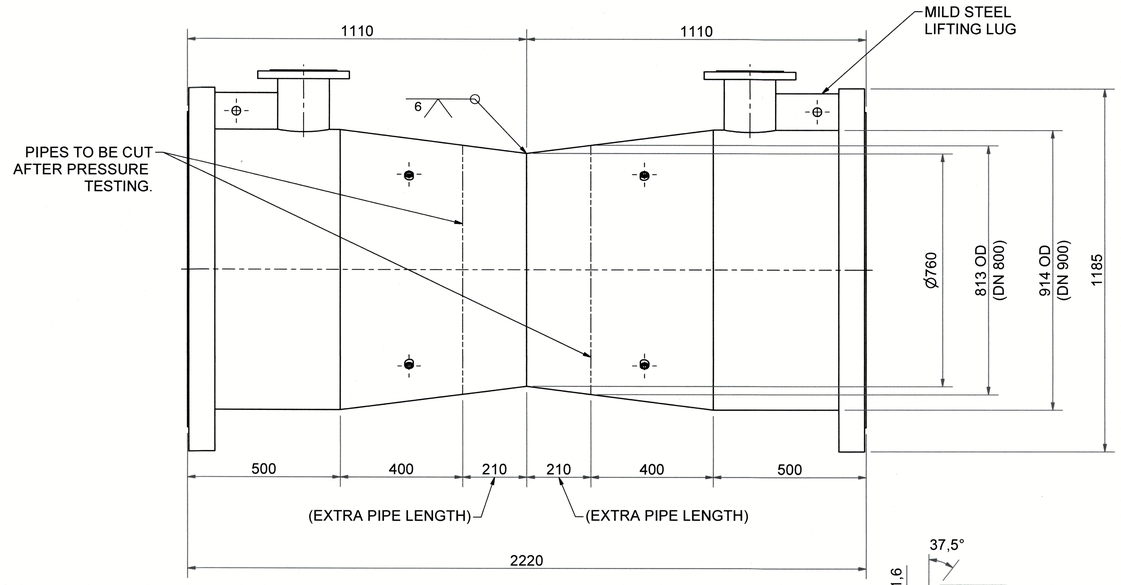




DETAIL X
SCALE 1 : 5

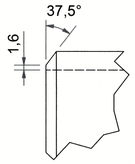


PRESSURE TESTING CONFIGURATION: ITEM 1
2-OFF ASSEMBLIES TO BE PRESSURE TESTED
SCALE 1 : 10

WORKING PRESSURE: 2500 kPa
HYDRAULIC TEST PRESSURE: 3750 kPa
PRESSURE TESTING CONFIGURATION MASS: ± 1130 kg

MANUFACTURING FOR HYDRAULIC PRESSURE TESTING:
1. MANUFACTURE EACH EXPANDER PIPE (ITEM 1) 210 mm LONGER, AS INDICATED.
2. WELD 2-OFF EXPANDER PIPES (ITEM 1) TOGETHER FOR PRESSURE TESTING AT THE MANUFACTURER'S WORKSHOP PRIOR TO CORROSION PROTECTION. REPEAT FOR OTHER 2 EXPANDER PIPES (ITEM 1).
3. AFTER PRESSURE TESTING, CUT EXPANDER PIPE TO THE CORRECT SIZE, PERFORM WELD PREPERATIONS AND CORROSION PROTECT.

ITEMS REQUIRED FOR PRESSURE TESTING OF ITEM 1:
(ITEMS LISTED BELOW DO NOT FORM PART OF SUPPLY AND DELIVERY BUT ARE REQUIRED FOR SUCCESSFUL PRESSURE TESTING)
2X DN 900 BLANK FLANGES COMPLETE WITH LINE FILLING OFF-TAKE, SUITABLE FOR PRESSURE TESTING TO 3750 kPa .
2X DN 150 BLANK FLANGES, SUITABLE FOR PRESSURE TESTING TO 3750 kPa .
8X DN 25 (1") PLUGS IN ACCORDANCE WITH ASME B16.11 WITH MALE BSPT THREAD (CLASS 3000 LB).



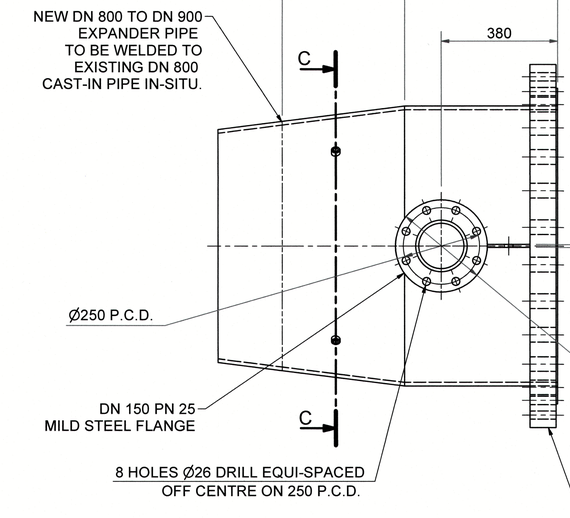
DETAILS FOR WELDING PREPARATION
FOR BUTT WELD FITTINGS AND PIPES IN
ACCORDANCE WITH ASME B16.25
SCALE 1 : 1

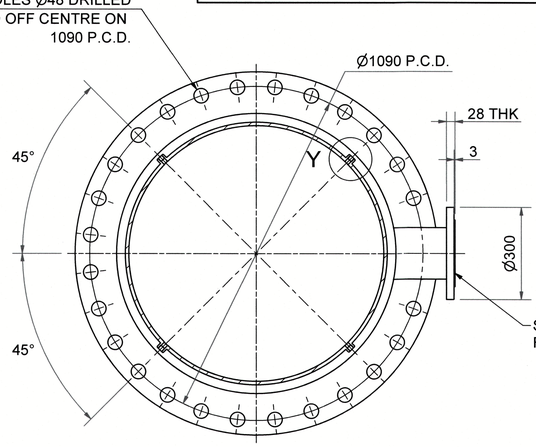
ADDITIONAL NOTES:

FLANGES:
-ALL FLANGES ACCORDING TO EN 1092-1 - PN25 U.O.S.
-FLANGE WELDING TO BS 806 TYPE 6.
-ALL FLANGES SHALL BE RAISED FACE WITH GRAMOPHONE FINISH.
-ALL GASKETS SHALL BE RAISED FACE COMPRESSED FIBRE GASKETS.

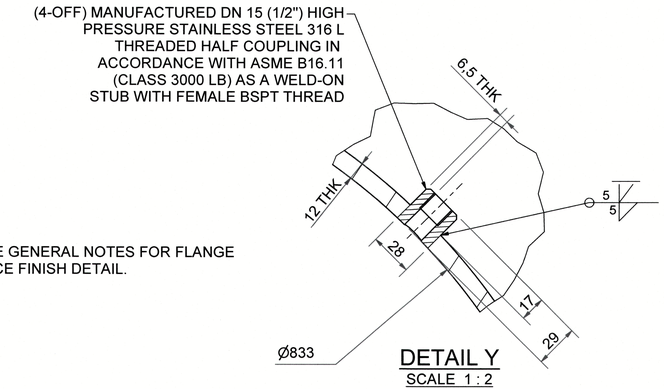
CORROSION PROTECTION:
-IN ACCORDANCE WITH DWS STANDARD SPECIFICATION DWS 9900.
-ALL STAINLESS STEEL ITEMS TO BE PICKLED AND PASSIVATED AFTER MANUFACTURE.
-PIPE LINING: APPLY TOW-PACK EPOXY TO 600 µm.
-PIPE COATING: APPLY TWO-PACK EPOXY TO 300 µm PLUS TOP COAT OF RECOATABLE POLYURETHANE TO 50 µm.
-FLANGE FACE: APPLY TWO-PACK EPOXY TO 80 µm.
-PLAIN PIPE END: APPLY TWO-PACK EPOXY TO 600 µm FOR A DISTANCE OF 225 mm FROM PIPE END.
-ALL THREADS TO BE COATED WITH MOLYBDENUM DISULPHIDE LUBRICANT.

GENERAL WELDING NOTES:
-PERFORM NECESSARY WELD PREPS.
-SEAL WELD ALL OPEN INTERFACES BETWEEN PLATE CONNECTIONS.
-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 THE RELEVANT WELDS SPECIFIED.
-WELDING ELECTRODES FOR WELDING MILD STEEL TO STAINLESS STEEL SHALL CONTAIN E309L FILLER METAL IN ACCORDANCE WITH AWS A5.4.





SECTION C-C
SCALE 1 : 10



DETAIL Y
SCALE 1 : 2

GENERAL NOTES:

GENERAL DIMENSIONAL TOLERANCES (U.O.S.)

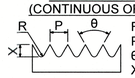
DIMENSIONS UP TO 120:	± 0,3 mm
DIMENSIONS ABOVE 120 TO 400:	± 0,5 mm
DIMENSIONS ABOVE 400 TO 1000:	± 0,8 mm
DIMENSIONS ABOVE 1000:	± 2 mm
FLATNESS & SQUARENESS TOLERANCE:	3 mm/m WIDE

PIPE END ROOT SHALL NOT DEVIATE FROM SQUARENESS TO THE PIPE AXIS BY MORE THAN 1,5 mm

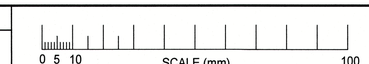
OUTSIDE DIAMETER TOLERANCE:
FOR PIPES ≥ DN 250: +1,6 -0,8 OVER A DISTANCE OF 150 mm FROM PIPE END.

MATERIAL:
-ALL MILD STEEL ITEMS TO BE IN ACCORDANCE WITH SANS 50025 / EN 10025 GRADE S355JR OR SANS 1431 GRADE 350WA.
-FLANGE MATERIAL AS PER DRAWING DETAIL.
-PIPE BARRELS IN ACCORDANCE WITH EN 10058-2.

FLANGE FACE FINISH DETAIL (U.O.S.)
(CONTINUOUS OR CONCENTRIC GROOVES)



R: NOSE RADIUS	0,2–0,6
P: PITCH	0,9–1,2
θ: ANGLE	50°–60°
X: DEPTH	0,8–1,0



ROUND ALL SHARP EDGES / REMOVE BURRS

ALL DIMENSIONS IN MILLIMETERS

DO NOT SCALE DRAWING

PROJECTION SANS 10111

REV No.	DATE	REVISION DESCRIPTION	SIGNED
0	07/2024	ISSUED FOR CONSTRUCTION	

DEPARTMENT OF WATER AND SANITATION
REPUBLIC OF SOUTH AFRICA

HEAD OFFICE
M / E ENGINEERING
PRIVATE BAG X313
PRETORIA 0001

SEDIBENG BUILDING
185 FRANCIS BAARD STREET
PRETORIA
(012) 336-7500

DIRECTOR GENERAL

CHECKED: FANIE DE BEER 15/08/2024 DATE:
DESIGN: A VAN SCHALKWYK
DRAWN: A VAN SCHALKWYK
ENGINEER: 16/08/2024 DATE:
EXTERNAL APPROVAL: 2024/08/16 DATE:
M. MAKAKOLA 15/8/2024 DATE:
CHIEF ENGINEER (Pr. Eng.)
DIRECTOR: 26/08/2024 DATE:

BERG RIVER WATER SUPPLY SCHEME

DRAKENSTEIN PUMP STATION

DISCHARGE PIPEWORK:

MODIFICATIONS TO DN 900 DISCHARGE PIPEWORK

-DETAILS-

PROVINCE: WESTERN CAPE	KEYCODES	OTHER NUMBER	
LOCALITY No.: G100-02	DISTRICT: WORCESTER	SHEET 2 OF 4	REG. No. 181619/24 ME
CALCULATION FILE: ME / G 100-02	TENDER/ CONTRACT No.		REV. No. 0

ITEM 1 DN 800 TO DN 900 EXPANDER PIPE

MATL.: 3CR12 / MILD STEEL	QTY.: 4
MASS: 517 kg	SCALE: 1 : 10