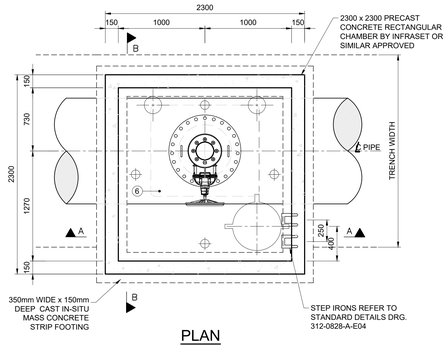
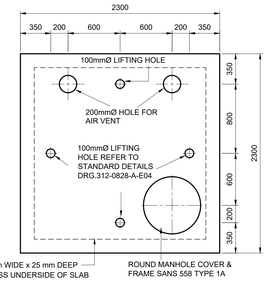
NOTE:
ALL DIMENSIONS TO BE VERIFIED ON SITE PRIOR TO THE COMMENCEMENT OF WORKS. REFER ANY DISCREPANCIES TO THE ENGINEER.

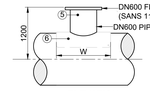
AIR VALVE TYPE 1
IN-LINE SINGLE DN200



PLAN
SCALE 1 : 25



PRECAST ROOF SLAB DETAIL (TYPE 1)
SCALE 1 : 25

PIPEWORK AND FITTINGS SCHEDULE 1.1 (TYPE 1 - PER INSTALLATION)						
ITEM NO.	DESCRIPTION	WALL THICKNESS	NO. OFF	LINING	COATING	GRADE OF STEEL
1	DN200 VENT-O-MAT RBX OR SIMMILAR APPROVED AIR VALVE, PN10 OR PN16. REFER TO SCHEDULE 2.1 & GENERAL NOTES - VALVES & FITTINGS	-	1	-	-	-
2	DN200 RSV OR WEDGE GATE VALVE, HAND WHEEL OPERATED, PN10 OR PN16 COMPLETE WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS & GASKETS. REFER TO SCHEDULE 2.1 & GENERAL NOTES - VALVES & FITTINGS	-	1	-	-	-
3	SPECIAL: DN200 SPOOL PIECE, 300mm F/F, FOE, PLAIN END WELDED CENTRALLY TO ITEM 4. DN200 FLANGE SUPPLIED WITH ITEM 2 AS DETAILED BELOW: ELEVATION SCALE 1:50	4.5mm	1	CML	CMS	X42 / GRADE C
4	DN600 BLANK FLANGE (SANS 1123 OR BS EN 1092 PART 1), REFER TO SCHEDULE 2.1, WITH 200mm HOLE CENTRALLY DRILLED AND LIFTING HOOKS. (REFER TO STANDARD DETAILS DRG. 312-0828-A-E04 FOR LIFTING HOOK DETAIL).	-	1	-	-	-
5	SPECIAL: DN600 STRAIGHT PIECE (FLANGED STUB), FOE, AS DETAILED BELOW:  ELEVATION SCALE 1 : 50	SEE SCHEDULE 2.1	1	CML	CMS	SEE SCHEDULE 2.1
6	COLLAR PLATE IF SPECIFIED. REFER TO SCHEDULE 2.1	SEE SCHEDULE 2.1	1	-	CMS	SEE SCHEDULE 2.1

NOTE:

THIS DRAWING INDICATES THE IDEAL POSITION AND MEASUREMENT THEREOF FOR THE TYPE 1 AIR VALVE INSTALLATION. SHOULD ANY ADJUSTMENTS BE REQUIRED, IT SHOULD BE APPROVED BY THE ENGINEER ON SITE.

GENERAL NOTES

PIPEWORK

1. ALL PIPEWORK TO BE MILD STEEL IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS UNLESS OTHERWISE STATED.
2. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL PIPEWORK AND ADVISE THE ENGINEER OF ANY DISCREPANCIES PRIOR TO FABRICATION.
3. ALL PIPES GREATER THAN AND INCLUDING DN100, FITTED TO EQUIPMENT OR FITTINGS, OR WHERE SPECIFICALLY INDICATED SHALL BE FLANGED TO SANS 1123 (TABLE 3) OR BS EN 1092 - 1 WHERE SANS 1123 (TABLE 3) DOES NOT APPLY OR AS SPECIFIED ON THE DRAWINGS. SHOULD THE RESPECTIVE FLANGE DRILLING NOT BE COVERED IN THE ABOVE SPECIFICATIONS THE RESIDENT ENGINEER SHALL BE CONSULTED FOR THE APPROPRIATE SPECIFICATION, BEFORE PROCURING ANY VALVES OR FLANGES.
4. SURFACE PREPARATION FOR APPLICATION OF CORROSION PROTECTION MATERIALS SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
5. DAMAGED COATINGS AND LININGS SHALL BE REPAIRED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
6. ALL PIPEWORK AND SPECIALS TO BE COATED AND LINED AS PER THE PROJECT SPECIFICATIONS.
7. ALL JOINTS SHALL BE COATED, PROTECTED AND WRAPPED AS PER THE PROJECT SPECIFICATIONS.
8. THE PRESSURE RATINGS OF ALL PIPEWORK, FLANGES AND VALVES, SHALL BE AS INDICATED IN THE SCHEDULES OF FITTINGS.
9. ALL MILD STEEL PIPEWORK, COLLARS, WRAPPERS AND CROTCH PLATES TO BE MANUFACTURED FROM STEEL PIPE OF THE SAME GRADE AS THE MAIN PIPE.
10. ALL BENDS TO BE FABRICATED AND DIMENSIONED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
11. FOR COLLAR PLATES, PRE-DRILL 2 x 5mmØ HOLE. UPON COMPLETION OF FILLET WELDING WELD HOLES CLOSED.

VALVES AND FITTINGS

12. AIR VALVES:
    - 12.1. DN25 TO DN50 TO BE SCREW TYPE.
    - 12.2. DN80 TO DN200 TO BE FLANGED TYPE.
13. BUTTERFLY VALVES.
    - 13.1. FLANGED U-SECTION TYPE - SIZES UP TO DN1200, HAND WHEEL OPERATED, CLOCKWISE CLOSING (SUPPLIED WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS AND GASKETS). UNLESS OTHERWISE SPECIFIED.
14. RSV & WEDGE GATE VALVES:
    - 14.1. DN100 TO DN300, HAND WHEEL OPERATED, CLOCKWISE CLOSING (SUPPLIED WITH MATCHING FLANGES, NUTS, BOLTS, WASHERS AND GASKETS). UNLESS OTHERWISE SPECIFIED.

CONCRETE

15. ALL DIMENSIONS IN MILLIMETERS UNLESS STATED OTHERWISE.
16. ALL EXPOSED EDGES TO BE CHAMFERED 25x25.
17. MINIMUM COVER TO ALL REINFORCING SHALL BE 50mm.
18. CONSTRUCTION JOINTS TO BE WELL CLEANED & SCABBLED TO EXPOSE FRESH AGGREGATE AND THOROUGHLY WETTED BEFORE THE NEXT LIFT IS POURED.
19. FLOOR SCREED LAID TO FALL WITH THICKNESS VARYING FROM 100 TO 50mm.
20. CONCRETE GRADE
    - 20.1. BLINDING : C12/15-20 UNLESS OTHERWISE STATED
    - 20.2. CONCRETE : C25/20-20 UNLESS OTHERWISE STATED
    - 20.3. SCREED : 1:3 (CEMENT/SAND)
21. FINISHES

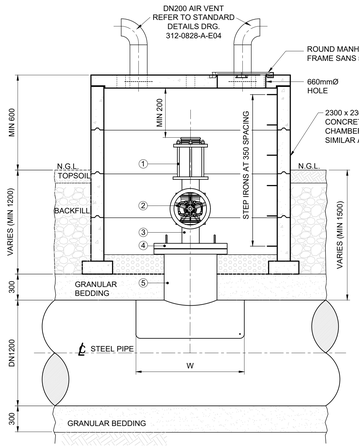
21.1.	EXTERNAL WALLS UNEXPOSED	:	F1 FINISH
21.2.	EXTERNAL WALLS EXPOSED	:	F1 FINISH
21.3.	INTERNAL WALLS	:	F2 FINISH
21.4.	FLOOR	:	U4 FINISH

22. WHERE APPLICABLE, AIR VENTS, LIFTING HOLES, LIFTING HOOKS, STEP IRONS AND MANHOLE COVER & FRAME ARE TO BE CAST IN CONCRETE.
23. BOTTOM OF AIR INLET TO BE MINIMUM OF 200mm ABOVE NGL.
24. ACCESS LADDERS TO HAVE CAGE FROM 2.3m ABOVE CHAMBER FLOOR.
25. PRESSURE RATING IN ACCORDANCE TO SCHEDULES

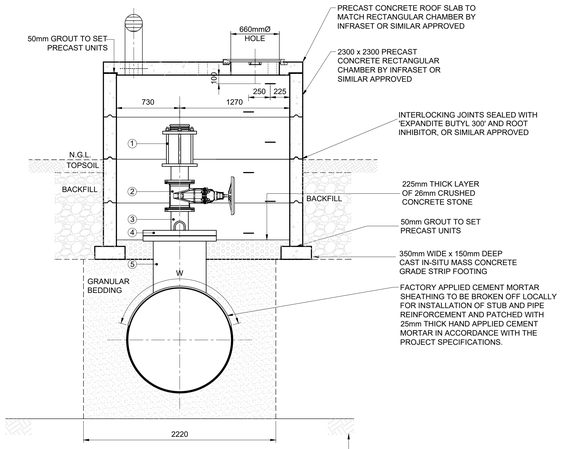
ABBREVIATIONS :

ID	-	INSIDE DIAMETER	DI	-	DUCTILE IRON
CI	-	CAST IRON	F/F	-	FACE TO FACE DIMENSION
DN	-	DIAMETER NOMINAL	C/F	-	CENTER TO FACE DIMENSION
OD	-	OUTSIDE DIAMETER	FOE	-	FLANGED ONE END
MS	-	MILD STEEL	BEF	-	BOTH ENDS FLANGED
SS	-	STAINLESS STEEL	FAR	-	FLANGED ALL ROUND
FRL	-	FINAL ROAD LEVEL	LRB	-	LONG RADIUS BEND
SFE	-	SOLVENT FREE EPOXY	SRB	-	SHORT RADIUS BEND
CML	-	CEMENT MORTAR LINED	NGL	-	NATURAL GROUND LEVEL
FBE	-	FUSION BONDED EPOXY	HDGMS	-	HOT DIPPED GALVANIZED MILD STEEL
CMS	-	CEMENT MORTAR SHEATHING			





SECTION A - A
SCALE 1 : 25



SECTION B - B
SCALE 1 : 25

SCHEDULE 2.1

AIR VALVE ASSEMBLY DETAILS

DESCRIPTION				PRESSURE	MAIN PIPE DETAILS			BRANCH PIPE DETAILS			VALVE DETAILS			FLANGE RATING & DRILLING TABLES			INSTALLATION	PIPE REINFORCING DETAILS - COLLAR PLATE DETAILS		
PI.	CHAINAGE (m)	IL (MSL)	DEPTH TO IL (m)	PRESSURE CLASS	MAIN PIPE DIAMETER DN (mm)	MAIN PIPE PLATE THICKNESS (mm)	MAIN PIPE GRADE	AIR VALVE COLLECTOR TEE DN (mm)	AIR VALVE COLLECTOR PIPE PLATE THICKNESS (mm)	AIR VALVE COLLECTOR TEE GRADE	AIR VALVE SIZE	ISOLATING VALVE SIZE	ISOLATING VALVE TYPE	AIR VALVE	ISOLATING VALVE	PIPE FLANGES	TYPE	PLATE REINF. GRADE	THICKNESS OF REINF.	OVERALL REINF. WIDTH
																			t (mm)	(W mm)
PI-A2	30.903	134.643	2.467	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A15	594.793	140.410	2.536	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A19	861.992	140.794	3.039	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A27	1597.053	142.016	2.415	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A31	1917.101	141.312	2.573	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A37	2685.811	134.105	2.422	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A40	2809.407	134.453	2.465	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A47	3492.159	129.609	2.470	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A50	4009.804	123.540	2.413	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A55	4450.925	117.969	2.428	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A59	4924.607	111.690	2.664	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A63	5519.717	107.071	2.432	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A69	5927.005	103.048	2.476	PN10	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN10	PN10	PN10	1	X42	6.0	1200.0
PI-A75	6100.051	101.648	2.888	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	1	X42	6.0	1200.0
PI-A77	6224.485	100.936	2.577	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	1	X42	6.0	1200.0
PI-A81	6459.329	100.101	2.419	PN16	1220	10.0	X42	610	6.0	X42	DN200	DN200	RSV	PN16	PN16	PN16	IV	X42	6.0	1200.0

No.	DATE	REVISION	CONSULT. ENG.
V1	23/11/2023	ORIGINAL VERSION	

CONSTRUCTION RECORD (AS-BUILT)
WORKS CONTRACT ENGINEER
Name :
Prof. Reg. No. :
Date :
SANRAL PROJECT MANAGER
Name :
Date :

HEAD OFFICE
48 Tambotie Avenue
Val de Grace
Pretoria
0184

PO Box 415
Pretoria 0001
South Africa

Tel: (012) 844 8000

SANRAL
SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD
Reg.No.1998/018599/30
BUILDING SOUTH AFRICA THROUGH BETTER ROADS

WESTERN REGION
1 Havenga Street
Oakdale
Bellville
7530

Private Bag X19
Bellville
7535

Tel: (021) 957 4600

ACCEPTANCE

THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING

for the SA NATIONAL ROADS AGENCY SOC LTD.
Date:

PROJECT DESCRIPTION
THE CAPACITY IMPROVEMENT OF THE NATIONAL ROUTE 1 SECTION 1 FROM OLD OAK INTERCHANGE (KM 18.90) TO KOELENOFF INTERCHANGE (KM 33.00)

DRAWING DESCRIPTION
N1 - WEMMERSHOEK PIPELINE RELOCATION
SECTION A - KOELENHOF TO KRAAIFONTEIN
TYPICAL AIR VALVE DETAILS - DN1200 MAINLINE

SCALE : AS SHOWN | SHEET 1 OF 1

PROJECT NUMBER	N.001-010-2021/1
DRAWING LOCATION DATA	START / END
ROUTE	N01 / N01
SECTION	01 / 01
DRAWING km DISTANCE	18.90 / 33.00
DRAWING TYPE	ROADS-UTILITIES
BRIDGE/STRUCTURE No.	-
CONSULTANT DRAWING No.	312-0828-A-E02 VER
SANRAL DOCUMENT #	- V1