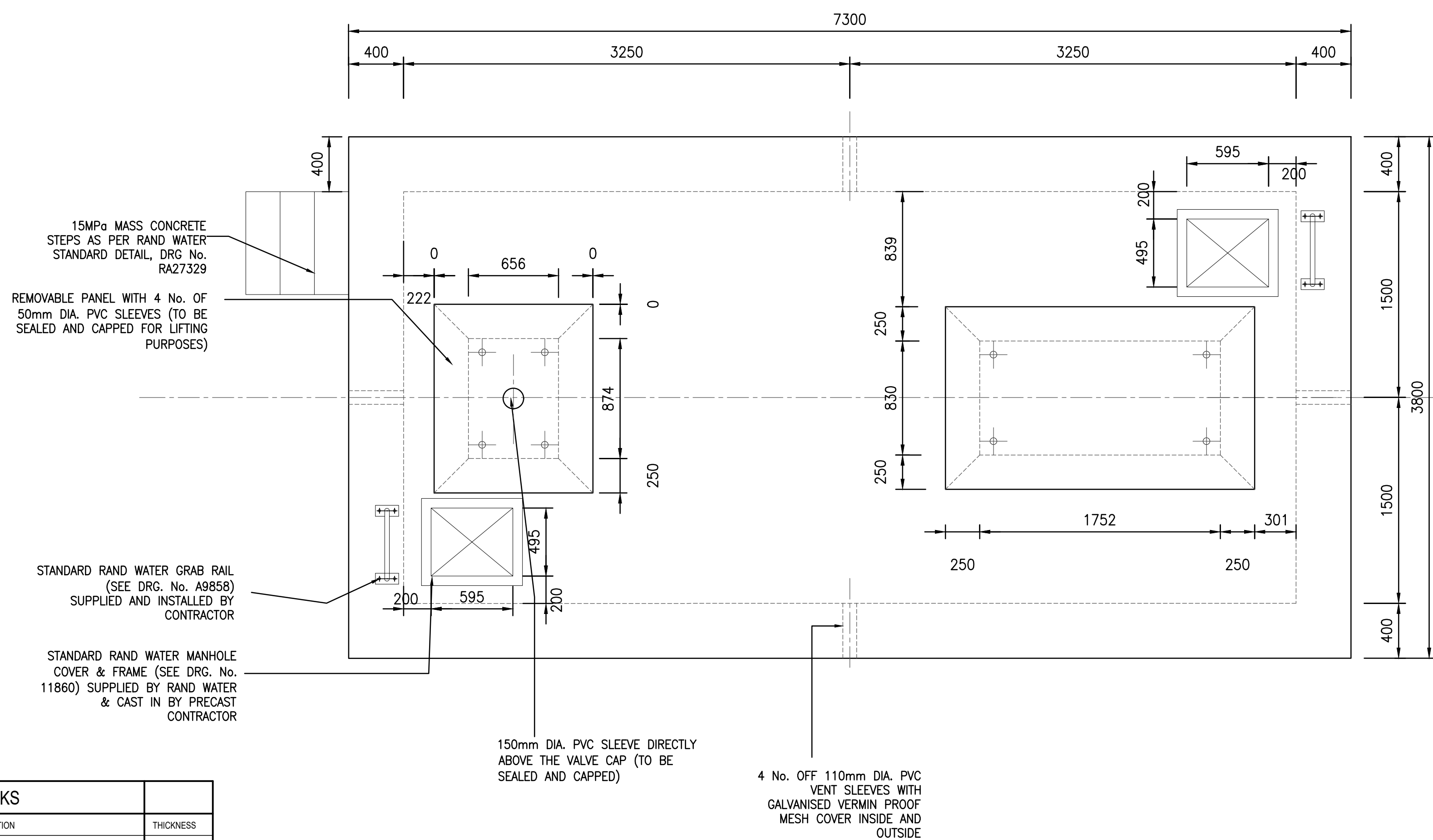


LAYER WORKS		
No.	LAYER DESCRIPTION	THICKNESS
①	GS MATERIAL COMPACTED IN LAYERS NOT EXCEEDING 100mm TO 95% MOD. AASH TO DENSITY AT -1% TO +2% OMC	100mm
②	50mm BLINDING	50mm
③	IN-SITU BACKFILL OF SELECTED SUITABLE G1 MATERIAL FROM EXCAVATION COMPACTED IN LAYERS NOT EXCEEDING 100mm TO 95% MOD. AASH TO DENSITY AT -1% TO +2% OMC	150mm
④	100mm THICK TOP SOIL TO BE REINSTATED	100mm
⑤	RIP AND RECOMPACT 100mm IN-SITU MATERIAL TO 93% MOD. AASH TO DENSITY	150mm



FOR CONSTRUCTION

TESTING AND QUALITY REQUIREMENTS:

NO STRUCTURE WILL BE APPROVED BY THE CIVIL DESIGN ENGINEER WITHOUT THE SUBMISSION OF THE FOLLOWING TO THE CIVIL DESIGN ENGINEER

- ONCE BACK-FILLING AND COMPACTION FOR FOUNDATION IS COMPLETED, THE CONTRACTOR SHALL PERFORM IN-SITU CBR TESTS TO ESTABLISH THE STRENGTH OF THE SOIL MATTRESS. RESULTS TO BE SUBMITTED AND APPROVED BY CIVIL DESIGN ENGINEER PRIOR TO CASTING OF ANY CONCRETE.
- UNLESS OTHERWISE DIRECTED BY THE CIVIL DESIGN ENGINEER, ONE SAMPLE SHALL BE TAKEN FROM EACH DAY'S CASTING CONCRETE FOR THE PURPOSE OF COMPRESSIVE STRENGTH TESTING. THE CONTRACTOR SHALL PREPARE 6 TEST CUBES, 150mm NOMINAL SIZE, FROM EACH SAMPLE. THREE OF EACH SIX TEST CUBES SHALL BE TESTED AT 7 DAYS AFTER MAKING AND THE REMAINING THREE CUBES SHALL BE TESTED AT 28 DAYS AFTER MAKING. ALL TEST RESULTS TO BE SUBMITTED AT SPECIFIED TIME LINES TO THE CIVIL DESIGN ENGINEER FOR APPROVAL, IN ACCORDANCE WITH SANS 878.
- WORKSHOP DRAWINGS OF STRUCTURAL STEELWORK, INCLUDING THE DESIGN OF CONNECTIONS, TO BE SUBMITTED TO THE CIVIL DESIGN ENGINEER FOR APPROVAL PRIOR TO FABRICATION. DRAWINGS SHALL BE CHECKED FOR DESIGN COMPLIANCE. NO DIMENSIONAL CHECKS WILL BE DONE. ALLOW 7 WORKING DAYS FOR APPROVAL.
- ERECTION METHOD STATEMENT TO BE SUBMITTED TO THE CIVIL DESIGN ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- CERTIFICATE FROM THE STEEL MANUFACTURER VERIFYING STEEL GRADE TO BE SUBMITTED TO THE CIVIL DESIGN ENGINEER.

FOUNDATION AND EARTHWORKS:

- THE CIVIL ENGINEER SHALL INSPECT AND APPROVE ALL EXCAVATIONS AND BACK-FILLING PRIOR TO CASTING OF THE CONCRETE BLINDING LAYER.
- BACKFILLING SHALL COMMENCE ONLY AFTER THE CONCRETE ROOF HAS ATTAINED THE 28 DAYS COMPRESSIVE STRENGTH.
- BACKFILL TO LAYER WORKS TABLE SPECIFICATIONS
- SERVICES MAY BE ENCOUNTERED DURING EXCAVATIONS
- TOP SOIL TO BE GRADED TO ENSURE THAT THE GROUND FOLLOWS THE ORIGINAL N.G.L.
- ONLY HAND OPERATED MECHANICAL COMPACTION EQUIPMENT TO BE USED WITHIN 3M OF EXISTING WALLS
- PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL SUBMIT TO THE CIVIL DESIGN ENGINEER FOR APPROVAL A DETAILED PROGRAM OF OPERATIONS FOR ALL EXCAVATION FUNCTIONS
- EXCAVATIONS SHALL BE UNDERTAKEN IN A SAFE MANNER IN COMPLIANCE WITH THE REGULATIONS PROMULGATED UNDER THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993) OR ANY AMENDMENT THEREOF.
- IT IS EXPECTED THAT VERTICAL EXCAVATIONS WILL BE UNSTABLE. THEREFORE SAFETY PRECAUTIONS TO BE OBSERVED BY THE CONTRACTOR SHALL INCLUDE THE SLIPING OR STEPPING AND SHORING, TIMBERING OR OTHERWISE SUPPORTING THE SIDES OF THE EXCAVATIONS OR ANY OTHER PROVISION AS STIPULATED IN REGULATION 11 OF THE AFORESAID ACT.
- THE SHORING METHOD ADOPTED SHALL BE COMPATIBLE WITH THE EXCAVATING, BACKFILLING AND CONSTRUCTION METHOD AND SHALL NOT RESTRICT THE INSTALLATION AND CONSTRUCTION.
- SHORES SHALL BE DESIGNED TO WITHSTAND THE EARTH PRESSURES EXERTED UPON THEM FROM THE SIDE OF THE EXCAVATION WHICH SHALL INCLUDE THE SUPERIMPOSED LOADING OF CONSTRUCTION AND PRELIMINARY EQUIPMENT.
- THE CIVIL DESIGN ENGINEER MAY REQUIRE THE CONTRACTOR TO TIMBER THE SIDES OF THE EXCAVATION WHICH MAY BE CONSIDERED TO BE IN ANY WAY DANGEROUS. SUCH TIMBERING SHALL BE LEFT IN PLACE UNTIL THE COMPLETION OF THE WORK AT THE POINT AFFECTED.
- TIMBERING SHALL CONSIST OF OPEN PLANKING, WALINGS AND SUBSTANTIAL STRUTS AND SHALL BE CARRIED OUT IN A NORMANLIKE MANNER AND TO THE SATISFACTION OF THE CIVIL DESIGN ENGINEER.
- THE CONTRACTOR SHALL ALLOW FOR THE REMOVAL OF TIMBERING IMMEDIATELY PRIOR TO BACKFILLING OR ON THE INSTRUCTIONS OF THE CIVIL DESIGN ENGINEER.
- MAINTAINING THE SIDES OF THE EXCAVATIONS IN A SAFE CONDITION SHALL AT ALL TIMES BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NO UNDER CUTTING OF THE SIDES WILL BE ALLOWED.

DRG No. R022699/100

GENERAL NOTES:

- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE REINFORCEMENT AND RELEVANT PIPE LAYOUT DRAWINGS
- STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH SANS SPECIFICATIONS AND RAND WATER SPECIFICATIONS.
- ALL CONCRETE MIXES AND METHOD STATEMENTS TO BE APPROVED BY THE CIVIL DESIGN ENGINEER PRIOR TO COMMENCEMENT OF CONSTRUCTION
- FOUNDATION EXCAVATIONS TO BE APPROVED BY THE CIVIL DESIGN ENGINEER PRIOR TO CASTING OF THE BLINDING LAYER
- ALL LEVELS AND DIMENSIONS WILL BE CHECKED ON SITE PRIOR TO CONSTRUCTION

CONCRETE NOTES:

- CONCRETE STRENGTH REQUIRED AT 28 DAYS:
a) STRUCTURAL CONCRETE: WALLS AND BASE = 35 MPa;
b) BLINDING AND SCREED: 15 MPa;
c) ROOF SLAB = 40 MPa;
d) MASS CONCRETE STEPS: 15 MPa
- CURING OF CONCRETE SHALL BE CARRIED OUT STRICTLY IN ACCORDANCE WITH SANS 2001-CC1
- STRIPPING TIMES OF SHUTTERING AND PROPPING SHALL BE IN ACCORDANCE WITH SANS 2001-CC1
- CURING METHOD STATEMENT TO BE APPROVED BY CIVIL DESIGN ENGINEER
- ONLY CONCRETE COVER BLOCKS TO BE USED ON SITE
- CONCRETE FINISHES TO FLOOR TO HAVE A SMOOTH WOOD FLOATED FINISH
- ALL CAST IN ITEMS TO BE SUPPLIED BY CONTRACTOR UNLESS OTHERWISE NOTED
- THIS STRUCTURE SHALL BE WATER TIGHT
- NO THROUGH TIES TO BE USED
- THIS STRUCTURE SHALL BE WATER TIGHT, RIGID POLYMER MODIFIED LIQUID APPLIED WATERPROOFING MEMBRANE TO BE APPLIED TO ALL EXTERNAL FACES OF CONCRETE, TO BE APPROVED BY CIVIL DESIGN ENGINEER PRIOR TO APPLICATION

STRUCTURAL STEEL NOTES:

- ALL STEEL SECTIONS TO BE GRADE S355JR STEEL AND SHALL COMPLY WITH SANS 50025.
- ALL STRUCTURAL STEEL WORK SHALL BE INSPECTED, FABRICATED AND ERECTED IN ACCORDANCE WITH SANS 2001-CS1.
- ALL WELDS SHALL CONFORM TO SANS 10162: PART 1 AND SANS 10044.
- ELECTRODES FOR ALL WELDS SHALL BE APPROVED BY THE CIVIL DESIGN ENGINEER.
- ALL WELDS TO BE METAL ARC WELDING EXECUTED BY QUALIFIED WELDERS. SUPPORTING DOCUMENTATION TO BE SUBMITTED TO THE CIVIL DESIGN ENGINEER.
- CAT LADDERS AND GRAB RAIL TO BE SUPPLIED AND INSTALLED BY CONTRACTOR (REFER TO DRG. No. A7406 AND A8858)
- ALL LARGE DIAMETER STEEL PIPES TO BE SUPPLIED AND POSITIONED BY RAND WATER AND CAST IN BY CONTRACTOR
- VALVE SUPPORTS TO BE INSTALLED UNDER ALL VALVES
- ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE PRIOR TO FABRICATION OF STEEL
- ALL STEELWORK TO BE HOT DIPPED GALVANISED TO SANS 121-2011 (HEAVY DUTY) BY A SABS ACCREDITED GALVANISER
- WHERE TEMPORARY BRACING OR PROPPING IS NECESSARY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, ERECTION, MAINTENANCE AND REMOVAL OF SUCH SUPPORTS.

REVISIONS

No.	DATE	CHECKED	APPROVED	DESCRIPTION

REFERENCE DRAWINGS

NUMBER	TITLE
R022699	PIPEWORK ARRANGEMENT FOR 200mmØ METER & FLOW CONTROL VALVE CONNECTION
A8879	CAST IN FRAME AND SUMP COVER
A7406	STANDARD RAND WATER CATLADDERS
A12210	TYPICAL VALVE SUPPORT
11860	STANDARD RW MANHOLE COVER AND FRAME
A8858	STANDARD RAND WATER GRABRAIL
RA27329	DETAILS OF EXTERNAL MASS CONCRETE ACCESS STEPS



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CONTRACT No.	RW	D.O.M.	C. TUMBAHE
DESIGNED BY	P.RASETELO	APPROVED	Pr. Eng
DRAWN BY	P.RASETELO	REG. No.	20150256
DATE	JUN 2022	DATE	07/07/2022

PALMIET PUMPING STATION
KLIPFONTEIN VIEW METER CONNECTION
GENERAL ARRANGEMENT FOR
200mmØ METER & FLOW CONTROL
VALVE CONNECTION CHAMBER

STATION	WKS	DOC. TYPE	S
Z B	H 2 1 8 H 2 7	D C G	A
AS SHOWN			

DRG No. R022699/100

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