LIST OF DRAWINGS

DWG NO:	DESCRIPTION
CIVIL	
JW14289R-000	LIST OF DRAWINGS
JW14289R-001	LOCALITY PLAN
JW14289R-002	LAYOUT PLAN
JW14289R-003	LAYOUT PLAN CADASTRAL
JW14289R-200	STANDARD DETAILS FOR TRENCH EXCAVATION AND BACKFILL FOR STEEL PIPES > 400mm ND
JW14289R-201	STEEL PIPE TAPER AND BEND DETAILS
JW14289R-202	STORMWATER CHAMBER
JW14289R-203	PIPE MARKERS
JW14289R-204	NAME BOARD
JW14289R-205	CABLE DUCT MANHOLE DETAILS
JW14289R-206	FENCING
JW14289R-207	6m WIDE OPENING SLIDING GATE
JW14289R-208	2.4m CONCRETE PALISADE FENCE DETAILS
JW14289R-209	TYPICAL TRENCH CROSS-SECTION FOR uPVC
JW14289R-210	STORMWATER MANHOLE DETAILS
JW14289R-240	GUARD HOUSE
JW14289R-241	INSTRUMENTATION HUT
JW14289R-300	INLET FLOW METER CHAMBER AND INSTALLATION DETAILS
JW14289R-304	RESERVOIR BYPASS PRV CHAMBER PIPE AND FITTING SCHEDULE
JW14289R-305	RESERVOIR BYPASS PRV CHAMBER DETAILS
JW14289R-306	RESERVOIR INLET PRV CHAMBER PIPE AND FITTING DETAILS
JW14289R-307	RESERVOIR INLET PRV CHAMBER DETAILS
JW14289R-308	OUTLET FLOW METER CHAMBER & INSTALLATION DETAILS
JW14289R-309	OUTLET ISOLATION VALVE CHAMBER & INSTALLATION DETAILS
JW14289R-310	TYPICAL INSULATING GASKET KIT MANHOLE DETAILS
JW14289R-312	TYPICAL LADDER DETAILS
JW14289R-700	RESERVOIR INLET DETAILS
JW14289R-701	RESERVOIR OUTLET DETAILS
JW14289R-702	RESERVOIR OVERFLOW DETAILS
JW14289R-703	RESERVOIR SCOUR & OVERFLOW DETAILS
JW14289R-704	RESERVOIR SCOUR & OVERFLOW PIPE TO STORMWATER MANHOLE
JW14289R-705	STORMWATER PIPELINE LONGSECTION

DWG NO:	DESCRIPTION
STRUCTURE	
JW14289R-101	SITE LAYOUT
JW14289R-102	GENERAL ARRANGEMENT
JW14289R-103	SUB-SURFACE DRAINAGE LAYOUT
JW14289R-104	FOUNDATION & SURFACE BED LAYOUT

DWG NO:	DESCRIPTION
STRUCTURE	
JW14289R-105	ROOF LAYOUT
JW14289R-106	SECTIONS AND DETAILS
JW14289R-107	MISCELLANEOUS DETAILS
JW14289R-108	POST TENSION LAYOUT & DETAILS SHT 1-2
JW14289R-109	POST TENSION LAYOUT & DETAILS SHT 2-2
JW14289R-110	WALL & COLUMN REINFORCEMENT DETAILS
JW14289R-110B	WALL & COLUMN BENDING SCHEDULE
JW14289R-111	SUB-SURFACE DRAINAGE LONG SECTION AND MANHOLE DETAILS
JW14289R-220	BOUNDARY WALL DETAILS
JW14289R-221	BOUNDARY WALL DETAILS
JW14289R-222	BOUNDARY WALL DETAILS
JW14289R-301	SURFACE BED REINFORCEMENT DETAILS
JW14289R-301B	SURFACE BED BENDING SCHEDULE
JW14289R-400	STORMWATER CHAMBER REINFORCEMENT DETAILS
JW14289R-400B	STORMWATER CHAMBER BENDING SCHEDULE
JW14289R-402	BYPASS PRV CHAMBER REINFORCEMENT DETAILS SHT 1-2
JW14289R-403	BYPASS PRV CHAMBER REINFORCEMENT DETAILS SHT 2-2
JW14289R-404	INLET PRV CHAMBER REINFORCEMENT DETAILS SHT 1-2
JW14289R-405	INLET PRV CHAMBER REINFORCEMENT DETAILS SHT 2-2
JW14289R-406	OUTLET FLOW METER CHAMBER REINFORCEMENT DETAILS
JW14289R-406B	OUTLET FLOW METER CHAMBER BENDING SCHEDULE
JW14289R-408	OUTLET ISOLATION VALVE CHAMBER REINFORCEMENT DETAILS
JW14289R-408B	OUTLET ISOLATION VALVE CHAMBER BENDING SCHEDULE
JW14289R-409	INSULATION GASKET KIT MANHOLE REINFORCEMENT DETAILS
JW14289R-409B	INSULATION GASKET KIT MANHOLE BENDING SCHEDULE
JW14289R-410	INLET FLOW METER CHAMBER REINFORCEMENT DETAILS
JW14289R-410B	INLET FLOW METER CHAMBER BENDING SCHEDULE
JW14289R-501	ROOF SLAB BOTTOM B1 REINFORCEMENT DETAILS
JW14289R-501B	ROOF SLAB BOTTOM B1 CHAMBER BENDING SCHEDULE
JW14289R-502	ROOF SLAB TOP T1 REINFORCEMENT DETAILS
JW14289R-502B	ROOF SLAB TOP T1 CHAMBER BENDING SCHEDULE
JW14289R-503	ROOF SLAB TOP T2 REINFORCEMENT DETAILS
JW14289R-503B	ROOF SLAB TOP T2 CHAMBER BENDING SCHEDULE
JW14289R-510	FOUNDATION REINFORCEMENT DETAILS
JW14289R-510B	FOUNDATION BENDING SCHEDULE
JW14289R-601	TERRACE LEVEL PLANS
JW14289R-602	EXCAVATION & PLATFORM DETAILS
JW14289R-603	BULK EARTHWORK SETTING OUT POINTS

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ECSA REG. No.	201470227		
CHECKED			
APPROVED BY: E. MUDAU			
	SIGNATURE	DATE	
ECSA REG. No.			

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Joburg

JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

LIST OF DRAWINGS

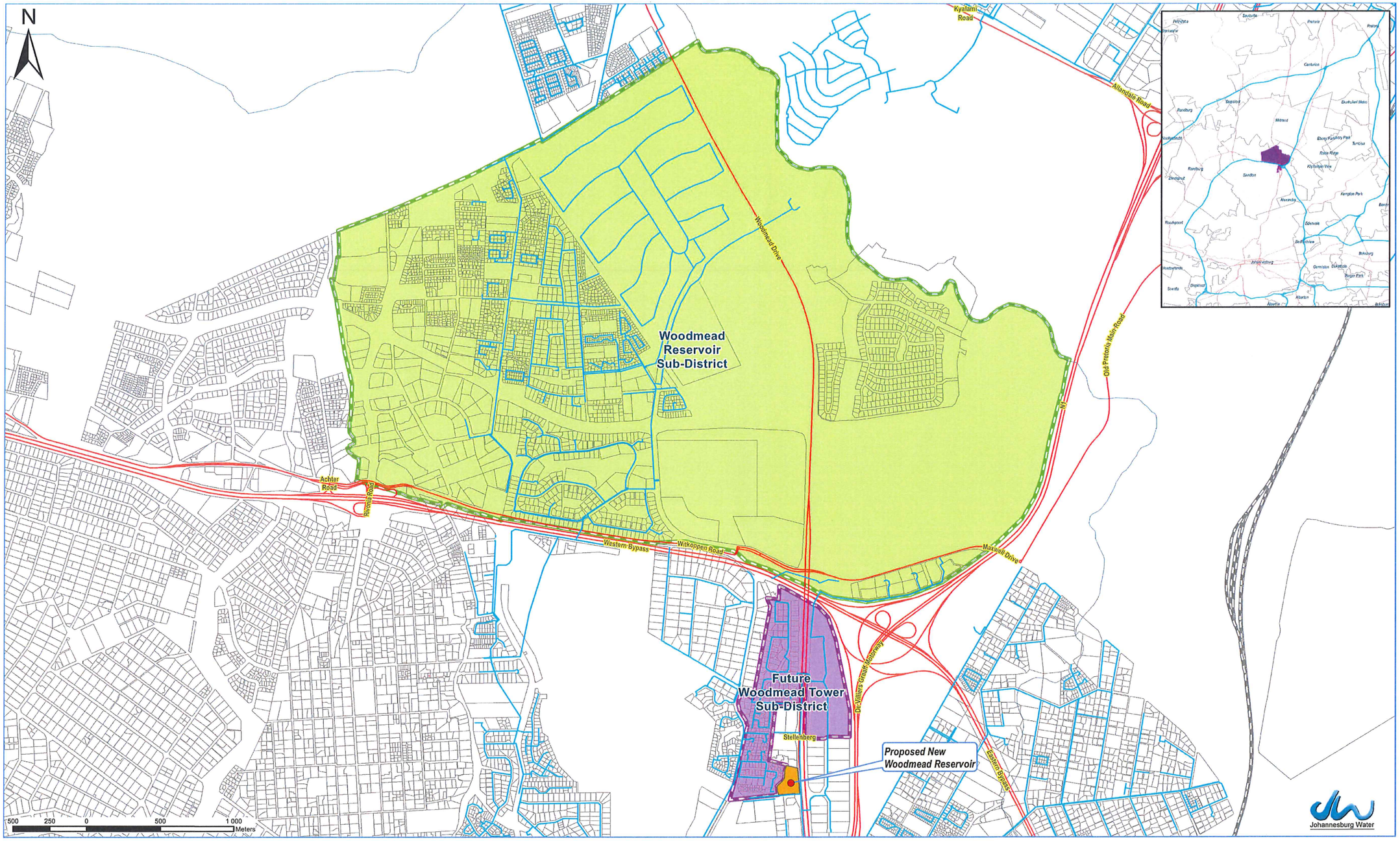
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DRAWING No: JW14289R-000

JW14289R (PROJECT No.) .000 (DRAWING No.) – 0 (REV.)

A1 (ORIGINAL PAGE SIZE) SHEET 1 OF 1

FILE No.



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LOCALITY PLAN

SCALE	REV:	AMENDMENTS	APPROVED DATE:
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DRAWING-No. JW14289R-001

JW14289R PROJECT No. | 001 DRAWING No. | 0 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.



CO-ORDINATES WGS84 LO29		
POINT	Y	X
P.I-01	91142.050	2883337.827
P.I-02	91139.202	2883323.544
P.I-03	91148.683	2883321.571
P.I-04	91148.683	2883292.050
P.I-05	91148.683	2883262.529
P.I-06	91130.131	2883242.368
P.I-07	91098.400	2883250.976
P.I-08	91131.169	2883239.808
P.I-09	91110.843	2883242.670
P.I-10	91079.753	2883275.636
P.I-11	91079.625	2883271.762
P.I-12	91079.623	2883265.766
P.I-13	91073.709	2883263.842
P.I-14	91072.298	2883243.319
P.I-15	91069.944	2883235.108
P.I-16	91071.587	2883173.538
P.I-17	91072.852	2883121.453
P.I-18	91069.704	2883111.528

CO-ORDINATES WGS84 LO29		
POINT	Y	X
INLET	91129.759	2883296.744
OUTLET	91102.253	2883257.238
OVERFLOW	91092.605	2883275.763
S,O,P	91116.190	2883276.810
SCOUR	91092.452	2883271.763

LEGEND

- PROPOSED CABLE DUCTS
- RESERVOIR SUB-SURFACE DRAIN
- OVERFLOW / STORM WATER PIPELINE
- EXISTING FENCE
- EXISTING WALL
- EXISTING ACCESS GATE
- CADASTRAL BOUNDARY

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

LAYOUT PLAN

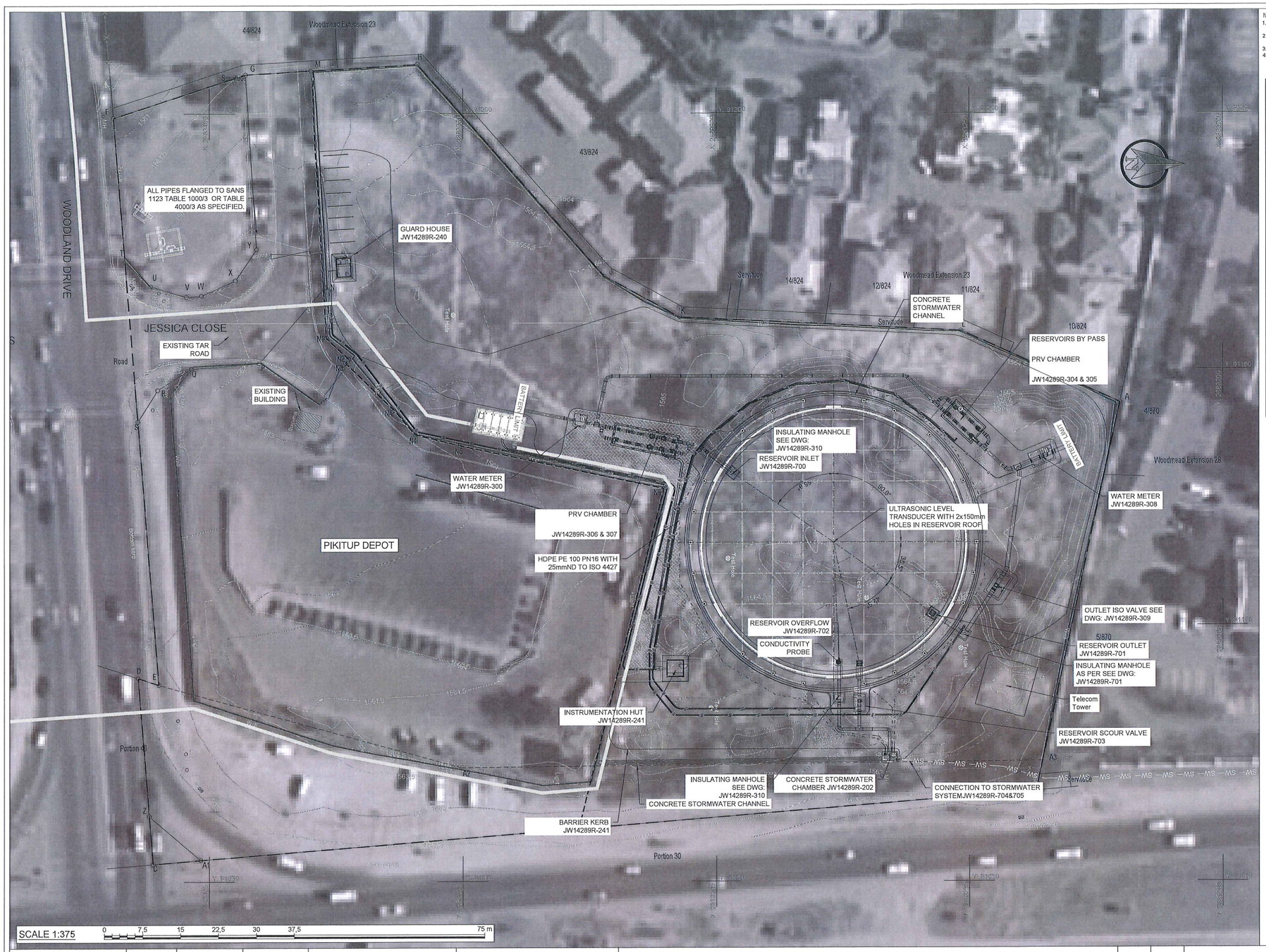
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DRAWING-No. JW14289R-002

JW14289R PROJECT No. | 002 DRAWING No. | 0 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.



Notes

1. The figure A B C D E F G H J K L represents 2,1894 hectares of land being PORTION 8 OF THE FARM WATERVAL NO. 5-IR.
2. The figure M N P Q R S T U V W X Y G represents 1105 square metres of land being a Servitude Area.
3. The figure A1 C Z represents 45 square metres of land being a Servitude Area.
4. The figure A3 B C D E A2 represents approximate Road Proclamation Area.

	WG29	Constants:		0,00	+2 800 000,00
AB	77,59	282 20 20	A	+ 91 143,50	+ 83 220,29
BC	174,65	355 20 00	B	+ 91 067,70	+ 83 236,87
CD	36,49	85 20 00	C	+ 91 053,47	+ 83 411,14
DE	4,33	197 59 00	D	+ 91 089,84	+ 83 414,11
EF	111,01	85 20 10	D	+ 91 088,50	+ 83 409,99
FG	27,52	162 04 20	F	+ 91 199,14	+ 83 419,02
GH	33,96	176 37 40	G	+ 91 207,62	+ 83 392,84
HJ	55,46	228 17 20	H	+ 91 209,61	+ 83 358,94
JK	16,82	208 23 50	J	+ 91 168,21	+ 83 322,04
KL	55,67	182 47 00	K	+ 91 160,21	+ 83 307,24
LA	34,33	204 05 20	L	+ 91 157,51	+ 83 251,63
SERVITUDE DATA					
MN	42,34	266 15 00	M	+ 91 208,37	+ 83 379,96
NP	19,74	311 04 40	N	+ 91 166,16	+ 83 377,19
PQ	13,45	355 34 00	P	+ 91 151,24	+ 83 390,16
QR	7,81	328 10 50	Q	+ 91 150,20	+ 83 403,57
RS	7,34	302 45 30	R	+ 91 146,08	+ 83 410,21
ST	31,23	85 19 00	S	+ 91 139,91	+ 83 414,18
TU	6,93	222 53 50	T	+ 91 171,04	+ 83 416,73
UV	7,37	195 19 10	U	+ 91 166,32	+ 83 411,65
VW	3,00	176 10 20	V	+ 91 164,25	+ 83 404,58
WX	7,36	156 11 20	W	+ 91 164,45	+ 83 401,59
XY	7,36	124 35 50	X	+ 91 167,42	+ 83 394,86
YG	34,20	86 22 50	Y	+ 91 173,48	+ 83 390,68
GM	12,90	176 37 40			
YC	9,45	355 20 00	A1	+ 91 054,24	+ 83 401,72
CZ	9,45	85 20 00			
YZ	13,36	220 20 00	Z	+ 91 062,89	+ 83 411,91
LAND ACQUISITION DATA					
AB	77,59		A	+ 91 143,50	+ 83 220,29
BN7	90,52		B	+ 91 067,70	+ 83 236,87
N7N6	68,50		N7	+ 91 060,33	+ 83 327,09
N6N5	41,05		N6	+ 91 126,76	+ 83 310,38
N5N4	9,20		N5	+ 91 135,15	+ 28 850,57
N4N4	4,80		N4	+ 91 137,31	+ 28 833,59
N4N3	13,28		N4	+ 91 142,12	+ 83 363,52
N3N2	0,98		N3	+ 91 151,30	+ 83 373,12
N2N1	6,04		N2	+ 91 152,12	+ 83 372,56
N1N	9,89		N1	+ 91 156,23	+ 83 376,98
NM	42,34		N	+ 91 166,12	+ 83 377,19
MH	33,96		M	+ 91 208,37	+ 83 379,96
HJ	55,46		H	+ 91 209,61	+ 83 358,94
JK	16,82		J	+ 91 168,21	+ 83 322,04
KL	55,67		K	+ 91 160,21	+ 83 307,24
LA	34,33		L	+ 91 157,51	+ 83 251,63

LEGEND

- PROPOSED CABLE DUCTS
- RESERVOIR SUB-SURFACE DRAIN
- OVERFLOW / STORM WATER PIPELINE
- EXISTING FENCE
- EXISTING WALL
- EXISTING ACCESS GATE
- CADASTRAL BOUNDARY

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

LAYOUT PLAN CADASTRAL

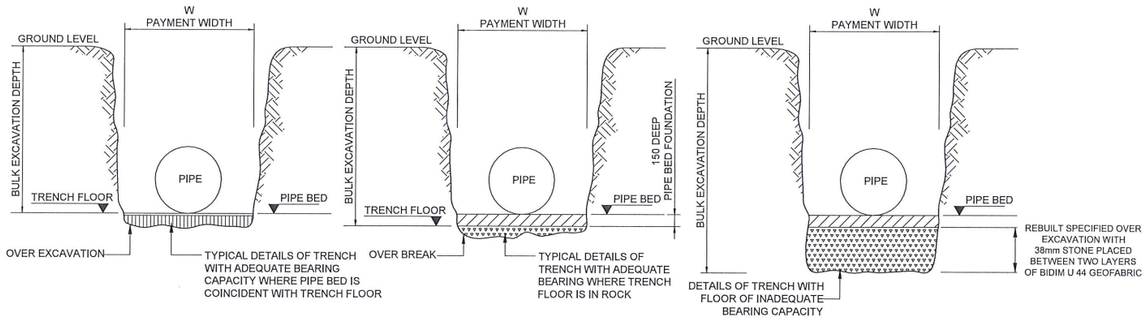
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DRAWING-No. JW14289R-003

JW14289R PROJECT No. | 003 DRAWING No. - 0 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

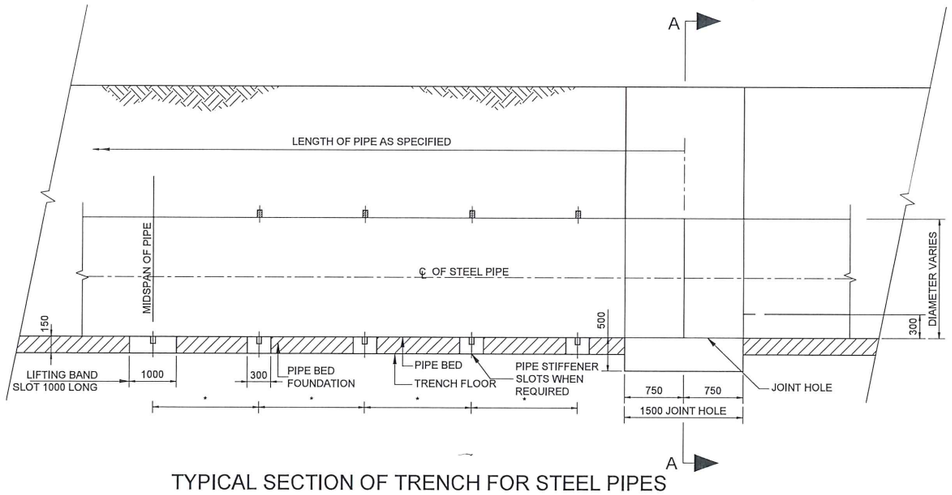
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TRENCH EXCAVATION, PREPARATION OF TRENCH FLOOR, AND CONSTRUCTION OF PIPE BED FOUNDATION AND PIPE BED

DETAILS OF CONSTRUCTION FOR THE ABOVE SHALL BE IN ACCORDANCE WITH THE FOLLOWING:-

ITEM	COMPOSITION OF FILL MATERIAL	MAXIMUM FINISH THICKNESS OF COMPACTION LAYER mm	DEGREE OF COMPACTION REQUIRED MOD AASHTO DENSITY AT OPTIMUM MOISTURE CONTENT	POSITION OF LAYER RELATIVE TO PIPE BED mm	CONSTRUCTIVE TOLERANCES RELATIVE TO PRESCRIBED LEVELS mm	
OVER EXCAVATION	COMPACTED SELECTED GRANULAR MATERIAL	200	90	BELOW PIPE BED	+0	-50
OVER EXCAVATION	COMPACTED SELECTED GRANULAR MATERIAL	200	90	BELOW TRENCH FLOOR	+0	-50
OVER BREAK: EITHER	COMPACTED SELECTED GRANULAR MATERIAL	200	90	BELOW TRENCH FLOOR	+0	-50
OR	38mm STONE	200	-	BELOW TRENCH FLOOR	+0	-50
SPECIFIED OVER EXCAVATION	38mm STONE	200	-	-150 TO -1000	+0	-50
PIPE BED FOUNDATION	COMPACTED SELECTED GRANULAR MATERIAL	150	90	-0 TO -150	+0	-50
PIPE BED MIDDLE	COMPACTED SELECTED GRANULAR MATERIAL	60	90	PIPE BED LEVEL	+10	-10



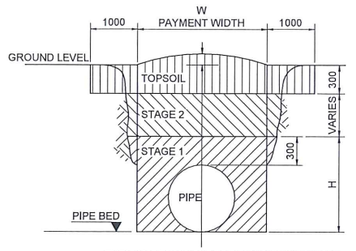
TYPICAL SECTION OF TRENCH FOR STEEL PIPES

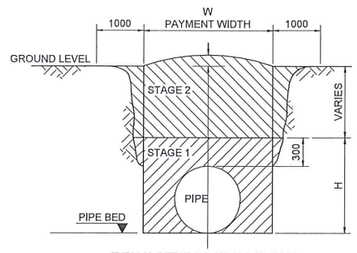
* NOTE: NUMBER AND SPACING OF STIFFENERS MAY VARY

THE WORK DETAILED ABOVE SHALL BE CARRIED OUT AS FOLLOWS:-

FILL ITEM	COMPOSITION OF FILL MATERIAL	MAXIMUM FINISH THICKNESS OF COMPACTION LAYER mm	DEGREE OF COMPACTION REQUIRED MOD AASHTO DENSITY AT OPTIMUM MOISTURE CONTENT (%)	CEMENT OR LIME STABILIZATION	CONSTRUCTIVE TOLERANCES RELATIVE TO PRESCRIBED LEVELS mm	
STAGE 1	COMPACTED GRANULAR MATERIAL	200	90*	NO	+50	-50
STAGE 2	SELECTED FILL MATERIAL	300	85*	NO	+50	-50
TOPSOIL	TOPSOIL	300	LIGHT	NO	+50	-50
CRUSHER RUN	CRUSHER RUN	200	85% OF SOLID	UPPER 300mm ONLY	+50	-50
SOIL CEMENT	SOIL CEMENT	300	PUDDLE / VIBRATED	YES	+50	-50

NOTE:
WHERE REQUIRED BY THE ENGINEER THE DEGREE OF COMPACTION FOR STAGE 1 AND STAGE 2 SHALL BE INCREASED TO 95% MOD AASHTO DENSITY





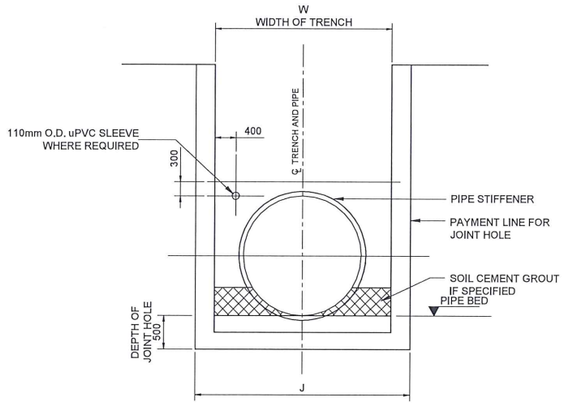


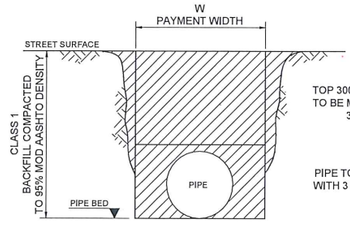
TABLE OF TRENCH WIDTHS FOR PIPE INSTALLED ALONG TOWNSHIP STREETS

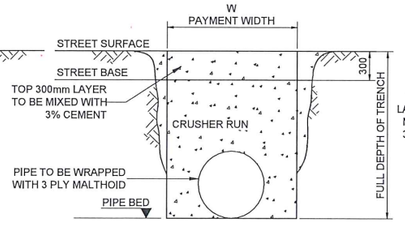
PIPE DIAMETER	W (R)
≤ 600	1000
700	1100
800	1200
900	1300
1000	1400
1100	1500
1200	1600
1300	1700
1400	1800
1500	1900
1600	2000
1700	2100
1800	2200
1900	2300
2000	2400
2100	2500

PIPE DIAMETER	W	J	H	PIPE DIAMETER	W	J	H
400	1200	1400	700	1200	2100	2400	1500
500	1300	1500	800	1300	2200	2500	1600
600	1400	1600	900	1400	2300	2600	1700
700	1500	1700	1000	1500	2400	2700	1800
800	1600	1800	1100	1600	2500	2800	1900
900	1700	1900	1200	1700	2600	2900	2000
1000	1900	2100	1300	1800	3000	3000	2100
1100	2000	2200	1400	1900	3100	3100	2200
				2000	3200	3200	2300
				2100	3300	3300	2400
				2300	3500	3500	2600

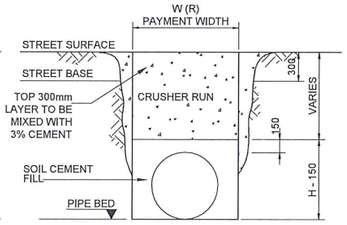
NOTES:

1. THE DEGREE OF COMPACTION SPECIFIED FOR EACH PART OF THE WORKS SHOWN ON THIS DRAWING SHALL BE BASED UPON THE FOLLOWING METHODS OF TEST:
   a) PERCENTAGE OF MODIFIED AASHTO DENSITY AT OPTIMUM MOISTURE CONTENT FOR GRADED SELECTED FILL
   b) DENSITY OF CRUSHER RUN MEASURED BY AN APPROVED NUCLEAR DENSITY TESTER EXPRESSED AS A PERCENTAGE OF THE 'SOLID DENSITY' OR SPECIFIC GRAVITY OF THE UNCRUSHED MATERIAL
2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED
1. THE MINIMUM WIDTH 'W' AND 'J' OF THE TRENCHES AND JOINT HOLES RESPECTIVELY AND THE MINIMUM HEIGHT 'H' OF STAGE 1 BACKFILLING SHALL BE AS FOLLOWS:





NOTE:
STREET BASES TO BE CONSTRUCTED BY CONTRACTOR AND STREET WEARING SURFACES TO BE REINSTATED BY CONTROLLING AUTHORITY



DETAILS OF FILLING OF TRENCHES AND REINSTATEMENT OF GROUND AND STREET SURFACES

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APPROVED BY: K. GOVENDER	SIGNATURE	DATE	23/07/2024
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CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE	DATE	
ECSA REG. No.			

Johannesburg Water

TURBINE HALL
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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

STANDARD DETAILS FOR TRENCH EXCAVATION AND BACKFILL FOR STEEL PIPES > 400mm ND

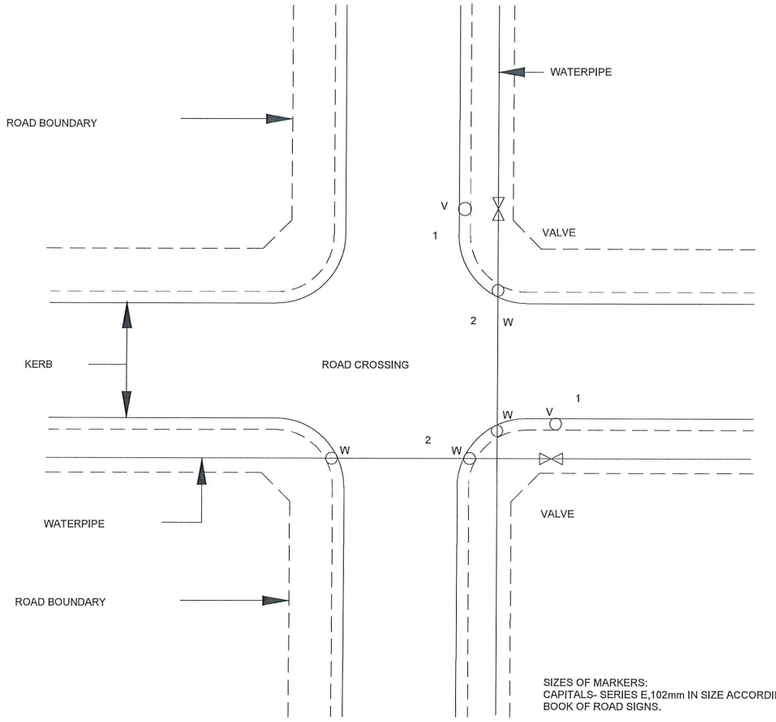
SCALE	REV:	AMENDMENTS	APPROVED DATE:
1:125	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-200

JW14289R (PROJECT No.) — 200 (DRAWING No.) - 0 (REV.)

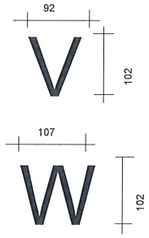
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FILE No.



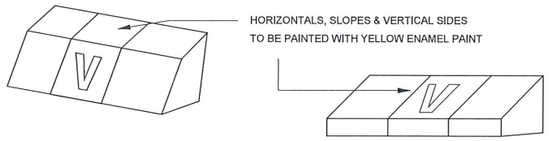
1. VALVE MARKER-"V" MUST BE PAINTED
2. WATER PIPE MARKER-"W"

SIZES OF MARKERS:
CAPITALS- SERIES E,102mm IN SIZE ACCORDING TO THE S.A. BOOK OF ROAD SIGNS.



NOTE

1) TOP SURFACE OF COVERS TO BE PAINTED AS FOLLOWS:
VALVES NORMALLY OPEN : BLUE
VALVES NORMALLY CLOSED : SIGNAL RED
SCOUR VALVES : GREEN
AIR VALVES : BROWN



BARRIER KERB

MOUNTABLE KERB

DETAILS OF SERVICE MARKERS

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DRAWN	W.T		27/07/2015
CHECKED	L.D.J		07/10/2019
APPROVED BY: K. GOVENDER	SIGNATURE		DATE 23/07/2024
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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

PIPE MARKERS

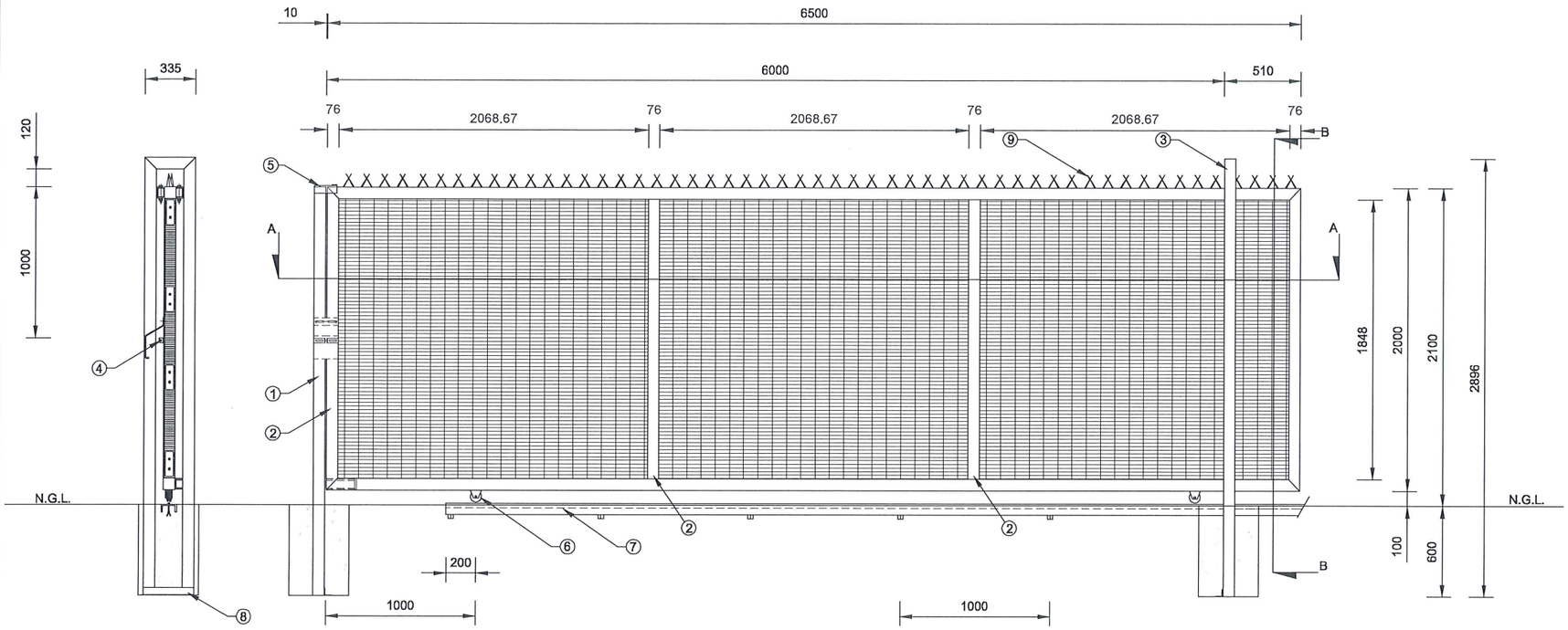
SCALE	REV:	AMENDMENTS	APPROVED DATE:
N.T.S	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-203

JW14289R PROJECT No. | 203 DRAWING No. | 0 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.

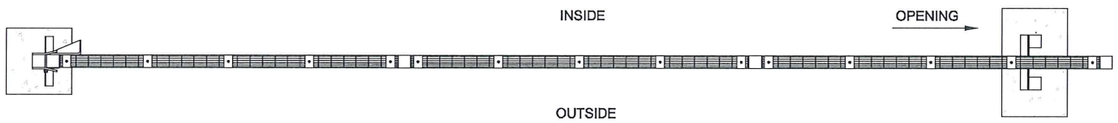


SECTION B-B

FRONT ELEVATION

NO#	ITEM	DESCRIPTION
1	GATE POST	76x76x3mm SQUARE TUBE
2	GATE FRAME	76x76x3mm SQUARE TUBE
3	GATE PORTAL	76x76x3mm SQUARE TUBE
4	LOCKING DEVICE	30mm x 5mm FLAT BAR WITH Ø14mm HOLE TO ACCOMMODATE PAD LOCK, WITH LOCK BOX.
5	GATE GUIDE	50x5mm FLAT BAR
6	GATE WHEEL	Ø80mm GATE WHEEL
7	GATE RAIL	Ø16mm ROUND BAR, FIXED TO 100x50mm CHANNEL, WITH FISH TAILS.
8	BASE PIN	50x50x5mm ANGLE IRON
9	TOPPING	SHARK TOOTH SPIKE: 2mm THICK TOUGHENED STEEL 100mm HIGH.
QTY	1	
WIRE Ø	Ø3mm	
COATING	HOT DIP GALV.	
MESH TYPE	MESH	
MESH SIZE	1848mm HIGH x 2065mm WIDE	
MESH QTY	3	

DETAIL DRAWING OF SLIDING GATE



SECTION A-A

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ECSA REG. No.	201470227		
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ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

6m WIDE OPENING SLIDING GATE

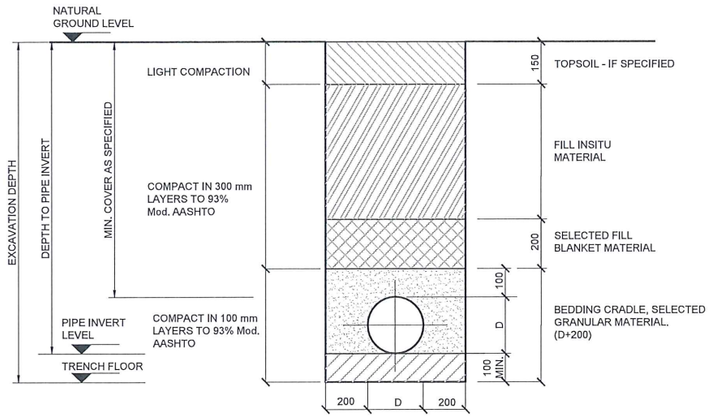
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N.T.S	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-207

JW14289R PROJECT No. | 207 DRAWING No. | 0 REV.

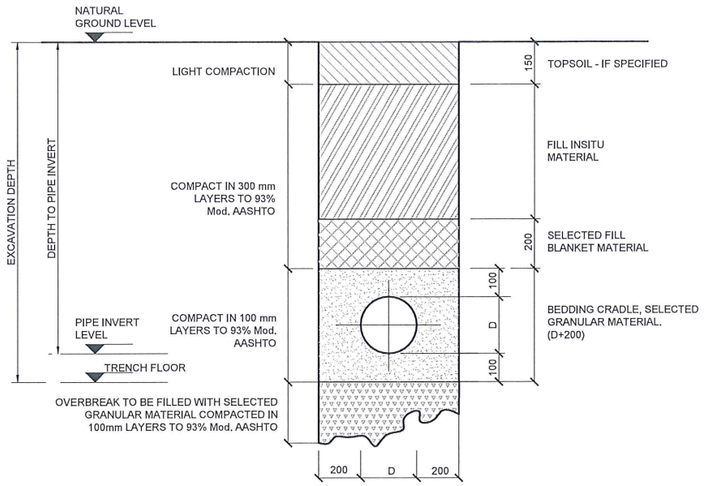
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FILE No.



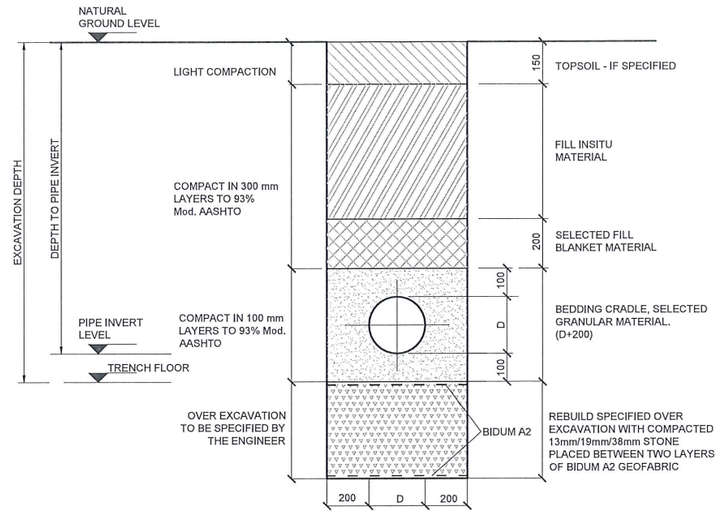
TYPICAL TRENCH DETAIL FOR NORMAL CONDITIONS

N.T.S



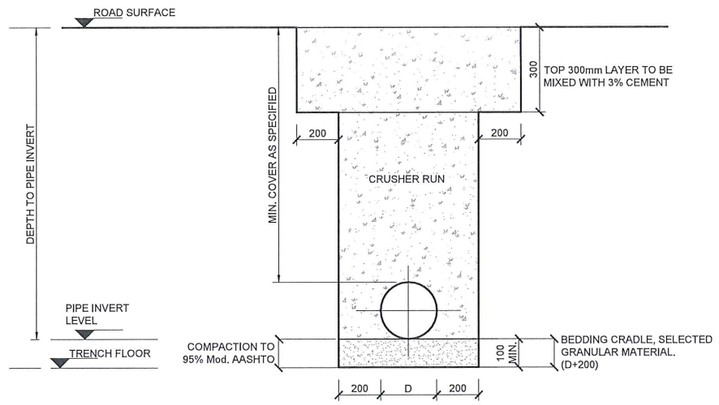
TYPICAL TRENCH DETAIL FOR TRENCH FLOOR IN ROCK

N.T.S



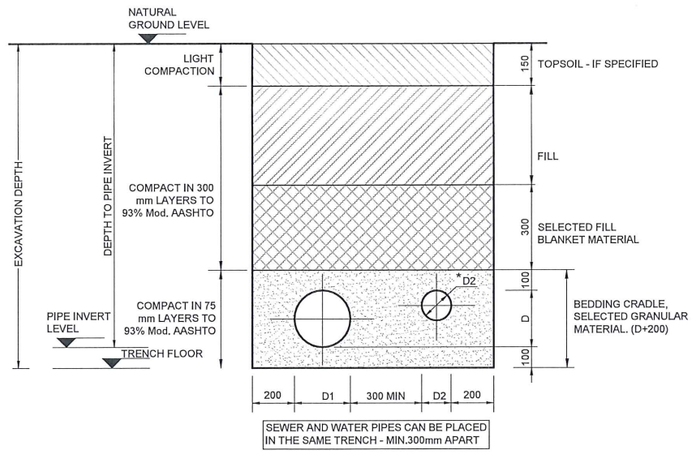
TYPICAL TRENCH DETAIL WHEN TRENCH FLOOR HAS INADEQUATE BEARING CAPACITY OR HIGH WATER TABLE

N.T.S



TYPICAL TRENCH DETAIL FOR ROAD CROSSINGS

N.T.S



TYPICAL TRENCH DETAIL FOR TWO PIPES

N.T.S

NOTES:

1. MINIMUM COVER TO ALL PIPES IN BOTH WATER AND SEWER RETICULATION NETWORKS SHOULD BE 1200mm.
2. TRENCHING, BEDDING AND BACKFILLING SHALL CONFORM TO SABS 1200 LB AND SABS 1200DB, IN PARTICULAR TO CLASS B BEDDING.
3. ALL BACKFILLING TO 93% Mod. AASHTO.

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APPROVED BY: E. MUDAU	SIGNATURE	DATE	
ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

TYPICAL TRENCH CROSS- SECTION FOR uPVC Pipes

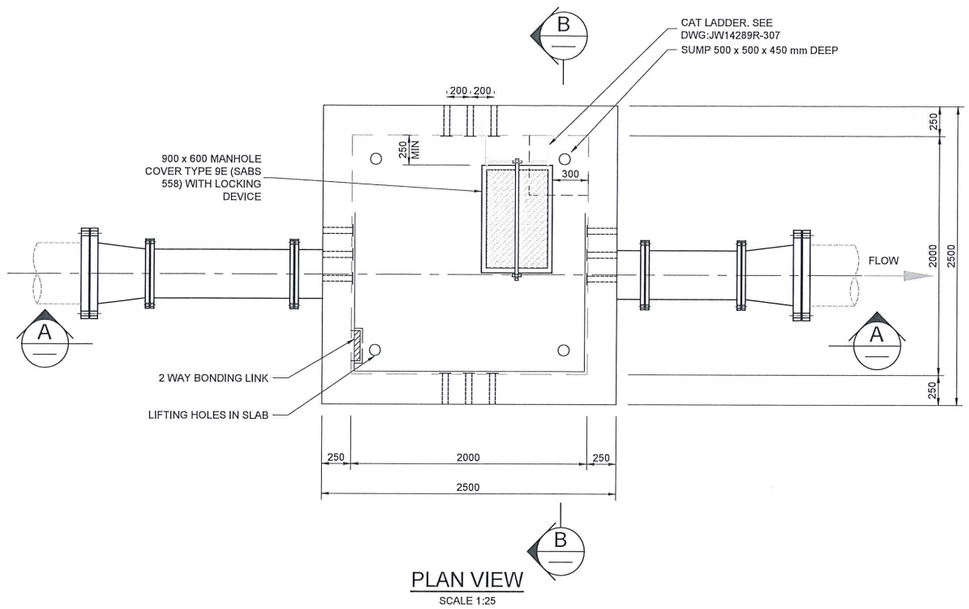
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1:125	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-200

JW14289R (PROJECT No.) — 209 – 0 (DRAWING No. – REV.)

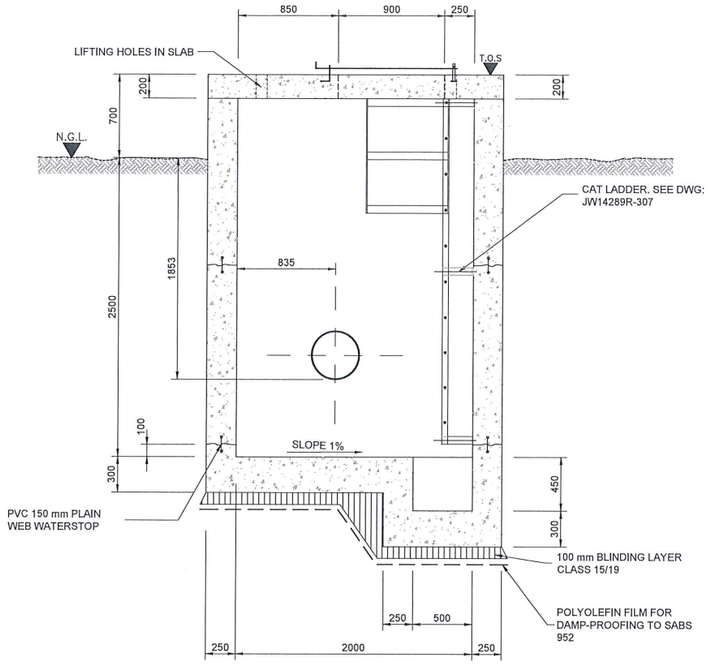
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FILE No.



PLAN VIEW

SCALE 1:25



SECTION B-B

SCALE 1:25

NOTES:

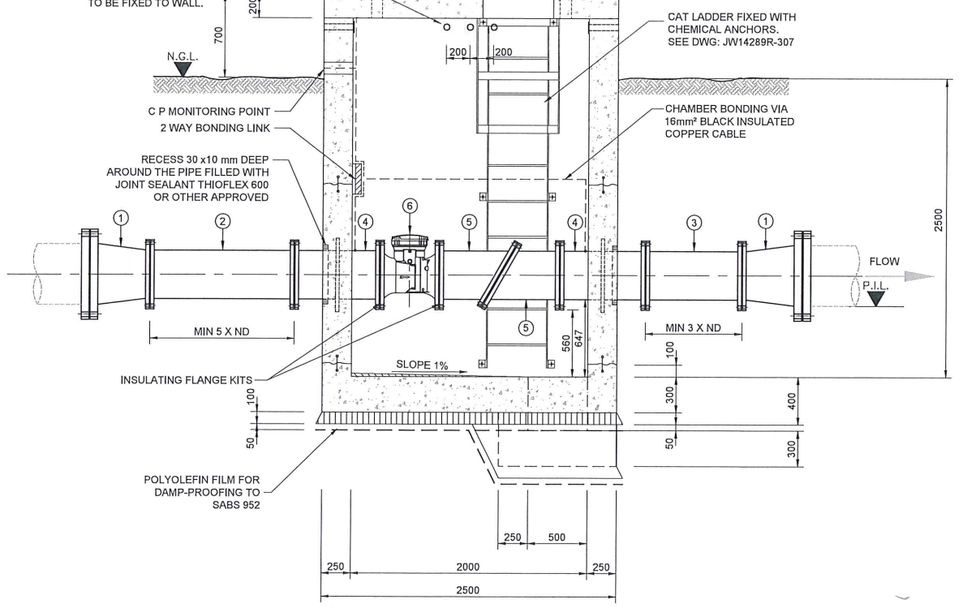
1. ALL EXPOSED METALWORK TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH SANS 1461 AND LEFT UNPAINTED.
2. ALL MAIN PIPES AND CABLE DUCTS MUST BE SEALED WITH "THIOFLEX 600" OR "FLEXI-JOINT" OR OTHER APPROVED.
3. ALL EXPOSED CONCRETE EDGES TO HAVE 25mm CHAMFER.
4. POSITION OF CHAMBERS AND CABLE DUCTS WILL BE INDICATED BY THE ENGINEER AT SITE INSPECTION.
5. CONCRETE GRADE 25/19 WITH ORDINARY PORTLAND CEMENT.
6. FOR PIPE DETAILS SEE INSTALLATION DETAILS DRAWINGS.
7. FOR POSITION OF SUMP AND MANHOLE SEE RELEVANT INSTALLATION DETAILS.
8. BEFORE COMMENCEMENT CHECK FOR EXISTING SERVICES.
9. IF CHAMBER IS BUILT ON PAVEMENT, TOP OF CHAMBER TO BE FLASH WITH PAVEMENT.
10. COVER TO REINFORCEMENT 40mm.
11. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5L X42 WITH WALL THICKNESS OF 6mm OR AS SPECIFIED.
12. METERS SHALL CLASS 40 AND SHALL BE EPOXY COATED TO COMPLY WITH THE REQUIREMENTS OF SANS 1217.
13. ALL FLANGES SHALL BE TO SABS 1123 TABLE 4000/3.
14. ALL BOLTS AND NUTS SHALL BE GALVANIZED STEEL AND SHALL BE TO SABS 1700-5
15. ALL COUPLINGS AND SPECIALS TO SABS 815.
16. WHERE SPECIFIED, COATING FOR STEEL FITTINGS TO BE SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217 WITH ADDITIONAL DENSO TAPE WRAPPING.
17. ALL STEEL FITTINGS TO BE LINED WITH SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217.

FLOW METER PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	2	500 X 400	STEEL RPU COATING, LINING SFE	REDUCER FLANGED TO SANS 1123 TABLE 4000/3.	
2	1	400	STEEL RPU COATING, LINING SFE	STRAIGHT PIPE MIN LENGTH 5 X ND FLANGED TO SANS 1123 TABLE 4000/3.	
3	1	400	STEEL RPU COATING, LINING SFE	STRAIGHT PIPE MIN LENGTH 3 X ND FLANGED TO SANS 1123 TABLE 4000/3.	
4	2	400	STEEL RPU COATING, LINING SFE	STRAIGHT PIPE 726mm LONG ENDS FLANGED WITH PUDDLE FLANGE 363mm FROM FLANGE END. FLANGED TO SANS 1123 TABLE 4000/3.	
5	2	400	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (509mm LONG) 60° FLANGE SPOOL PIECE OTHER END, DRILLED TO SANS 1123 TABLE 4000/3.	
6	1	400	AS SPECIFIED	EMF FLOW METER, CLASS 40 COMPLETE WITH INSULATING FLANGE KITS.	

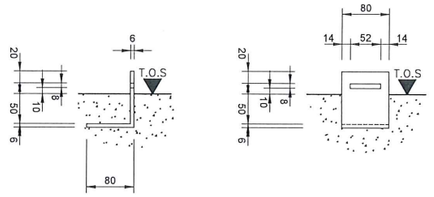
NOTE :

ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE



SECTION A-A

SCALE 1:25

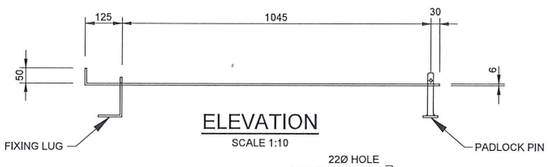


SIDE ELEVATION

FRONT ELEVATION

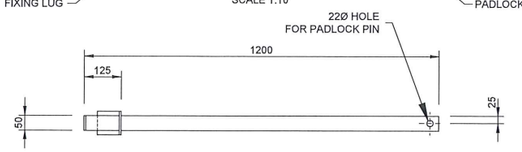
FIXING LUG FOR LOCKING BAR

SCALE 1:5



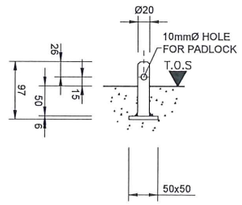
ELEVATION

SCALE 1:10



PLAN LOCKING BAR

SCALE 1:10



PADLOCK PIN DETAIL

SCALE 1:5

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

INLET FLOW METER CHAMBER AND INSTALLATION DETAILS

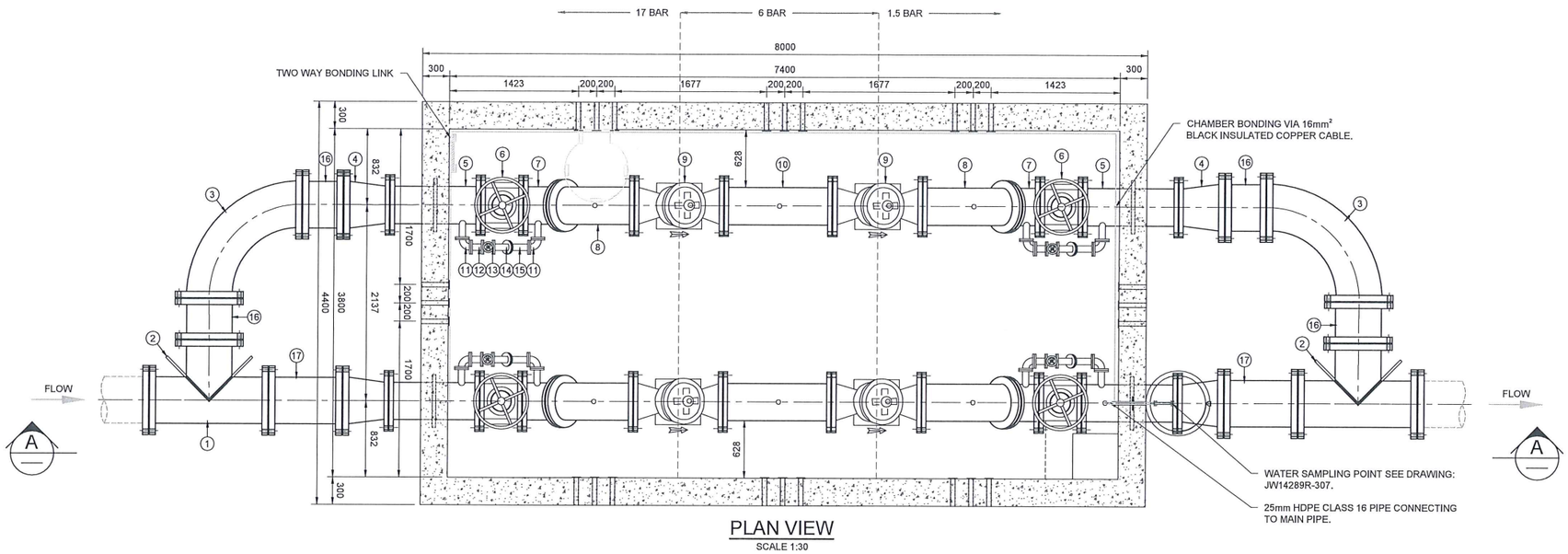
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-300

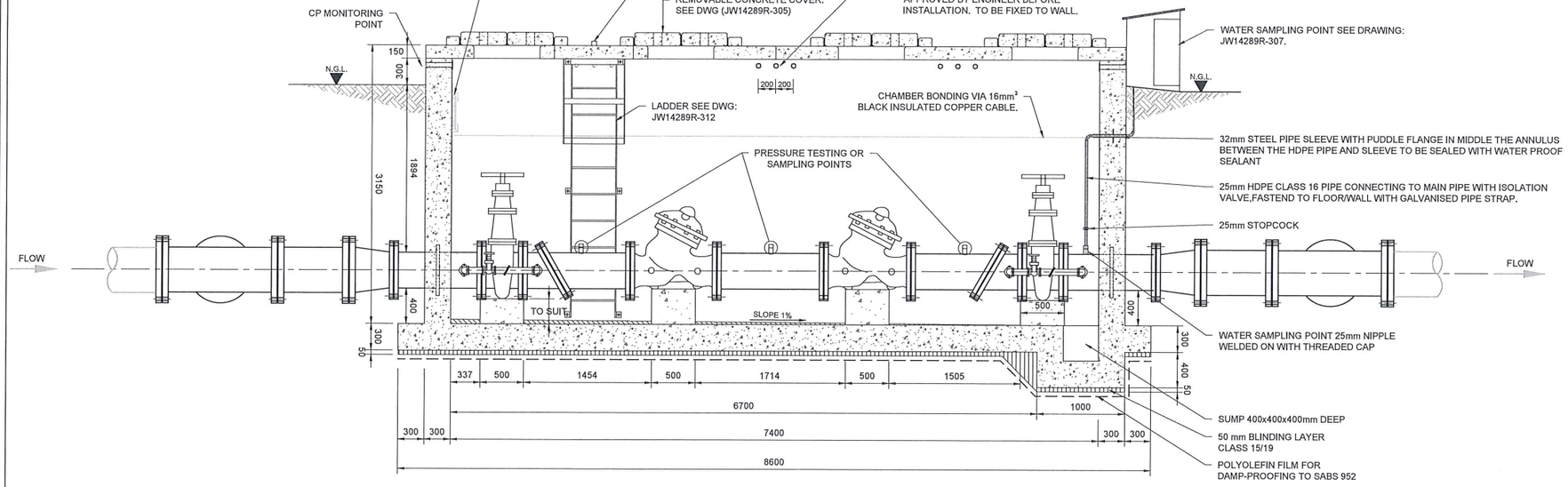
JW14289R PROJECT No. | 300 DRAWING No. | 0 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.



PLAN VIEW
SCALE 1:30



SECTION A-A
SCALE 1:30

FLOW METER PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	2	500	STEEL RPU COATING, LINING SFE	EQUAL TEE-PIECE , F/C 660mm FLANGED TO SANS 1123 TABLE 4000/3 AS SPECIFIED	
2	2	500	STEEL RPU COATING, LINING SFE	CROTCH PLATE : WYE DEPTH = 228mm BASE DEPTH = 228mm TOP DEPTH = 154mm THICKNESS = 25.4mm	
3	2	500	STEEL RPU COATING, LINING SFE	90° MEDIUM RADIUS BEND, 1020mm F/C. FLANGED ENDS . FLANGED TO SANS 1123 TABLE 4000/3.	
4	4	500 X 400	STEEL RPU COATING LINING SFE	REDUCER FLANGED TO SANS 1123 TABLE 4000/3.	
5	4	400 x 100	STEEL RPU COATING, LINING SFE	PUDDLE PIPE, 1000mm LONG, 100mm ND T-BRANCH ON THE ONE SIDE, FLANGED WITH PUDDLE FLANGE 500mm FROM FLANGE. FLANGED TO SANS 1123 TABLE 4000/3.	
6	4	400	AS SPECIFIED	WEDGE GATE VALVE, PN 40, FLANGED TO SANS 1123 TABLE 4000/3.	
7	4	400 x 100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (350mm LONG) 60° FLANGE SPOOL PIECE OTHER END WITH 100mm ND T-BRANCH ON THE ONE SIDE. DRILLED TO SANS 1123 TABLE 4000/3.	350
8	4	400	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED WITH PRESSURE TESTING POINT 25mm NIPPLE WELDED ON WITH THREADED CUP.(870mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	870
9	4	400	AS SPECIFIED	PRESSURE REDUCING VALVE, PN40, WITH PRESSURE TRANSDUCER. FLANGED TO SANS 1123 TABLE 4000/3.	
10	2	400	STEEL RPU COATING, LINING SFE	STEEL PIPE,1220mm LONG F TO F WITH PRESSURE TESTING POINT 25mm NIPPLE WELDED ON WITH THREADED CUP, FLANGED BOTH ENDS. FLANGED TO SANS 1123 TABLE 4000/3	
11	8	100	STEEL RPU COATING LINING SFE	90° BEND FLANGED ENDS . FLANGED TO SANS 1123 TABLE 4000/3.	
12	4	100	STEEL RPU COATING, LINING SFE	PIPE SECTION 280mm F TO F. FLANGED ENDS . FLANGED TO SANS 1123 TABLE 4000/3.	
13	4	100	STEEL RPU COATING, LINING SFE	WEDGE GATE VALVE, FLANGED TO SANS 1123 TABLE 4000/3.	
14	4	100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (135mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	
15	4	100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (135mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	
16	4	500	STEEL RPU COATING, LINING SFE	STEEL PIPE, 453mm LONG FLANGED TO SANS 1123 TABLE 4000/3.	
17	2	500	STEEL RPU COATING, LINING SFE	STEEL PIPE, 813mm LONG FLANGED TO SANS 1123 TABLE 4000/3.	

NOTE :

ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE

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ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR BYPASS PRV CHAMBER PIPE AND FITTING SCHEDULE

SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-304

JW14289R PROJECT No. | 304 - 0 DRAWING No. REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.

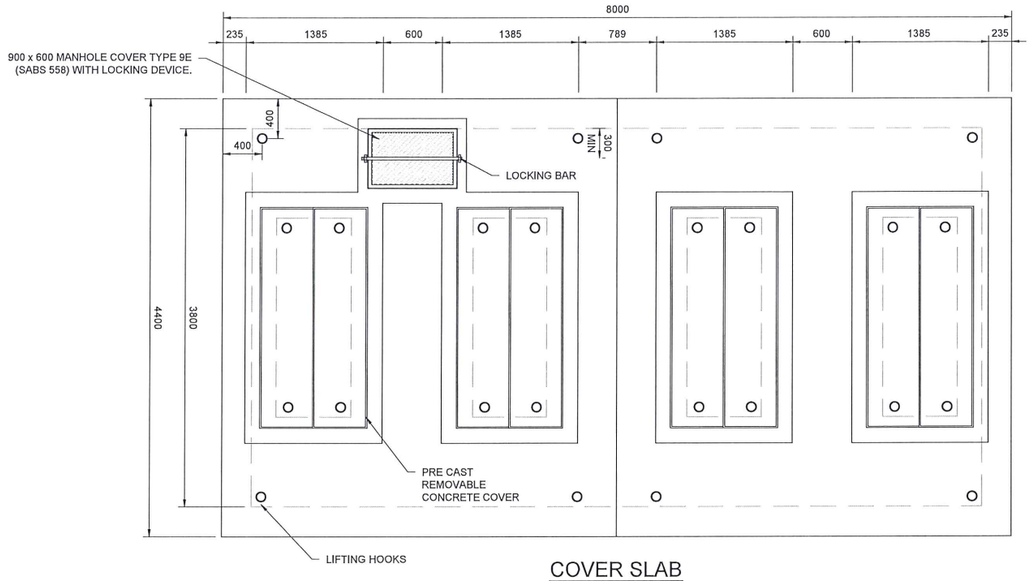
GENERAL NOTES:

1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5L X42 WITH WALL THICKNESS OF 6mm OR AS SPECIFIED.
2. VALVES SHALL BE CLASS 40 OR CLASS 16 AS SPECIFIED AND SHALL BE EPOXY COATED TO COMPLY WITH THE REQUIREMENTS OF SANS 1217.
3. ALL FLANGES SHALL BE TO SANS 1123 TABLE 4000/3 OR TABLE 1000/3 AS SPECIFIED.
4. ALL BOLTS AND NUTS SHALL BE GALVANIZED STEEL AND SHALL BE TO SANS 1700-5
5. ALL VALVES 350mm ND AND LARGER SHALL BE WEDGE GATE VALVES AS SPECIFIED AND SHALL HAVE A BYPASS VALVE.
6. ALL VALVES 300mm ND AND SMALLER SHALL BE RSV AS SPECIFIED. NO BYPASS VALVE REQUIRED.
7. WHERE SPECIFIED, COATING FOR STEEL FITTINGS TO BE SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217 WITH ADDITIONAL DENSO TAPE WRAPPING.
8. ALL STEEL FITTINGS TO BE LINED WITH SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217.

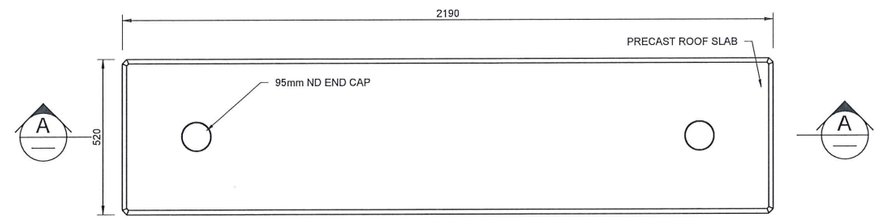
GENERAL NOTES (Concrete):

1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. COVER TO REINFORCEMENT MUST BE 40 mm.
3. WHERE JOINTS ARE MADE IN THE ROOF SLAB, U-BARS MUST BE USED TO JOIN TOP AND BOTTOM REINFORCEMENT IN ROOF SLAB.
4. CONTRACTOR SHALL ADVISE THE ENGINEER ABOUT THE ACTUAL DEPTH FOR EACH INSTALLATION SO THAT REINFORCEMENT DETAILS AND BENDING SCHEDULES CAN BE ISSUED.
5. ALL EXPOSED CORNERS TO BE CHAMFERED (25mm).
6. FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC) THE FOLLOWING SPECIFICATION TO BE USED :

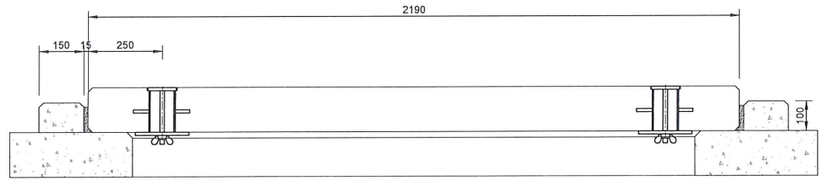
   6a. SULPHATE RESISTANT CEMENT TO BE USED.
   6b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.



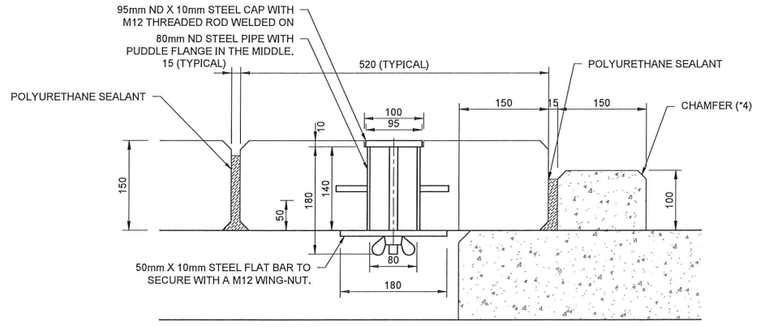
COVER SLAB
SCALE 1:30



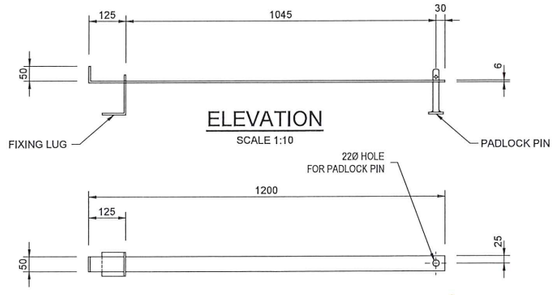
PLAN VIEW OF REMOVABLE CONCRETE COVER
SCALE 1:10



SECTION A-A
SCALE 1:10

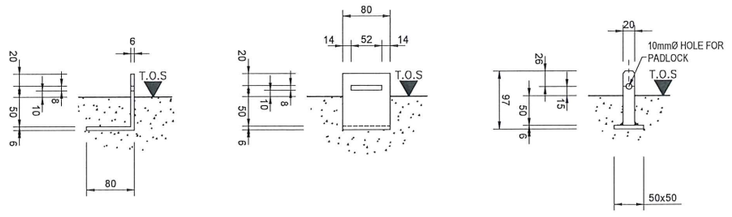


DETAIL OF LIFTING HOLE WITH CAP
SCALE 1:5



ELEVATION
SCALE 1:10

PLAN
LOCKING BAR
SCALE 1:10



SIDE ELEVATION
FRONT ELEVATION

FIXING LUG FOR LOCKING BAR
SCALE 1:5

PADLOCK PIN DETAIL
SCALE 1:5

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ECSA REG. No.	201470227		
CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE	DATE	
ECSA REG. No.			

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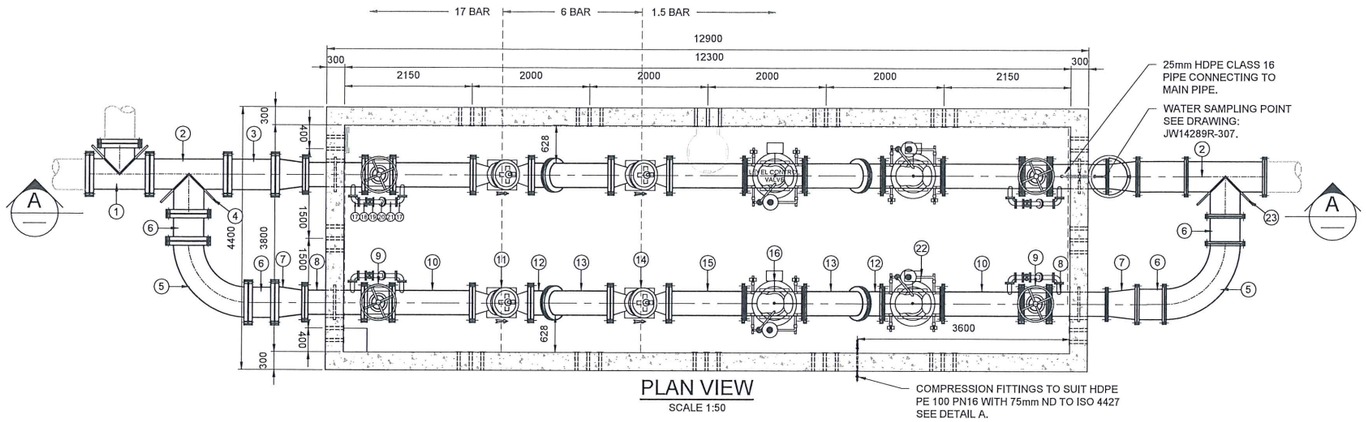
JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR BYPASS PRV CHAMBER DETAILS

SCALE	REV:	AMENDMENTS	APPROVED DATE:
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DRAWING-No. JW14289R-305

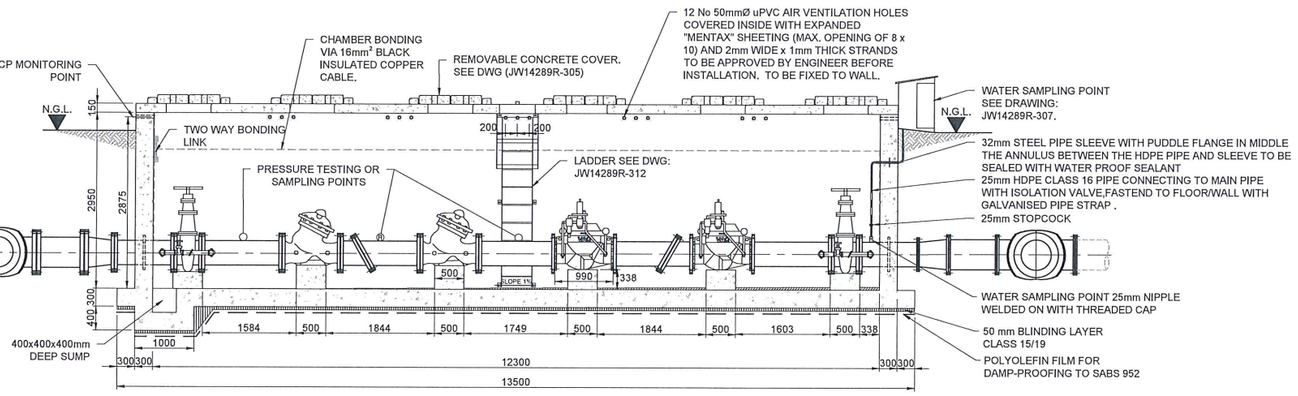
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305 — DRAWING No.
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A1 — ORIGINAL PAGE SIZE
SHEET 2 OF 2
FILE No.



PLAN VIEW

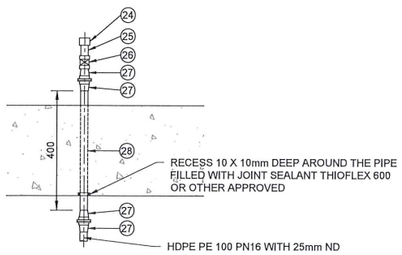
SCALE 1:50

COMPRESSION FITTINGS TO SUIT HDPE PE 100 PN16 WITH 75mm ND TO ISO 4427 SEE DETAIL A.



SECTION A-A

SCALE 1:50



DETAIL A

SCALE 1:20

GENERAL NOTES:

1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5L X42 WITH WALL THICKNESS OF 6mm OR AS SPECIFIED.
2. VALVES SHALL BE CLASS 40 OR CLASS 16 AS SPECIFIED AND SHALL BE EPOXY COATED TO COMPLY WITH THE REQUIREMENTS OF SANS 1217.
3. ALL FLANGES SHALL BE TO SANS 1123 TABLE 4000/3 OR TABLE 1000/3 AS SPECIFIED.
4. ALL BOLTS AND NUTS SHALL BE GALVANIZED STEEL AND SHALL BE TO SANS 1700-5
5. ALL EXPOSED STEEL TO BE "PETROTAPE" WRAPPED PRIOR TO ENCASING AND BACKFILLING, INCLUDE FOR ALL CONCRETE CHAMBERS.
6. ALL VALVES 350mm ND AND LARGER SHALL BE WEDGE GATE VALVES AS SPECIFIED AND SHALL HAVE A SEPARATE BYPASS VALVE.
7. ALL VALVES 300mm ND AND SMALLER SHALL BE WEDGE GATE VALVE AS SPECIFIED. NO BYPASS VALVE REQUIRED.
8. WHERE SPECIFIED, COATING AND LINING THICKNESSES AS PER SPECIFICATION.
9. ALL STEEL FITTINGS TO BE LINED WITH SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217.

PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	500	STEEL RPU COATING, LINING SFE	EQUAL TEE-PIECE , F/C 510mm FLANGED TO SANS 1123 TABLE 4000/3 AS SPECIFIED	
2	2	500	STEEL RPU COATING, LINING SFE	EQUAL TEE-PIECE , F/C 660mm FLANGED TO SANS 1123 TABLE 4000/3 AS SPECIFIED	
3	2	500	STEEL RPU COATING, LINING SFE	STEEL PIPE, 813mm LONG FLANGED TO SANS 1123 TABLE 4000/3.	
4	2	500	STEEL RPU COATING, LINING SFE	CROTCH PLATE : UP STREAM WAE DEPTH = 312mm BASE DEPTH = 312mm TOP DEPTH = 154mm THICKNESS = 25.4mm	
5	2	500	STEEL RPU COATING, LINING SFE	90° MEDIUM RADIUS BEND, 1020mm F/C, FLANGED ENDS , FLANGED TO SANS 1123 TABLE 4000/3.	
6	4	500	STEEL RPU COATING, LINING SFE	STEEL PIPE, 453mm LONG FLANGED TO SANS 1123 TABLE 4000/3.	
7	4	500 X 400	STEEL RPU COATING, LINING SFE	REDUCER FLANGED TO SANS 1123 TABLE 4000/3.	
8	4	400	STEEL RPU COATING, LINING SFE	PUDDLE PIPE, 1000mm LONG, FLANGED WITH PUDDLE FLANGE 500mm FROM FLANGE, FLANGED TO SANS 1123 TABLE 4000/3.	
9	4	400	AS SPECIFIED	WEDGE GATE VALVE, PN 40, FLANGED PROPORTIONAL FLANGED TO SANS 1123 TABLE 4000/3.	
10	4	400	STEEL RPU COATING, LINING SFE	STEEL PIPE,1350mm LONG FLANGED TO SANS 1123 TABLE 4000/3	
11	2	400	AS SPECIFIED	UPSTREAM PRESSURE REDUCING VALVE, PN40, FLANGED TO SANS 1123 TABLE 4000/3.	
12	4	400	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (380mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	
13	4	400	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED WITH PRESSURE TESTING POINT 25mm NIPPLE WELDED ON WITH THREADED CUP,(970mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	
14	2	400	AS SPECIFIED	DOWNSTREAM PRESSURE REDUCING VALVE, PN40, FLANGED TO SANS 1123 TABLE 4000/3.	
15	2	400	STEEL RPU COATING, LINING SFE	STEEL PIPE,1350mm LONG WITH PRESSURE TESTING POINT 25mm NIPPLE WELDED ON WITH THREADED CUP, FLANGED TO SANS 1123 TABLE 4000/3 ONE END, OTHER END FLANGED TO SANS1123 TABLE 4000/3.	
16	2	400	AS SPECIFIED	RESERVOIR LEVEL CONTROL VALVE, PN40, FLANGED TO SANS 1123 TABLE 4000/3.	
17	8	100	STEEL RPU COATING, LINING SFE	90° SHORT BEND FLANGED ENDS , FLANGED TO SANS 1123 TABLE 4000/3.	
18	4	100	STEEL RPU COATING, LINING SFE	PIPE SECTION 280mm F TO F. FLANGED ENDS . FLANGED TO SANS 1123 TABLE 4000/3.	
19	4	100	STEEL RPU COATING, LINING SFE	WEDGE GATE VALVE, FLANGED TO SANS 1123 TABLE 4000/3.	
20	4	100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (135mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	
21	4	100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (135mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 4000/3.	
22	2	400	AS SPECIFIED	RESERVOIR FLOW CONTROL VALVE, PN40, FLANGED TO SANS 1123 TABLE 4000/3.	

PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
23	1	500	STEEL RPU COATING, LINING SFE	CROTCH PLATE : DOWN STREAM WAE DEPTH = 228mm BASE DEPTH = 228mm TOP DEPTH = 122mm THICKNESS = 25.4mm	
24	1	25	HDPE	THREADED END CAP	
25	1	25	HDPE	DISTANCE PIECE 50mm LONG	
26	1	75	HDPE	ISOLATION VALVE	
27	4	75	HDPE	FLANGE ADAPTOP	
28	1	75	HDPE	DISTANCE PIECE 400mm LONG, HDPE PE 100 PN16 WITH 75mm ND TO ISO 4427	

NOTE :
ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE.

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CHECKED	L.D.J	07/10/2019
APPROVED BY: K. GOVENDER	SIGNATURE	31/07/2024 DATE
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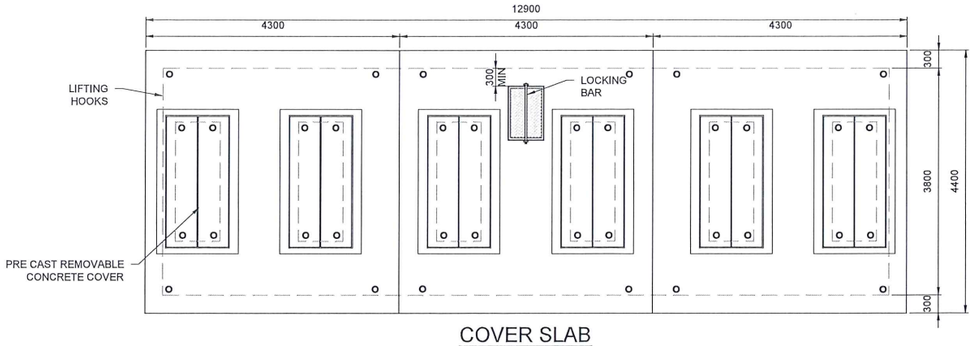
JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR INLET PRV CHAMBER PIPE AND FITTING DETAILS

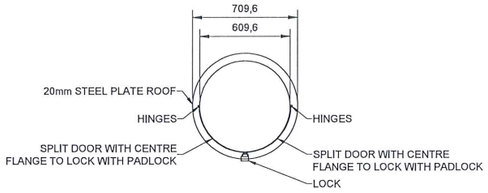
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DRAWING-No. JW14289R-306

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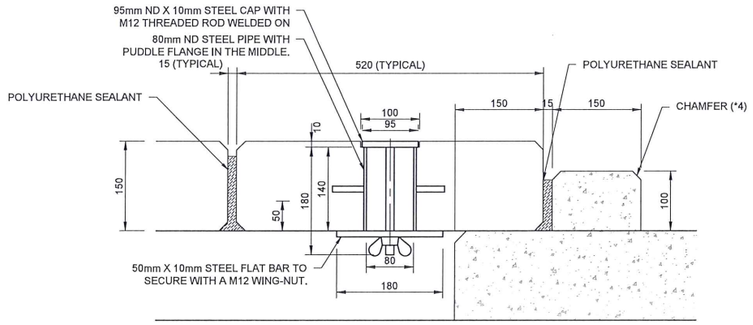
COVER SLAB
SCALE 1:50



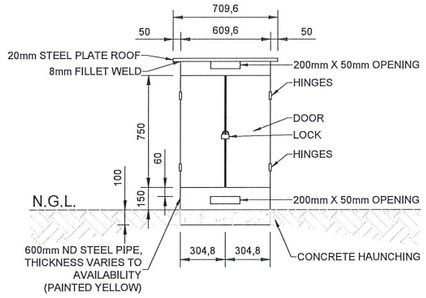
TOP VIEW
N.T.S

GENERAL NOTES (Concrete):

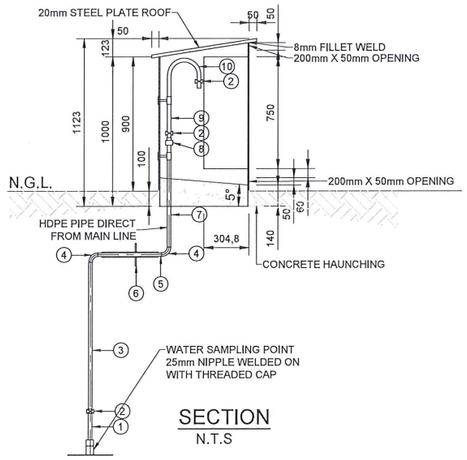
1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. COVER TO REINFORCEMENT MUST BE 40 mm.
3. WHERE JOINTS ARE MADE IN THE ROOF SLAB, U-BARS MUST BE USED TO JOIN TOP AND BOTTOM REINFORCEMENT IN ROOF SLAB.
4. CONTRACTOR SHALL ADVISE THE ENGINEER ABOUT THE ACTUAL DEPTH FOR EACH INSTALLATION SO THAT REINFORCEMENT DETAILS AND BENDING SCHEDULES CAN BE ISSUED.
5. ALL EXPOSED CORNERS TO BE CHAMFERED.
   FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC) THE FOLLOWING SPECIFICATION TO BE USED :
   - 5a. SULPHATE RESISTANT CEMENT TO BE USED.
   - 5b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.



DETAIL OF LIFTING HOLE WITH CAP
SCALE 1:5



FRONT VIEW
N.T.S



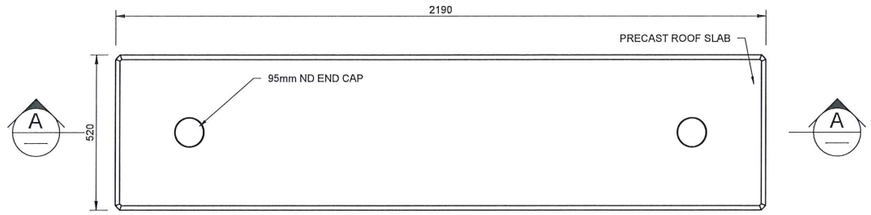
SECTION
N.T.S

WATER SAMPLING POINT

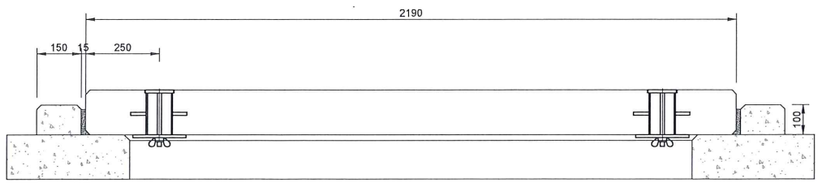
PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	25	STEEL RPU COATING, LINING SFE	DISTANCE PIECE PIPE 180mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
2	1	25	STEEL RPU COATING, LINING SFE	STOPCOCK, CLASS 16	
3	1	25	HDPE	DISTANCE PIECE PIPE 990mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
4	1	25	S/S	90° BEND HDPE, CLASS 16	
5	1	25	HDPE	DISTANCE PIECE PIPE 430mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
6	1	32	STEEL RPU COATING, LINING SFE	PUDDLE PIPE, 380mm LONG, PLAIN ENDED, WITH PUDDLE FLANGE IN THE MIDDLE.	
7	1	25	HDPE	DISTANCE PIECE PIPE 590mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
8	1	25	HDPE	PLASSON COMPRESSION FITTINGS MALE ADAPTOR	
9	1	25	HDPE	DISTANCE PIECE PIPE 200mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
10	1	25	S/S	S/S GOOSE NECK	

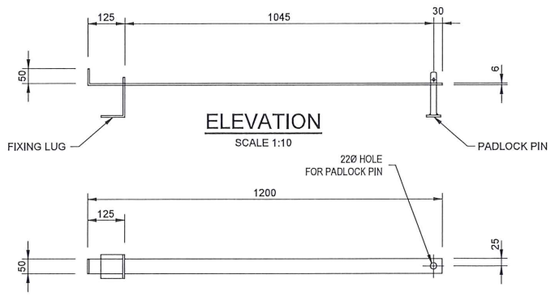
NOTE :
ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE.



PLAN VIEW OF REMOVABLE CONCRETE COVER
SCALE 1:10

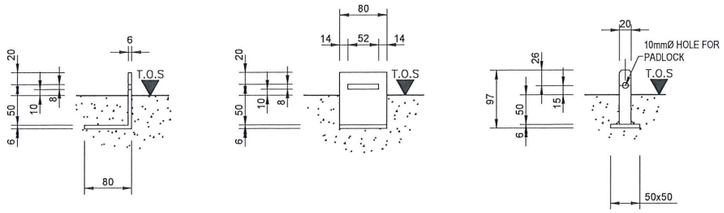


SECTION A-A
SCALE 1:10



ELEVATION
SCALE 1:10

PLAN
LOCKING BAR
SCALE 1:10



SIDE ELEVATION
FRONT ELEVATION

FIXING LUG FOR LOCKING BAR
SCALE 1:5

PADLOCK PIN DETAIL
SCALE 1:5

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RESERVOIR INLET PRV CHAMBER DETAILS

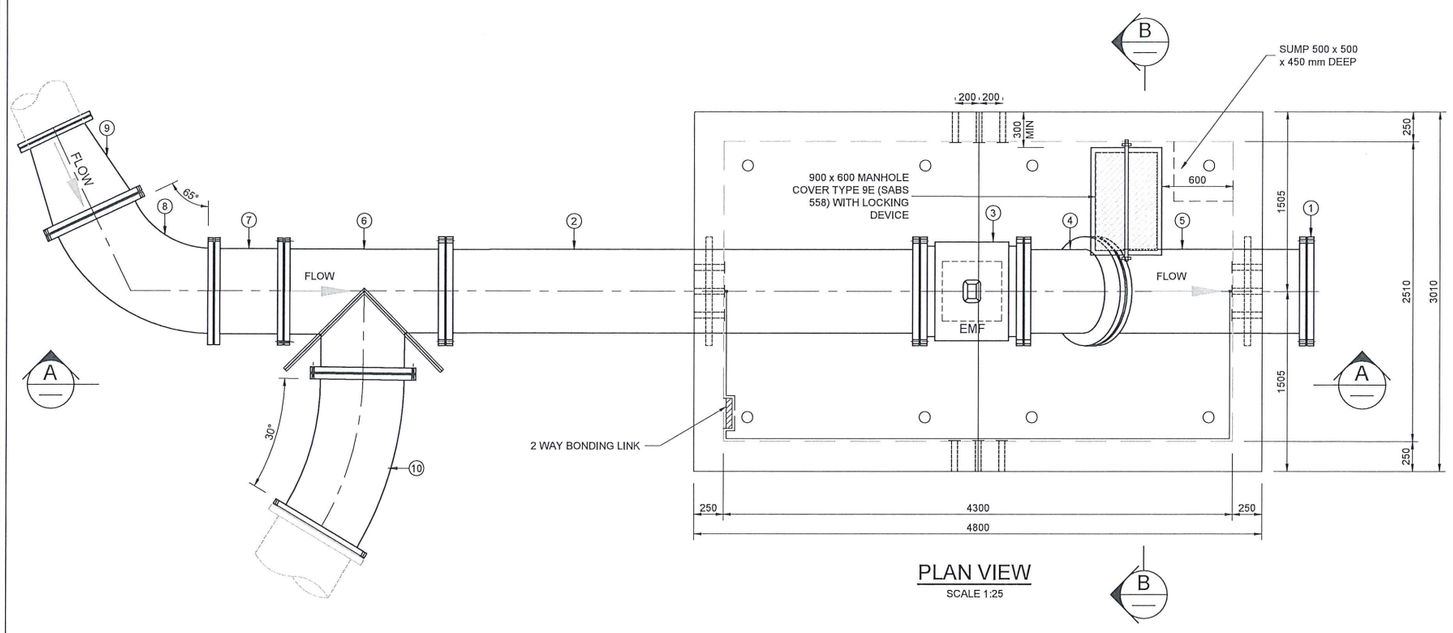
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DRAWING-No. JW14289R-307

JW14289R PROJECT No. | 307 DRAWING No. | 0 REV.

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PLAN VIEW

SCALE 1:25

FLOW METER PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	700	STEEL RPU COATING, LINING SFE	BLANK FLANGE. FLANGE DRILLED TO SANS 1123 TABLE 1000/3.	
2	1	700	STEEL RPU COATING, LINING SFE	STRAIGHT PIPE 4000mm LONG ENDS FLANGED WITH PUDDLE FLANGE 500mm FROM FLANGE END. FLANGED DRILLED TO SANS 1123 TABLE 1000/3.	
3	1	700	AS SPECIFIED	EMF FLOW METER, F TO F 875mm LONG. CLASS 16, COMPLETE WITH INSULATING FLANGE KITS.	
4	1	700	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (580mm LONG) 60° FLANGE SPOOL PIECE OTHER END, DRILLED TO SANS 1123 TABLE 1000/3.	
5	1	700	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (1810mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 1000/3.	

GENERAL NOTES:

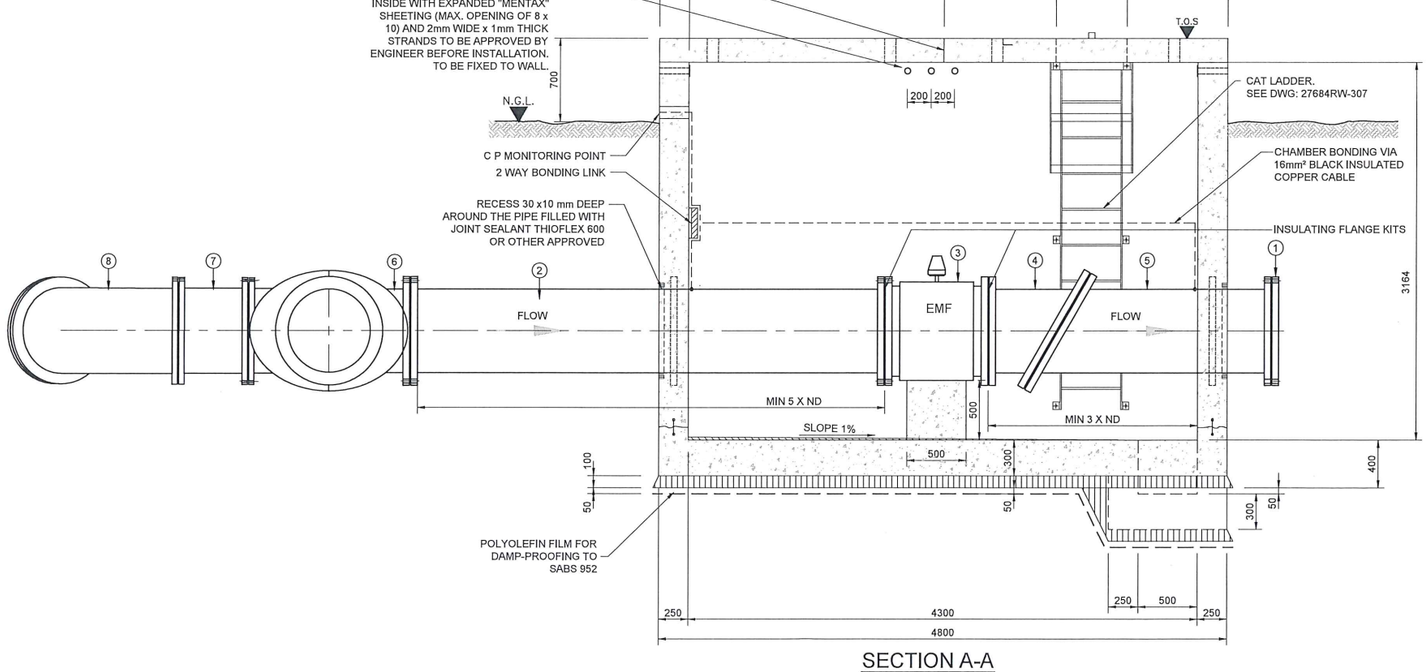
1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5L X42 WITH WALL THICKNESS OF 6mm,, OR AS SPECIFIED.
2. METERS SHALL BE CLASS 16 OR CLASS 40 AS SPECIFIED AND SHALL BE EPOXY COATED TO COMPLY WITH THE REQUIREMENTS OF SANS 1217.
3. ALL FLANGES SHALL BE TO SABS 1123 TABLE 1000/3 OR 1000/3 AS SPECIFIED.
4. ALL BOLTS AND NUTS SHALL BE GALVANIZED STEEL AND SHALL BE TO SABS 1700-5
5. ALL EXPOSED STEEL TO BE "PETROTAPE" WRAPPED PRIOR TO ENCASING AND BACKFILLING, INCLUDE FOR ALL CONCRETE CHAMBERS.
6. ALL COUPLINGS AND SPECIALS TO SABS 815.
7. WHERE SPECIFIED, COATING AND LINING THICKNESSES AS PER SPECIFICATION.
8. ALL STEEL FITTINGS TO BE LINED WITH SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS. TO SANS 1217.

FLOW METER PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
6	1	700	STEEL RPU COATING, LINING SFE	EQUAL T WITH CROTCH PLATE. FLANGED TO SANS 1123 TABLE 1000/3. WYE DEPTH = 312mm BASE DEPTH = 312mm TOP DEPTH = 154mm THICKNESS = 25mm	
7	1	700	STEEL RPU COATING, LINING SFE	PIPE SECTION 588mm LONG FLANGED TO SANS 1123 TABLE 1000/3	
8	1	700	STEEL RPU COATING, LINING SFE	SHORT 65° DEGREE BEND FLANGED TO SANS 1123 TABLE 1000/3 AS SPECIFIED	
9	1	700 X 500	STEEL RPU COATING, LINING SFE	REDUCER 756mm F/F FLANGED TO SANS 1123 TABLE 1000/3 AS SPECIFIED	
10	1	700	STEEL RPU COATING, LINING SFE	MEDIUM 30° DEGREE BEND FLANGED TO SANS 1123 TABLE 1000/3 AS SPECIFIED	

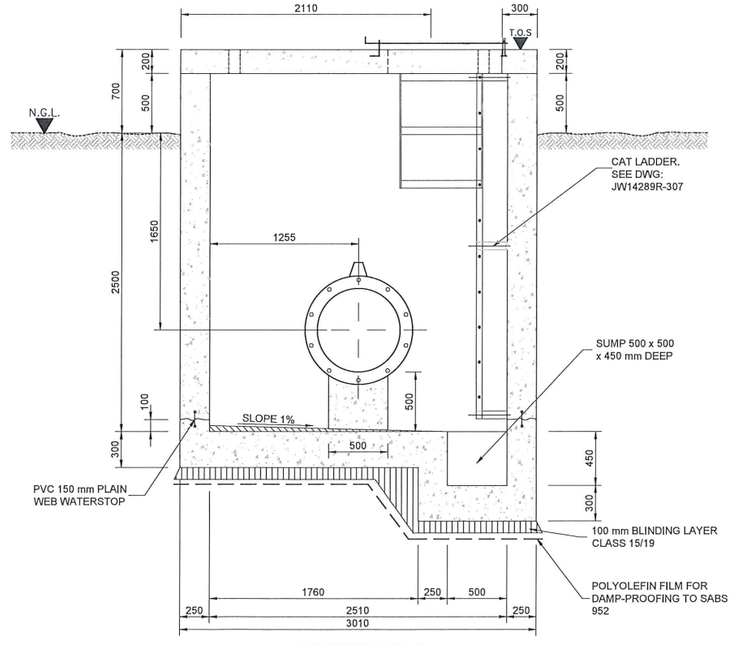
NOTE :

ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE



SECTION A-A

SCALE 1:25



SECTION B-B

SCALE 1:25

MARISWE
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DRAWN	C.K		10/12/2015
CHECKED	L.D.J		07/10/2019
APPROVED BY: K. GOVENDER	SIGNATURE		DATE 28/07/2024
ECSA REG. No.	201470227		
CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE		DATE
ECSA REG. No.			

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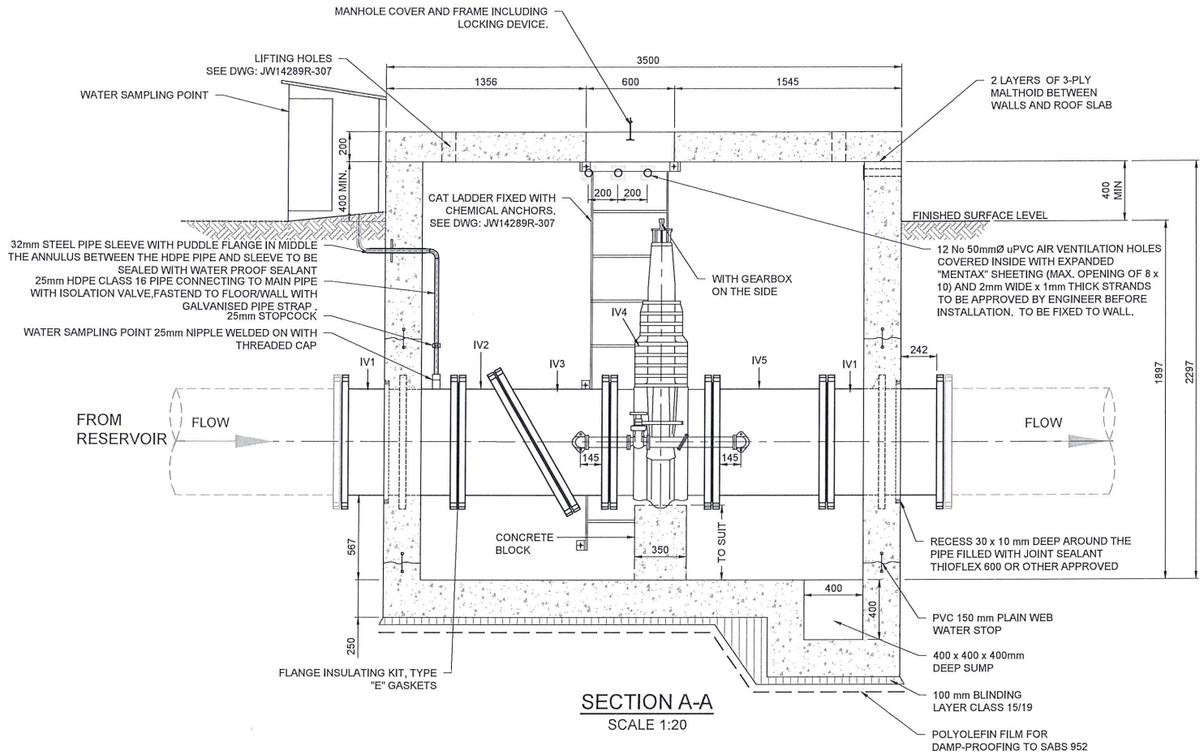
JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

OUTLET FLOW METER CHAMBER AND INSTALLATION DETAILS

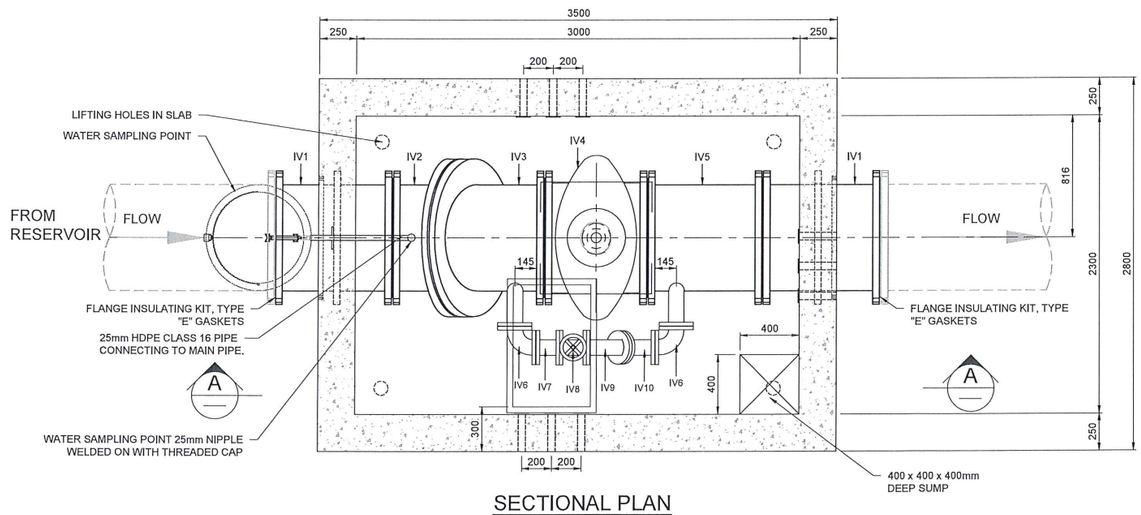
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-308

JW14289R — PROJECT No.
308 — DRAWING No.
0 — REV.
A1 — ORIGINAL PAGE SIZE
SHEET 1 OF 1
FILE No.



SECTION A-A
SCALE 1:20



SECTIONAL PLAN
SCALE 1:20

GENERAL NOTES:

1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5L X42 WITH WALL THICKNESS OF 6 mm OR AS SPECIFIED.
2. VALVES SHALL BE CLASS 16 AS SPECIFIED AND SHALL BE EPOXY COATED TO COMPLY WITH THE REQUIREMENTS OF SANS 1217.
3. ALL FLANGES SHALL BE TO SANS 1123 TABLE 1000/3 OR AS SPECIFIED.
4. ALL BOLTS AND NUTS SHALL BE GALVANIZED STEEL AND SHALL BE TO SANS 1700-5
5. ALL VALVES 350 mm ND AND LARGER SHALL BE WEDGE GATE VALVES AS SPECIFIED AND SHALL HAVE A SEPARATE BYPASS VALVE.
6. ALL VALVES 300 mm ND AND SMALLER SHALL BE WEDGE GATE VALVE AS SPECIFIED, NO BYPASS VALVE REQUIRED.
7. WHERE SPECIFIED, COATING FOR STEEL FITTINGS TO BE SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217 WITH ADDITIONAL DENSO TAPE WRAPPING.
8. ALL STEEL FITTINGS TO BE LINED WITH SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217.

GENERAL NOTES (Concrete):

1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. COVER TO REINFORCEMENT MUST BE 40 mm.
3. WHERE JOINTS ARE MADE IN THE ROOF SLAB, U-BARS MUST BE USED TO JOIN TOP AND BOTTOM REINFORCEMENT IN ROOF SLAB.
4. CONTRACTOR SHALL ADVISE THE ENGINEER ABOUT THE ACTUAL DEPTH FOR EACH INSTALLATION SO THAT REINFORCEMENT DETAILS AND BENDING SCHEDULES CAN BE ISSUED.
5. ALL EXPOSED CORNERS TO BE CHAMFERED.
   FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC)

   THE FOLLOWING SPECIFICATION TO BE USED :

   5a. SULPHATE RESISTANT CEMENT TO BE USED.

   5b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.

PIPE AND FITTING SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
IV1	2	700	STEEL RPU COATING, LINING SFE	PUDDLE PIPE, 790 mm LONG F TO F FLANGED ONE END WITH PUDDLE FLANGED 395 mm FROM ONE END.FLANGED TO SANS 1123 TABLE 1000/3 AS SPECIFIED	
IV2	1	700	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (510mm LONG) 60° FLANGE SPOOL PIECE OTHER END WITH 25mm NIPPLE. DRILLED TO SANS 1123 TABLE 1000/3.	510
IV3	1	500 x 100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ALL END, (510mm LONG) 60° FLANGE SPOOL PIECE AND 234mm LONG BRANCH . FLANGE TO SANS 1123 TABLE 1000/3.	510
IV4	1	700	AS SPECIFIED	WEDGE GATE VALVE, PN 16 AS SPECIFIED, 610 mm F TO F, FLANGED TO SANS 1123 TABLE 1000/3.	
IV5	1	700 x 100	STEEL RPU COATING, LINING SFE	T-PIECE PIPE, 778mm F TO F AND 234mm LONG BRANCH. ALL ENDS FLANGED TO SANS 1123 TABLE 1000/3.	
IV6	2	100	STEEL RPU COATING, LINING SFE	90° BEND FLANGED ENDS . FLANGED TO SANS 1123 TABLE 1000/3.	
IV7	1	100	STEEL RPU COATING, LINING SFE	PIPE SECTION 280mm F TO F. FLANGED ENDS. FLANGED TO SANS 1123 TABLE 1000/3.	
IV8	1	100	STEEL RPU COATING, LINING SFE	WEDGE GATE VALVE. FLANGED TO SANS 1123 TABLE 1000/3.	
IV9	1	100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (230mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 1000/3.	
IV10	1	100	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (230mm LONG) 60° FLANGE SPOOL PIECE OTHER END. DRILLED TO SANS 1123 TABLE 1000/3.	

NOTE :
ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE

PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	25	STEEL RPU COATING, LINING SFE	DISTANCE PIECE PIPE 180mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
2	3	25	STEEL RPU COATING, LINING SFE	STOPCOCK, CLASS 16	
3	1	25	HDPE	DISTANCE PIECE PIPE 990mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
4	2	25	S/S	90° BEND HDPE, CLASS 16	
5	1	25	HDPE	DISTANCE PIECE PIPE 430mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
6	1	32	STEEL RPU COATING, LINING SFE	PUDDLE PIPE, 380mm LONG, PLAIN ENDED, WITH PUDDLE FLANGE IN THE MIDDLE.	
7	1	25	HDPE	DISTANCE PIECE PIPE 590mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
8	1	25	HDPE	PLASSON COMPRESSION FITTINGS MALE ADAPTOR	
9	1	25	HDPE	DISTANCE PIECE PIPE 200mm LONG, CLASS 16 LENGTH CUT TO SUITE ON SITE.	
10	1	25	S/S	S/S GOOSE NECK	531 / 400

NOTE :
ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE.

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DRAWN	C.K		20.07.2015
CHECKED	L.D.J		07.10.2019
APPROVED BY: K. GOVENDER	SIGNATURE		31/07/2024 DATE
ECSA REG. No.	201470227		
CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE		DATE
ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

OUTLET ISOLATION VALVE CHAMBER AND INSTALLATION DETAILS

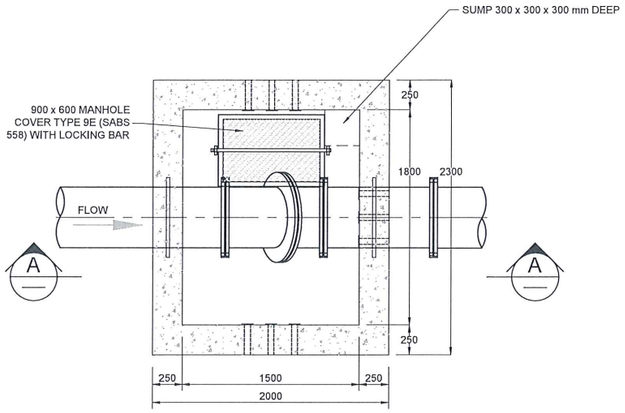
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-309

JW14289R PROJECT No. | 309 DRAWING No. | 0 REV.

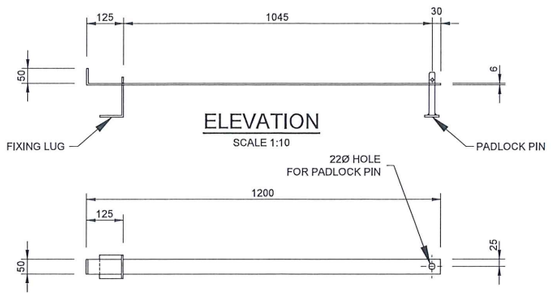
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FILE No.



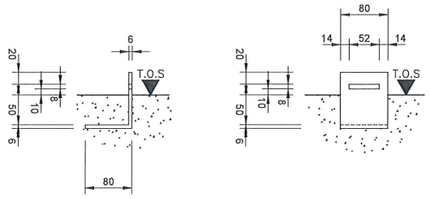
PLAN VIEW

SCALE 1:25



NOTES:

1. ALL EXPOSED METALWORK TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH SANS 1461 AND LEFT UNPAINTED.
2. ALL MAIN PIPES AND CABLE DUCTS MUST BE SEALED WITH "THIOFLEX 600" OR "FLEXI-JOINT" OR OTHER APPROVED.
3. ALL EXPOSED CONCRETE EDGES TO HAVE 25mm CHAMFER.
4. POSITION OF CHAMBERS AND CABLE DUCTS WILL BE INDICATED BY THE ENGINEER AT SITE INSPECTION.
5. CONCRETE GRADE 25/19 WITH ORDINARY PORTLAND CEMENT.
6. FOR PIPE DETAILS SEE INSTALLATION DETAILS DRAWINGS.
7. FOR POSITION OF SUMP AND MANHOLE SEE RELEVANT INSTALLATION DETAILS.
8. BEFORE COMMENCEMENT CHECK FOR EXISTING SERVICES.
9. IF CHAMBER IS BUILT ON PAVEMENT, TOP OF CHAMBER TO BE FLASH WITH PAVEMENT.
10. COVER TO REINFORCEMENT 40mm.
11. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5L X42 WITH WALL THICKNESS OF 6mm OR AS SPECIFIED.
12. STAINLESS STEEL GRADE 316.
13. ALL FLANGES SHALL BE TO SABS 1123 TABLE 1000/3 OR AS SPECIFIED.
14. ALL BOLTS AND NUTS SHALL BE GALVANIZED STEEL AND SHALL BE TO SABS 1700-5
15. ALL COUPLINGS AND SPECIALS TO SABS 815.
16. WHERE SPECIFIED, COATING FOR STEEL FITTINGS TO BE SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217 WITH ADDITIONAL DENSO TAPE WRAPPING.
17. ALL STEEL FITTINGS TO BE LINED WITH SOLVENT FREE EPOXY WITH TARGET THICKNESS OF 600 MICRONS TO SANS 1217.



FIXING LUG FOR LOCKING BAR

SCALE 1:5

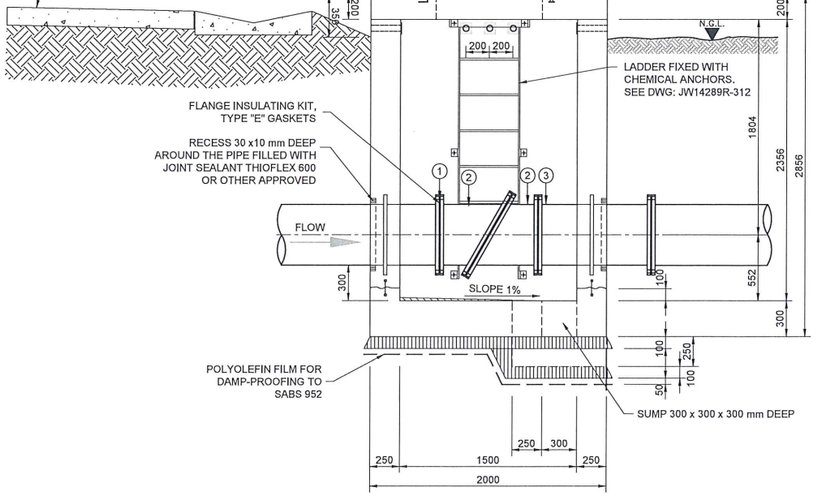
FLOW METER PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	500	AS SPECIFIED	FLANGE INSULATING GASKET KIT, TYPE "E" GASKETS.	
2	2	500	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END, (414mm LONG) 60° FLANGE SPOOL PIECE OTHER END, DRILLED TO SANS 1123 TABLE 4000/3,	414
3	1	500	STEEL RPU COATING, LINING SFE	STRAIGHT PIPE 958mm LONG ONE SIDE FLANGED WITH PUDDLE FLANGE 500mm FROM FLANGE END, FLANGED DRILLED TO SANS 1123 TABLE 4000/3.	

NOTE :

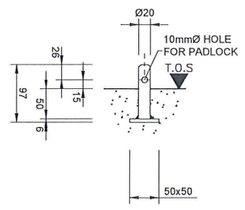
- PIPE SIZE AS SPECIFIED

ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE



SECTION A-A

SCALE 1:25



PADLOCK PIN DETAIL

SCALE 1:5

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APPROVED BY: K. GOVENDER	SIGNATURE	21/07/2024 DATE
ECSA REG. No.	201470227	
CHECKED		
APPROVED BY: E. MUDAU	SIGNATURE	DATE
ECSA REG. No.		

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

TYPICAL INSULATING GASKET KIT MANHOLE DETAIL

SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-310

JW14289R PROJECT No. | 310 DRAWING No. | 0 REV.

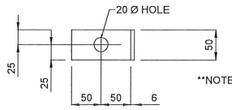
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FILE No.

GENERAL NOTES (Concrete):

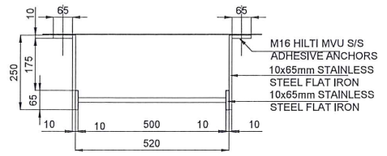
1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. COVER TO REINFORCEMENT MUST BE 40 mm.
3. WHERE JOINTS ARE MADE IN THE ROOF SLAB, U-BARS MUST BE USED TO JOIN TOP AND BOTTOM REINFORCEMENT IN ROOF SLAB.
4. CONTRACTOR SHALL ADVISE THE ENGINEER ABOUT THE ACTUAL DEPTH FOR EACH INSTALLATION SO THAT REINFORCEMENT DETAILS AND BENDING SCHEDULES CAN BE ISSUED.
5. ALL EXPOSED CORNERS TO BE CHAMFERED.
   FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC) THE FOLLOWING SPECIFICATION TO BE USED :

   5a. SULPHATE RESISTANT CEMENT TO BE USED.
   5b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.

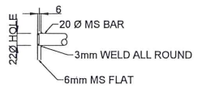


**NOTE: 200 x 100 ANGLE BRACKETS FORMED OF 50 x 6 MS FLAT WELDED TO LADDER RAILS (4 No. REQUIRED)

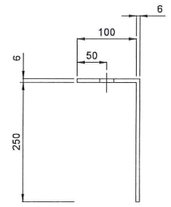
DETAIL 1: MOUNTING BRACKET
SCALE 1:5



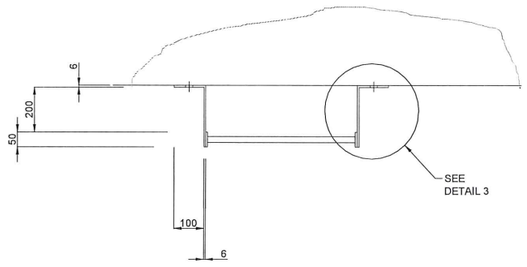
PLAN
SCALE 1:10



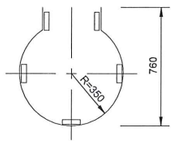
DETAIL 2
SCALE 1:5



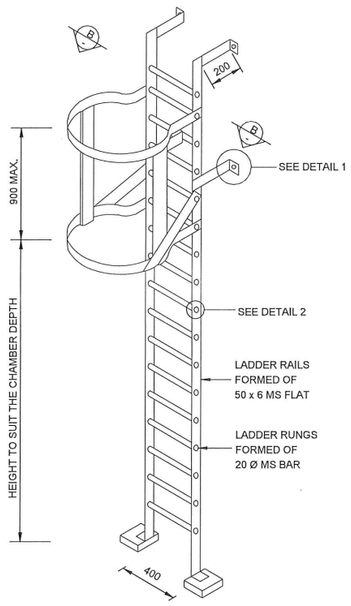
DETAIL 3
SCALE 1:5



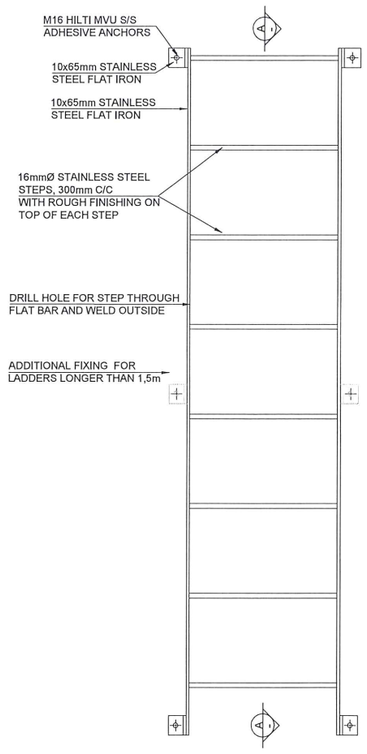
SECTION B-B
SCALE 1:10



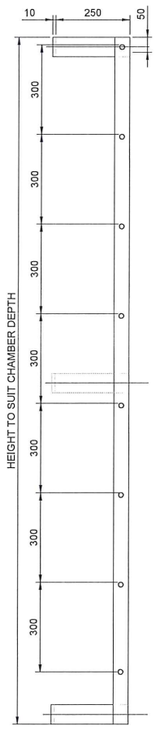
HOOP PLAN VIEW
SCALE : N.T.S



INTERNAL LADDER
SCALE : N.T.S



FRONT ELEVATION
SCALE 1:10



SECTION A-A
SCALE 1:10

TYPICAL ACCESS LADDER FOR CHAMBERS

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DRAWN	C.K	20.07.2015	
CHECKED	L.D.J	07/10/2019	
APPROVED BY: K. GOVENDER	SIGNATURE	DATE	28/09/2024
ECSA REG. No.	201470227		
CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE	DATE	
ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

TYPICAL LADDER DETAILS

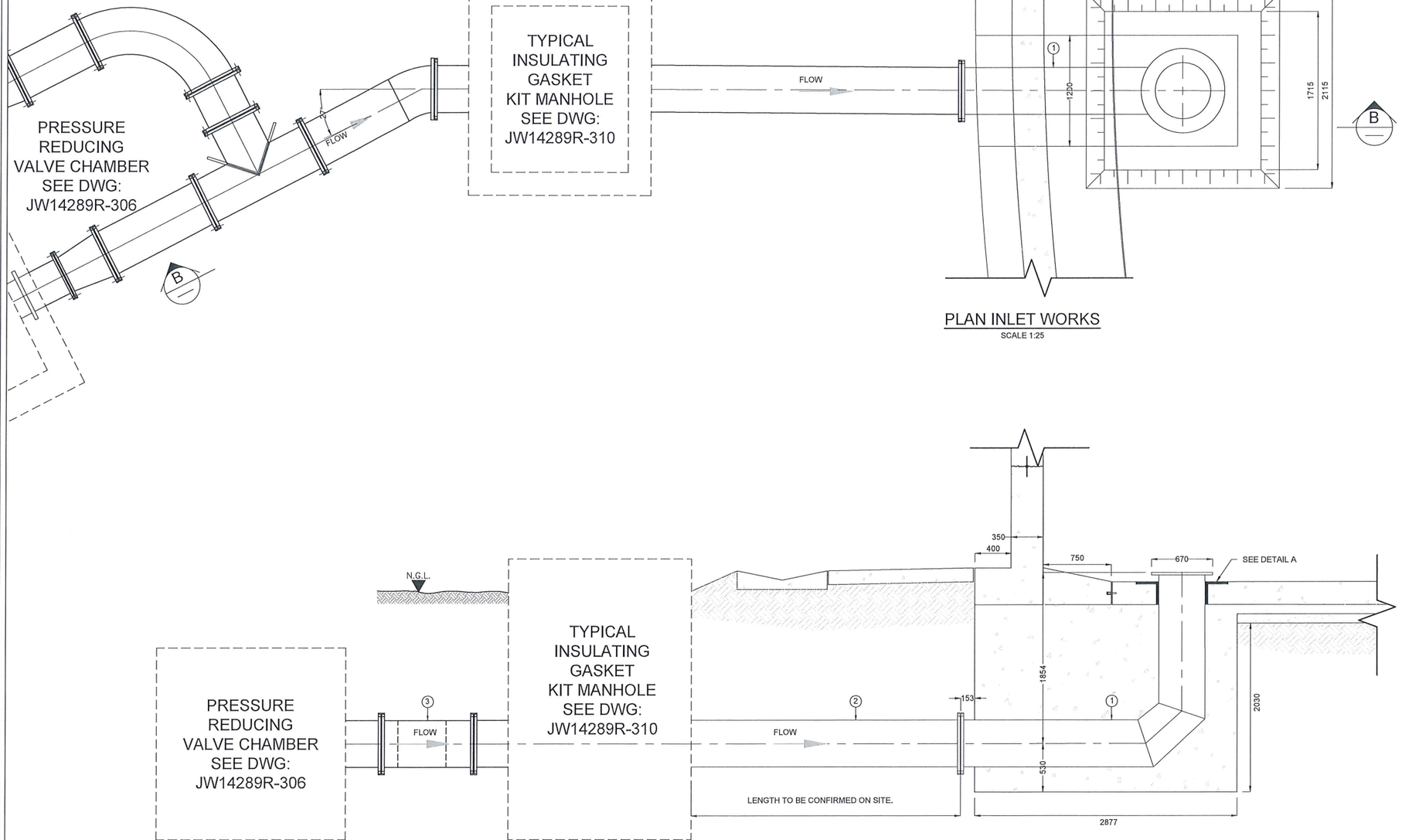
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-312

JW14289R (PROJECT No.) | 312 – 0 (DRAWING No. – REV.)

A1 (ORIGINAL PAGE SIZE) | SHEET 1 OF 1

FILE No.



PLAN INLET WORKS

SCALE 1:25

SECTION B-B
INLET

SCALE 1:25

GENERAL NOTES:

1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5LX42 WITH WALL THICKNESS 6mm OR AS SPECIFIED.
2. ALL FLANGES SHALL BE TO SABS 1123 TABLE 1000/3.
3. ALL BOLTS ON STAINLESS STEEL PIPES AND NUTS SHALL BE STAINLESS STEEL.
4. ALL CO-ORDINATES, DIMENSION AND LEVELS MUST BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE ANY WORK COMMENCES. ANY DISCREPANCIES MUST BE DISCUSSED WITH THE ENGINEER.
5. FINISHES
   - 5.1. ALL CONCRETE BELOW GROUND LEVEL - F1
   - 5.2. ALL CONCRETE ABOVE GROUND LEVEL - F2
6. ALL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
7. STAINLESS STEEL TO BE GRADE 316.

GENERAL NOTES (Concrete):

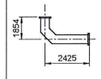
1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. MINIMUM COVER TO REINFORCEMENT MUST BE 40 mm.
3. WHERE JOINTS ARE MADE IN THE ROOF SLAB, U-BARS MUST BE USED TO JOIN TOP AND BOTTOM REINFORCEMENT IN ROOF SLAB.
4. CONTRACTOR SHALL ADVISE THE ENGINEER ABOUT THE ACTUAL DEPTH FOR EACH INSTALLATION SO THAT REINFORCEMENT DETAILS AND BENDING SCHEDULES CAN BE ISSUED.
5. ALL EXPOSED CORNERS TO BE CHAMFERED (25mm).
6. FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC) THE FOLLOWING SPECIFICATION TO BE USED.

6a. SULPHATE RESISTANT CEMENT TO BE USED.

6b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.

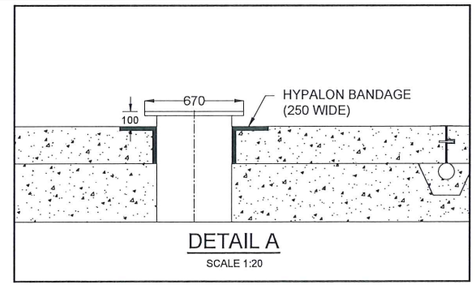
7. ALL ENCASED PIPES TO BE WRAPPED PRIOR TO ENCASEMENT BY UN-ENGINEER APPROVED WRAPPING MATERIAL, SUCH AS OLD CONVEYER BELT.
8. NO REBAR TO TOUCH ANY PIPE.

INLET PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	500	STAINLESS STEEL	500 ND PIPE,GOOSENECK, C TO F 2425mm LONG ONE END FLANGED, OTHER END PLAIN. FLANGES DRILLED TO SANS 1123 TABLE 1000/3 WITH PUDDLE FLANGE.	
2	1	500	STAINLESS STEEL	PIPE SECTION FLANGED BOTH SIDES 3978mm LONG, FLANGED TO SANS 1123 TABLE 1000/3.LENGTH TO BE CONFIRMED ON SITE.	
3	1	500	STEEL RPU COATING, LINING SFE	SPECIAL 27°STEEL BEND. (153mmF/C & 1350mm F/C) CORRECT ANGLE & DISTANCE TO BE DETERMINED ON SITE. FLANGED DRILLED TO SANS 1123 TABLE 1000/3	

NOTE :

ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE



DETAIL A

SCALE 1:20

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DRAWN	C.K		20.07.2015
CHECKED	L.D.J		07/10/2019
APPROVED BY: K. GOVENDER		SIGNATURE	07/2024 DATE
ECSA REG. No.	201470227		
CHECKED			
APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

Johannesburg Water

TURBINE HALL
65 NTEMI PILISO STREET
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Joburg

JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR INLET DETAILS

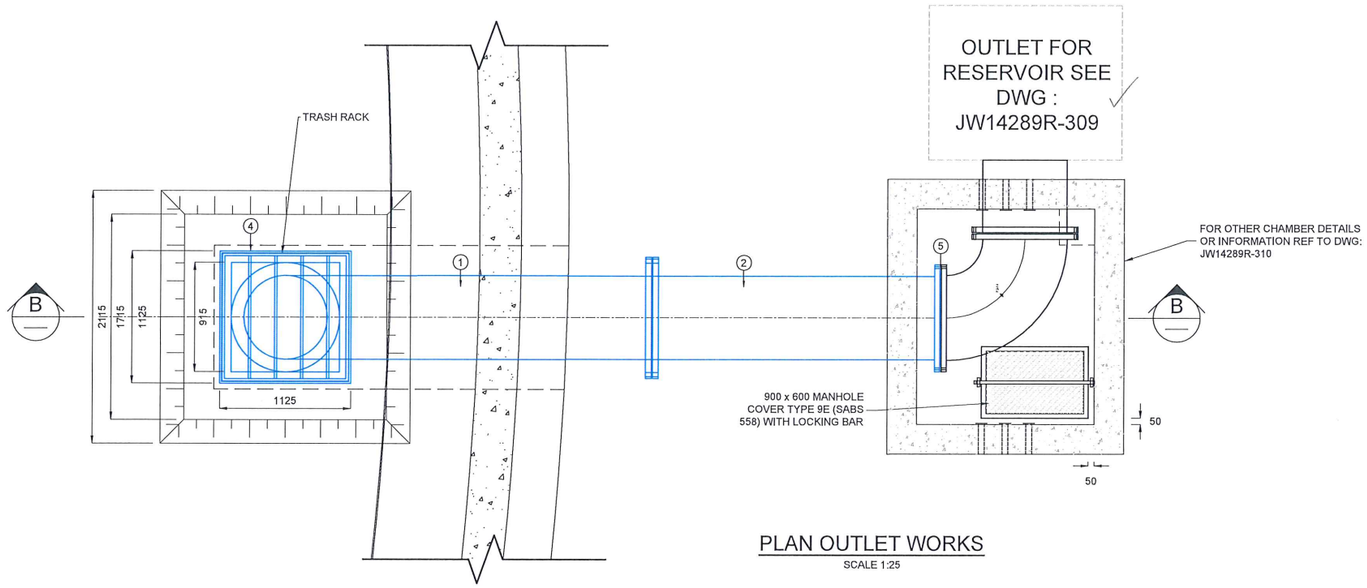
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N.T.S	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-700

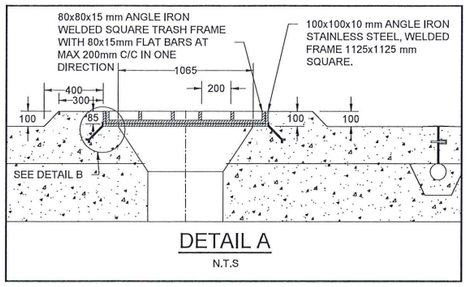
JW14289R PROJECT No. | 700 DRAWING No. | 0 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

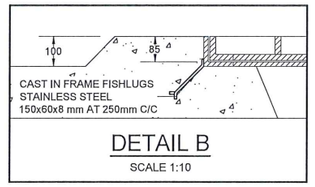
FILE No.



PLAN OUTLET WORKS
SCALE 1:25



DETAIL A
N.T.S



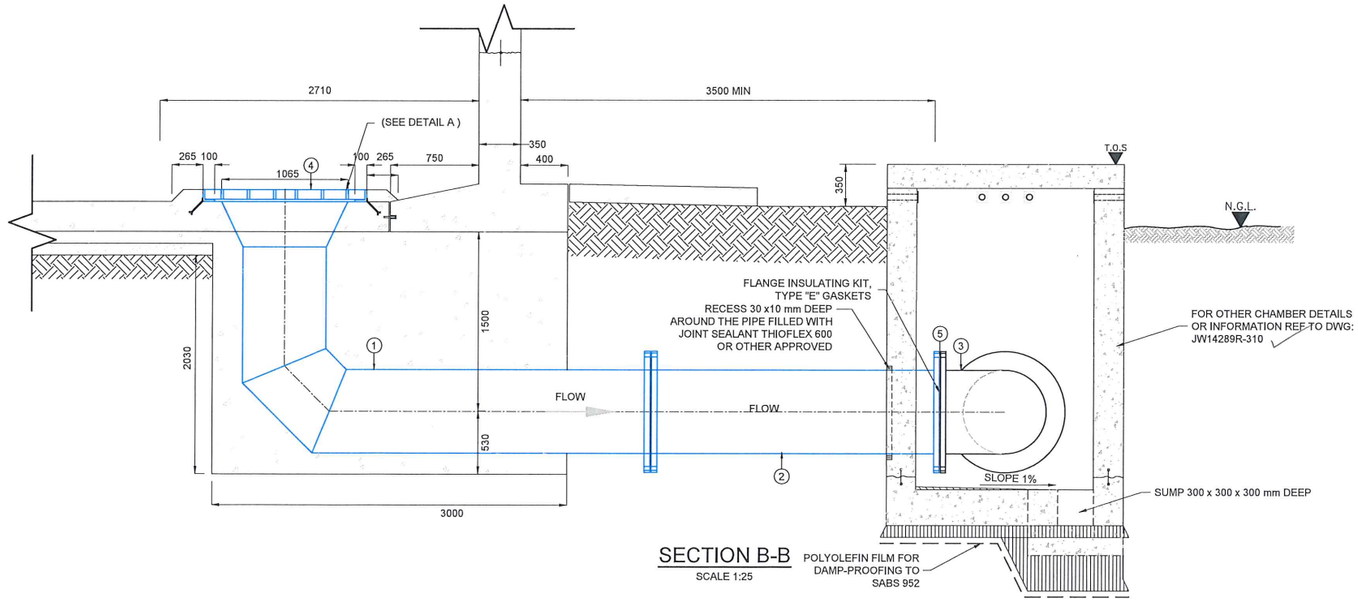
DETAIL B
SCALE 1:10

GENERAL NOTES:

1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5LX42 WITH WALL THICKNESS 6mm OR AS SPECIFIED.
2. ALL FLANGES SHALL BE TO SABS 1123 TABLE 1000/3.
3. ALL BOLTS ON STAINLESS STEEL PIPES AND NUTS SHALL BE STAINLESS STEEL.
4. ALL CO-ORDINATES, DIMENSION AND LEVELS MUST BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE ANY WORK COMMENCES. ANY DISCREPANCIES MUST BE DISCUSSED WITH THE ENGINEER.
5. FINISHES
   - 5.1. ALL CONCRETE BELOW GROUND LEVEL - F1
   - 5.2. ALL CONCRETE ABOVE GROUND LEVEL - F2
6. ALL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
7. STAINLESS STEEL TO BE GRADE 316.

GENERAL NOTES (Concrete):

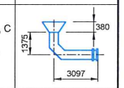
1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. COVER TO REINFORCEMENT MUST BE 40 mm.
3. WHERE JOINTS ARE MADE IN THE ROOF SLAB, U-BARS MUST BE USED TO JOIN TOP AND BOTTOM REINFORCEMENT IN ROOF SLAB.
4. CONTRACTOR SHALL ADVISE THE ENGINEER ABOUT THE ACTUAL DEPTH FOR EACH INSTALLATION SO THAT REINFORCEMENT DETAILS AND BENDING SCHEDULES CAN BE ISSUED.
5. ALL EXPOSED CORNERS TO BE CHAMFERED (25mm).
6. FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC) THE FOLLOWING SPECIFICATION TO BE USED.
   - 6a. SULPHATE RESISTANT CEMENT TO BE USED.
   - 6b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.
7. ALL ENCASED PIPES TO BE WRAPPED PRIOR TO ENCASEMENT BY AN ENGINEER APPROVED WRAPPING MATERIAL.
8. NO REBAR TO TOUCH ANY PIPE.



SECTION B-B
SCALE 1:25

SECTION A-A
SCALE 1:25

OUTLET PIPE WORK SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	700	STAINLESS STEEL	BELLMOUTH, 1065 mm OPENING FOR A 700 ND PIPE.GOOSENECK, C TO F 3097mm LONG BOTH ENDS FLANGED. FLANGES DRILLED TO SANS 1123 TABLE 1000/3.	
2	1	700	STAINLESS STEEL	PIPE SECTION 3730mm LONG, FLANGED ENDS. FLANGED TO SANS 1123 TABLE 1000/3. TO BE FABRICATE AND MANUFACTURED.	
3	1	700 x 500	STEEL RPU COATING, LINING SFE	T WITH COMPENSATION COLLAR. FLANGED TO SANS 1123 TABLE 1000/3. PLATE WIDTH = 200mm PLATE THICKNESS = 5mm	
4	1	1125 x 1125	STAINLESS STEEL	1125x1125mm TRASH RACK WITH 80x15mm FLAT BARS AT MAX 200mm SPACING IN ONE DIRECTION ONLY FRAME FORMED OUT OF 100x100x10 mm WELDED ANGLE IRON STAINLESS STEEL.	
5	1	700	AS SPECIFIED	FLANGE INSULATING GASKET KIT, TYPE "E" GASKETS.	

NOTE :
- ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR OUTLET DETAILS

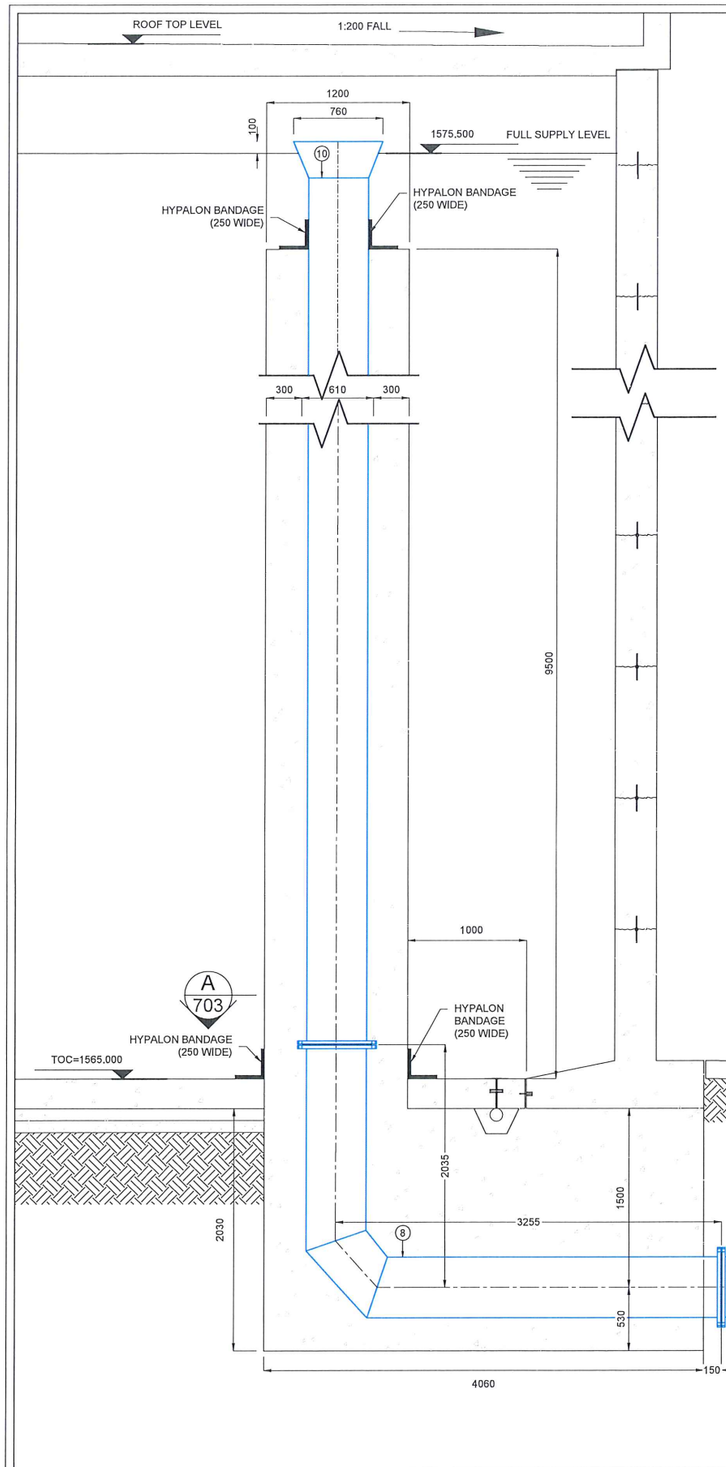
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

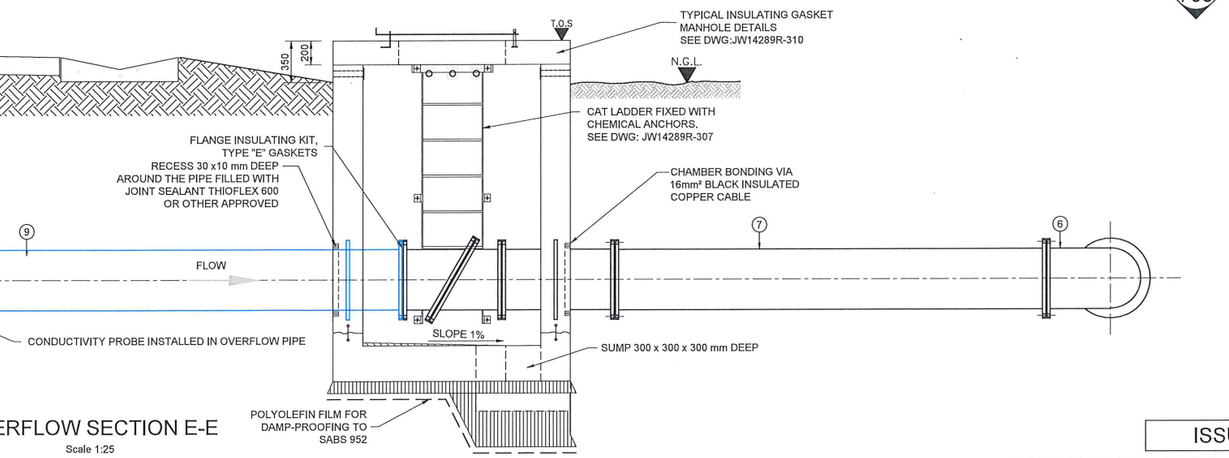
DRAWING-No. JW14289R-701

JW14289R PROJECT No. | 701 DRAWING No. | 1 REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.





OVERFLOW SECTION E-E

Scale 1:25

PIPE AND FITTING SCHEDULE

ITEM No.	No. OFF	ND	MATERIAL	DESCRIPTION	SKETCH
1	1	1125 X 1125	STAINLESS STEEL	1125x1125mm TRASH RACK WITH 80x15mm THICK FLAT BARS AT MAX 200mm SPACING IN ONE DIRECTION ONLY FRAME FORMED OUT OF 80x80x15mm WELDED ANGLE IRON.	
2	1	500	STAINLESS STEEL	BELLMOUTH, 760mm OPENING FOR A 500 ND PIPE. OTHER END FLANGED. FLANGED TO SANS 1123 TABLE 1000/3.	1762, 3105
3	1	500	STEEL RPU COATING, LINING SFE	PIPE SECTION FLANGED ONE END 2400mm LONG. CORRECTED LENGTH TO BE DETERMINED ON SITE. FLANGED BOTH ENDS TO SANS 1123 TABLE 1000/3	
4	1	500	STEEL RPU COATING, LINING SFE	EQUAL T WITH CROTCH PLATE. FLANGED TO SANS 1123 TABLE 1000/3. WYE DEPTH = 312mm BASE DEPTH = 312mm TOP DEPTH = 154mm THICKNESS = 25mm	
5	1	500	STEEL RPU COATING, LINING SFE	PIPE SECTION 2783mm LONG FLANGED TO SANS 1123 TABLE 1000/3	
6	2	500	STEEL RPU COATING, LINING SFE	STEEL SHORT RADIUS BEND 90° FLANGED TO SANS 1123 TABLE 1000/3 AS SPECIFIED	
7	1	500	STEEL RPU COATING, LINING SFE	PIPE SECTION 3642mm LONG FLANGED TO SANS 1123 TABLE 1000/3	3642
8	1	500	STAINLESS STEEL	SPECIAL PIPE SECTION 3255mm FLANGED TO SANS 1123 TABLE 1000/3, WITH 45° SHORT RADIUS BEND.	2035, 3255
9	1	500	STAINLESS STEEL	PIPE SECTION 3037mm LONG, WITH PUDDLE FLANGE 500mm FROM OUTER END. FLANGED TO SANS 1123 TABLE 1000/3	500, 3037
10	1	500	STAINLESS STEEL	BELLMOUTH, 760mm OPENING FOR A 500 ND PIPE. LENGTH TO BE CONFIRMED ON SITE. FLANGED TO SANS 1123 TABLE 1000/3.	1000
11	1	500	STAINLESS STEEL	PIPE SECTION 3041mm LONG, WITH PUDDLE FLANGE 500mm FROM OUTER END. FLANGED TO SANS 1123 TABLE 1000/3	500, 3041
12	1	500	STEEL RPU COATING, LINING SFE	PIPE SECTION 4714mm LONG FLANGED TO SANS 1123 TABLE 1000/3	
13	1	500	STEEL RPU COATING, LINING SFE	PIPE SECTION 4091mm LONG FLANGED TO SANS 1123 TABLE 1000/3	

NOTE :

ALL PIPE LENGTH AND SIZES TO BE CONFIRMED ON SITE

GENERAL NOTES:

1. ALL SPECIAL FITTINGS SHALL BE MADE OF STEEL API 5LX42 WITH WALL THICKNESS 6mm OR AS SPECIFIED.
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5. FINISHES
   - 5.1. ALL CONCRETE BELOW GROUND LEVEL - F1
   - 5.2. ALL CONCRETE ABOVE GROUND LEVEL - F2
6. ALL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
7. STAINLESS STEEL TO BE OF GRADE 316

GENERAL NOTES (Concrete):

1. ALL REINFORCEMENT MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. COVER TO REINFORCEMENT MUST BE 40 mm.
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5. ALL EXPOSED CORNERS TO BE CHAMFERED.
6. FOR CHAMBERS LOCATED IN AGGRESSIVE ENVIRONMENT (ACIDIC) THE FOLLOWING SPECIFICATION TO BE USED.

6a. SULPHATE RESISTANT CEMENT TO BE USED.

6b. DOLOMITE AGGREGATES OR SIMILAR FOR pH RESISTANT AGGREGATES TO BE USED.

7. ALL ENCASED PIPES TO BE WRAPPED PRIOR TO ENCASEMENT BY AN ENGINEER APPROVED WRAPPING MATERIAL.
8. NO REBAR TO TOUCH ANY PIPE.

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR OVERFLOW DETAILS

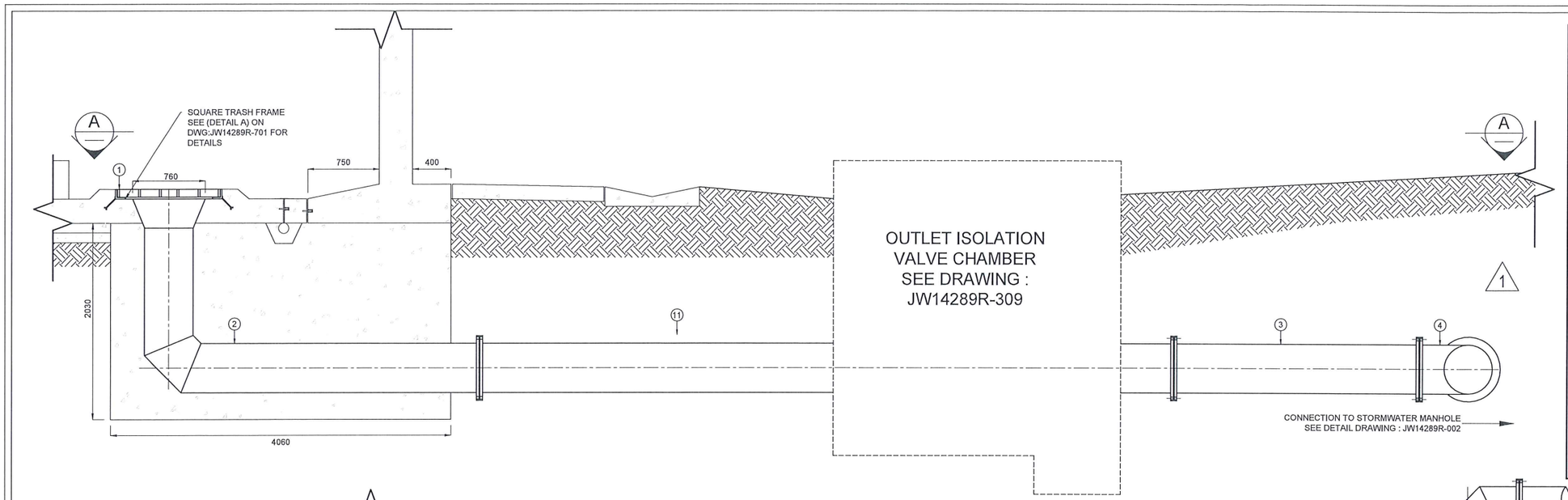
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No. JW14289R-702

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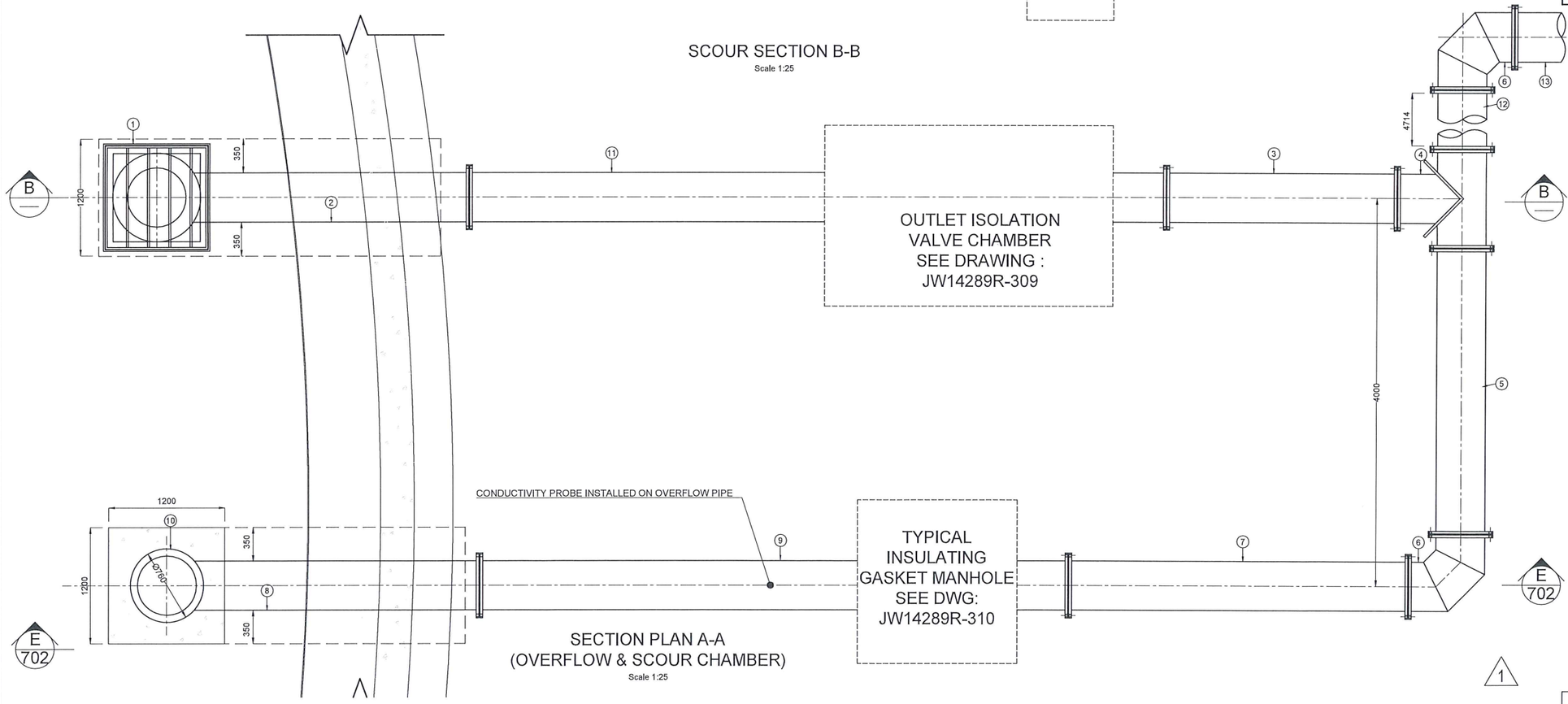
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FILE No.



SCOUR SECTION B-B

Scale 1:25



SECTION PLAN A-A
(OVERFLOW & SCOUR CHAMBER)

Scale 1:25

GENERAL NOTES:

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8. NO REBAR TO TOUCH ANY PIPE.

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR SCOUR AND OVERFLOW DETAILS

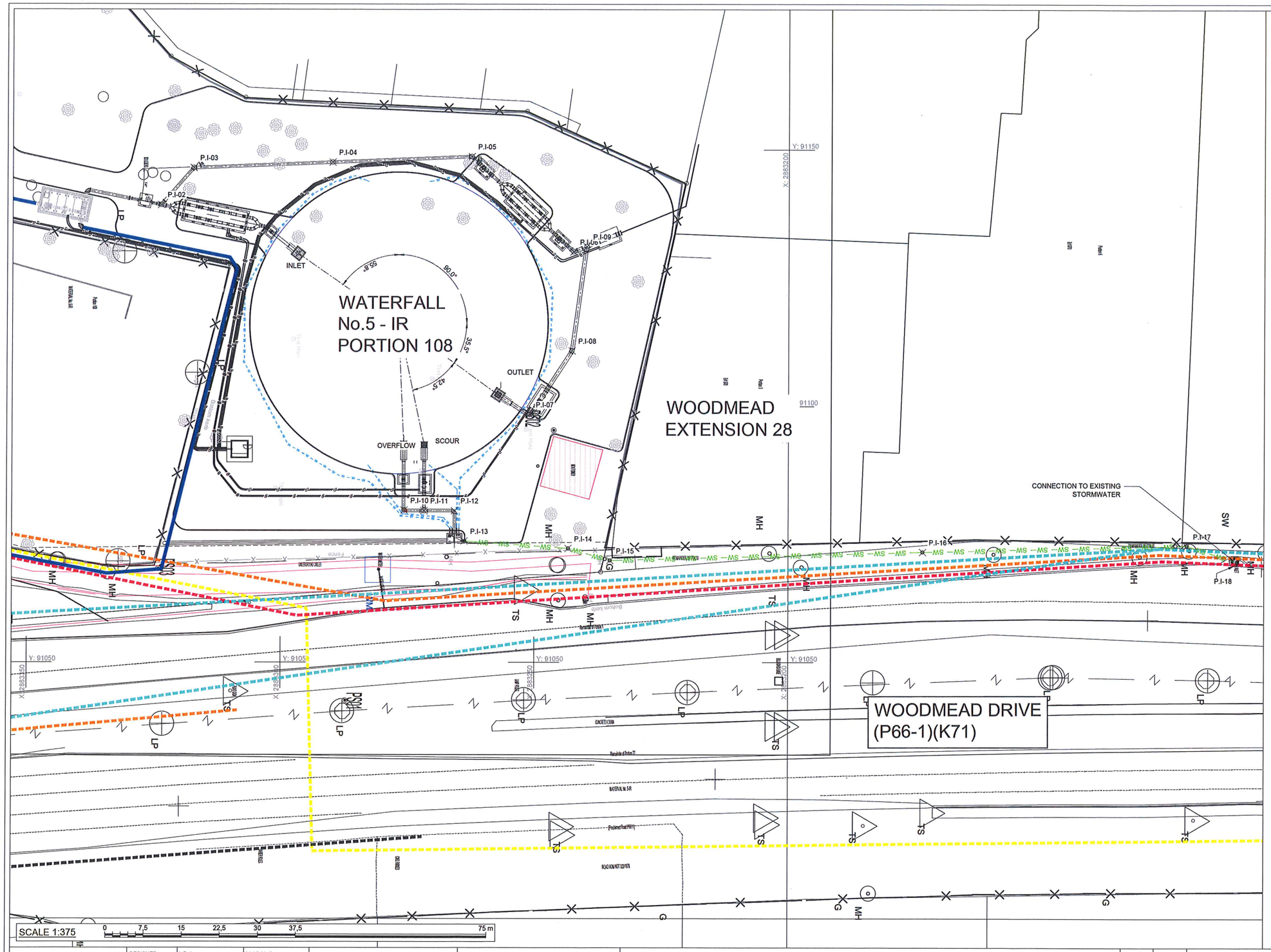
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DRAWING-No. JW14289R-703

JW14289R (PROJECT No.) | 703 (DRAWING No.) - 0 (REV.)

A1 (ORIGINAL PAGE SIZE) SHEET 1 OF 1

FILE No.



CO-ORDINATES WGS84 LO29

POINT	Y	X
P.I-10	91079.753	2883275.636
P.I-11	91079.625	2883271.762
P.I-12	91079.623	2883265.766
P.I-13	91073.709	2883263.842
P.I-14	91072.301	2883243.316
P.I-15	91069.946	2883235.106
P.I-16	91071.589	2883173.536
P.I-17	91072.854	2883121.451
P.I-18	91069.706	2883111.525

CO-ORDINATES WGS84 LO29

POINT	Y	X
SCOUR	91092.452	2883271.763
OVERFLOW	91092.605	2883275.763
OUTLET	91102.253	2883257.238
INLET	91129.759	2883296.744

LEGEND

- EDGE TAR
- FOOT KEB
- TOP KEB
- YELLOW LINE
- DOTTED LINE
- WALK WAY
- WHITE LINE
- POWER LINE/LAMP POLE
- CULVERT
- GENERAL PLAN
- ERVEN
- FARM PORTION
- FENCE
- KERB INLET
- PALISADE FENCE
- UNDERGROUND CABLES
- TRENCHES
- MANHOLES
- ROAD SIGNS
- FIRE HYDRANT
- SERVITUDE
- BARRIER POLES
- BLOCK
- WATER LINE
- BILLBOARD
- BOULDERS
- IRON PEG IN CONCRETE
- BENCHMARKS
- PROPOSED CABLE DUCTS
- RESERVOIR SUB-SURFACE DRAIN
- SCOUR/OVERFLOW/STORMWATER PIPELINE
- EXISTING FENCE
- EXISTING WALL
- EXISTING ACCESS GATE
- CADASTRAL BOUNDARY

EXISTING SERVICES LEGEND :

- ELECTRICAL CABLE
- DFA FIBRE LINE
- TELKOM FIBRE LINE
- MTN LINE
- NEOTEL LINE

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

RESERVOIR SCOUR & OVERFLOW PIPELINE TO STORMWATER MANHOLE

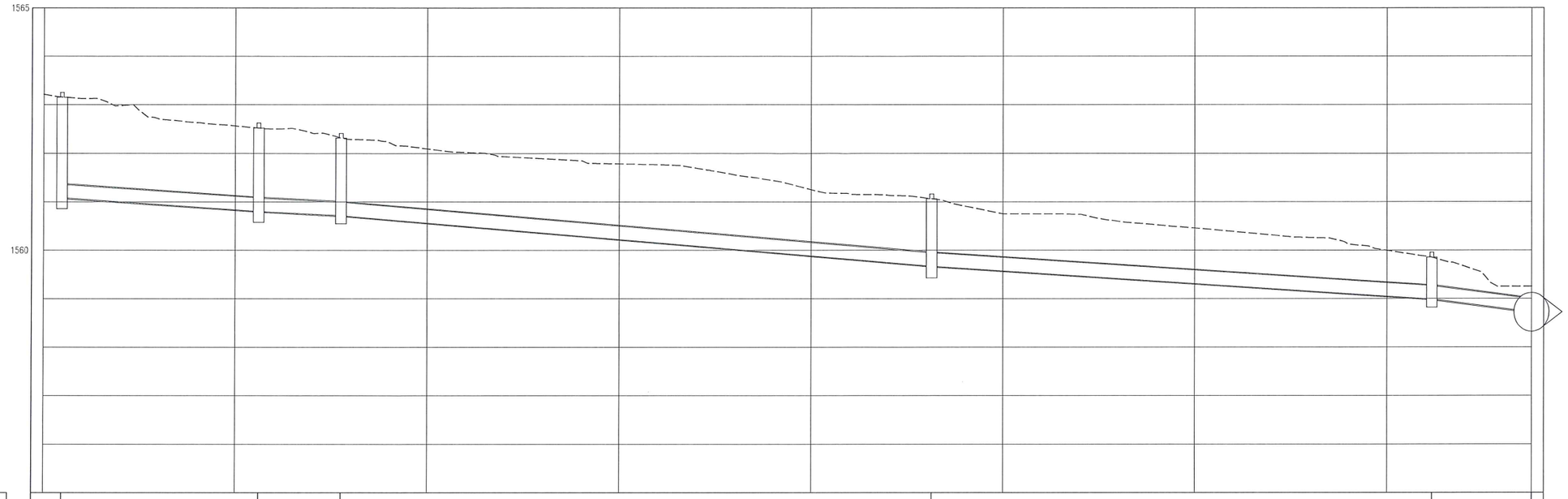
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DRAWING-No. JW14289R-704

JW14289R PROJECT No. | 704 - T DRAWING No. REV.

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.



SCALES:
Horizontal 1:1000
Vertical 1:200

DATUM 1555.000

		MH6		MH5		MH4		MH3		MH2		MH1
REFERENCE			ø315 CLASS 16 uPVC		ø315 CLASS 16 uPVC		ø315 CLASS 16 uPVC		ø315 CLASS 16 uPVC		ø315 CLASS 16 uPVC	
DISTANCE (m)		1.901		22.448		30.990		92.582		144.682		155.095
GROUND LEVEL		1563.247		1562.523		1562.315		1561.062		1559.853		1559.250
PIPE INVERT LEVEL		1561.082		1560.802 1560.802		1560.713 1560.713		1559.670 1559.670		1558.990 1558.990		1558.721
SLOPE / LENGTH			1.36% 1:73.6 20.58m		1.05% 1:95.7 8.54m		1.69% 1:59.0 61.59m		1.30% 1:76.6 52.10m		2.58% 1:38.7 10.41m	
HYDRAULICS	DESIGN Q(m3/s) V(m/s)		0.05 1.4		0.05 2.1		0.05 1.7		0.05 1.6		0.05 1.8	
	MAX. (0.8D) Q(m3/s) V(m/s)		0.10 1.9		0.08 1.6		0.11 2.1		0.10 1.8		0.13 2.6	

LONGSECTION MH6 – MH1
FROM 0.000 TO 155.095

SCALE 1:375 0 7,5 15 22,5 30 37,5 75 m

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Johannesburg Water

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

STORMWATER PIPELINE LONGSECTION

SCALE	REV:	AMENDMENTS	APPROVED DATE:
1:250	T	ISSUE FOR TENDER	20/08/2024

DRAWING-No.JW14289R-705

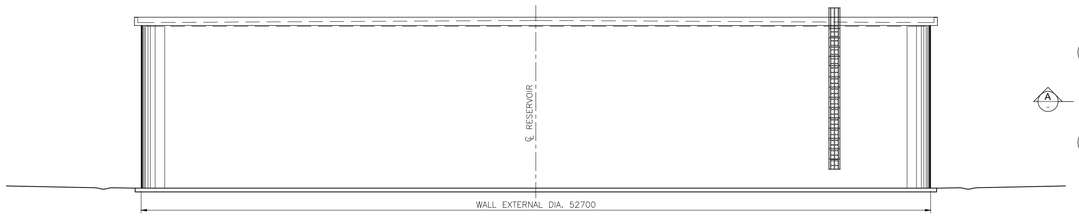
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A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

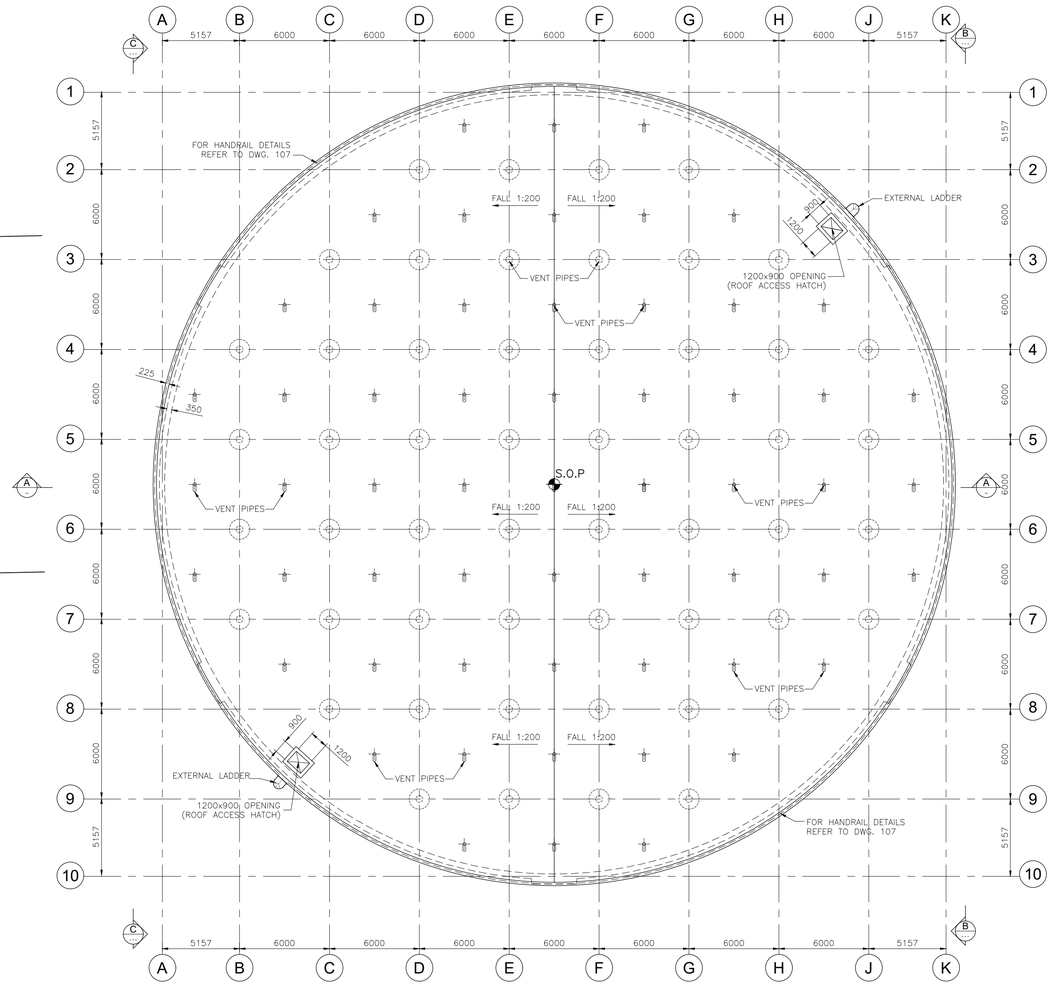
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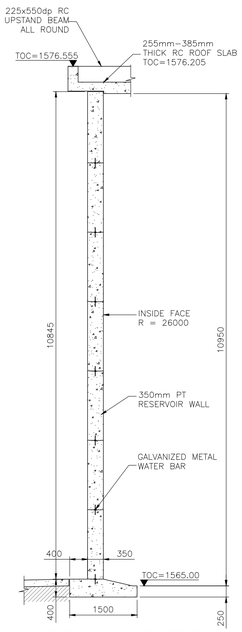
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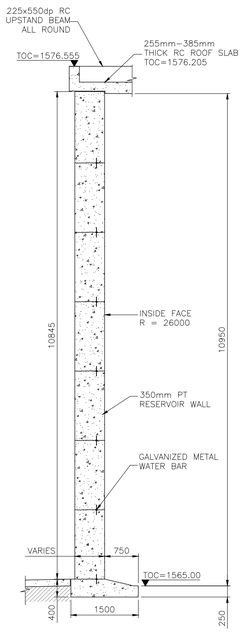
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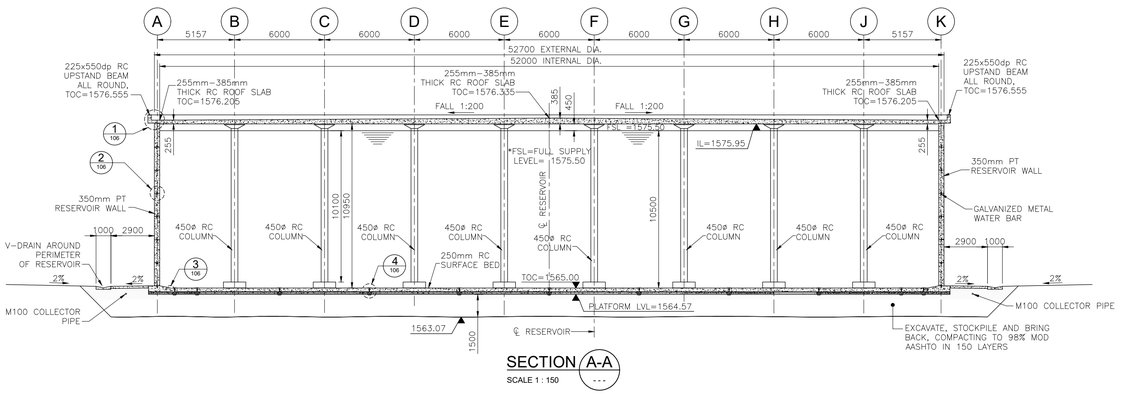
PLAN
SCALE 1 : 150



TYPICAL WALL SECTION
SCALE 1 : 50



WALL SECTION (AT BUTTRESSES)
SCALE 1 : 50



SECTION A-A
SCALE 1 : 150

DESIGN DATA

1. THIS IS A CIRCULAR CONCRETE TANK DESIGN, CAPACITY 22 ML, WALL INNER DIA. 52M. WALL POST TENSIONED, NETT RESIDUAL COMPRESSION UNDER LOAD ROOF CONVENTIONAL REINFORCED SLAB OF TAPERING THICKNESS, SUPPORTED ON COLUMN GRID.

   CONCRETE DESIGN ASSUMPTIONS
   THE DESIGN IS ACCORDING TO THE SERVICE LIMIT STATE METHOD OF BS8007 (1987), AND BS5337
   EXPOSURE CONDITION SEVERE, MAX SERVICE DESIGN CRACK WIDTH OF 0,1MM
   WALL ANALYSED USING "LUSAS" FINITE ELEMENTS.

2. STRUCTURAL LOADING
   LOADING IN ACCORDANCE WITH BS8007
   A) FULL
   B) EMPTY (MOST SEVERE)

   LOADING ASSUMPTIONS
   WALL FOUNDATIONS
   NO PASSIVE PRESSURES DEVELOPING IN FRONT OR REAR OF WALL FOUNDATIONS

   UNIT WEIGHT OF MATERIALS
   REINFORCED CONCRETE : 25 KN/M3

3. CHARACTERISTIC STRENGTHS

CONCRETE ELEMENT	CLASS
WALL & FOUNDATIONS	35/19
ROOF	35/19
FLOOR SLABS	35/19
BLINDING	10/19
NO FINES DRAINAGE	-/38

   STEEL REINFORCEMENT
   ALL REINFORCEMENT TO SABS 920–1985
   A)HIGH TENSILE STEEL MIN. CHARACTERISTICS STRENGTH 450 MPa
   B)YOUNG'S MODULUS 210 GPa

   STRUCTURAL STEELWORK
   ALL FABRICATING STEELWORK TO COMPLY WITH RSA
   SANS 10162 –"THE STRUCTURAL USE OF STEEL" AND SANS 1200H –"STANDARDIZED SPECIFICATIONS FOR CIVIL ENGINEERING CONSTRUCTION – CHAPTER 4, STRUCTURAL STEELWORK.
   ALL STRUCTURAL STEEL TO BE GRADE 350W
   ALL WELDING TO SANS 10044.
   ALL FRAMES AND COVERS TO BE HOT DIPPED GALVANISED TO SANS ISO 1461, AFTER FABRICATION

   PIPING STEELWORK (NOMINAL WALL THICKNESS 6MM)

FITTINGS & SPECIALS	SANS 719
FLANGES	SANS 1123
VALVES	SANS 664
GALVANISING	SANS 763

4. ROOF PERIMETER WALL SUPPORT BEARING "KILCHER LIMITGLISS 3LG200"

5. DEFLECTIONS
   WALL FOUNDATION, EXPECTED INWARD MOVEMENT DURING POST–TENSIONING 4,0MM

6. FOUNDATIONS
   FOR GEOTECHNICAL INFORMATION, SEE REPORT NO. ------ BY "CROSSMAN,PAPE & ASSOCIATES" GEOTECHNICAL ENGINEERS, DATED ------

7. GENERAL
   FORMWORK AND SURFACE FINISH
   FORMED SURFACES
   A)SURFACES BELOW GROUND : F1/ROUGH
   B) " ABOVE GROUND : F2/SMOOTH
   UNFORMED SURFACES
   C)TOP OF ROOF : U2/WOOD FLOATED

   ALL CORNERS TO HAVE 20MM X 20MM CHAMFERS
   MIN COVER TO CONCRETE

A) FLOOR SLABS	50MM
B) WALL FOUNDATIONS	50MM
C) COLUMN FOOTINGS	50MM
D) WALLS	40MM
E) COLUMNS	40MM
F) ROOF SLAB	40MM
G) ALL ELSE	40MM

8. JOINTS
   INTERNAL JOINTS TO RESERVOIR TO BE WATERPROOFED USING 250MM WIDE "HYPALON" STRIP, REINFORCED WITH STAINLESS STEEL BACKING STRIP.

9. INTERNAL FLOOR SLABS TO BE CAST MIN 3 MONTHS AFTER WALL STRESSING TO ALLOW FOR CREEP & SHRINKAGE.

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DRAWN	S.S		05/05/2015
CHECKED	D.G		07/10/2019
APPROVED BY: K. MUJAJI	SIGNATURE		31/07/2024 DATE
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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

GENERAL ARRANGEMENT

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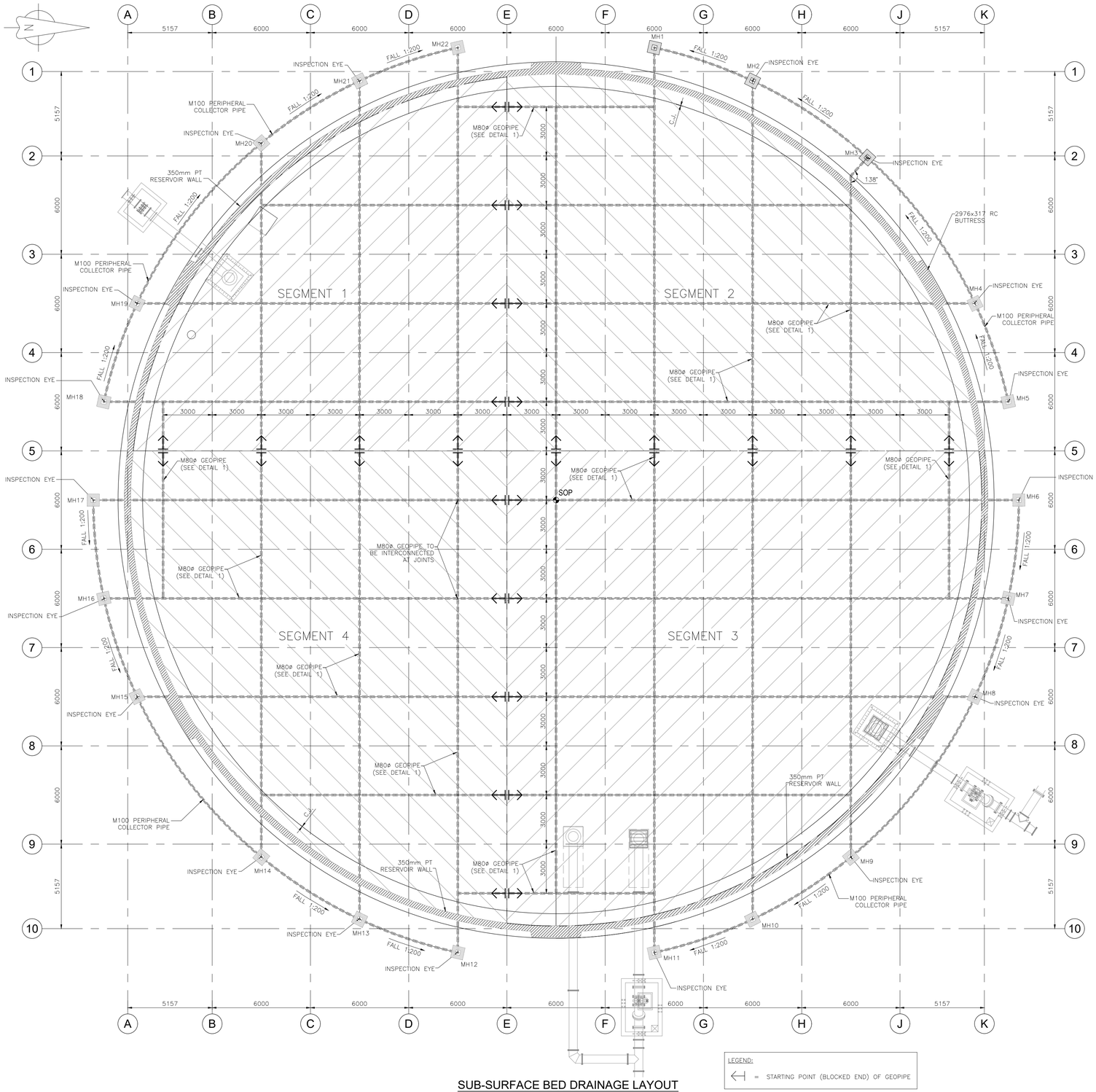
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JW14289R PROJECT No. | 102 DRAWING No. | T REV.

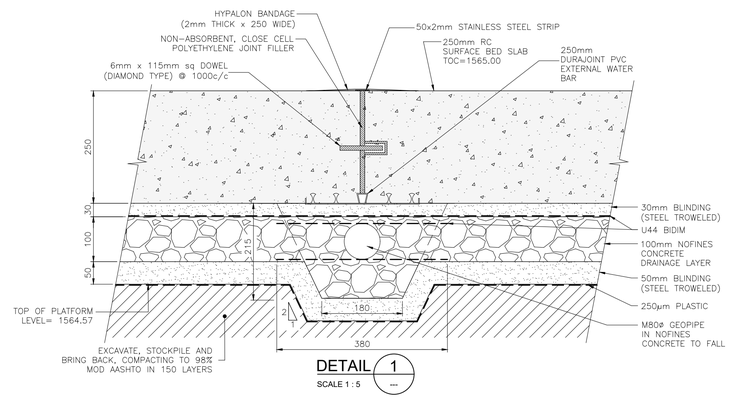
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FILE No.

FOR GENERAL NOTES REFER TO DWG 102



SUB-SURFACE BED DRAINAGE LAYOUT
SCALE 1 : 100



DETAIL 1
SCALE 1 : 5

FOR PIPE DETAILS REFER TO DRAWINGS: JW13037-700 to 703

DWG. No.	DESCRIPTION
111	SUB-SURFACE DRAINAGE LONG SECTIONS AND MANHOLE DETAILS
REFERENCE DRAWINGS	

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

SUB-SURFACE DRAINAGE LAYOUT

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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

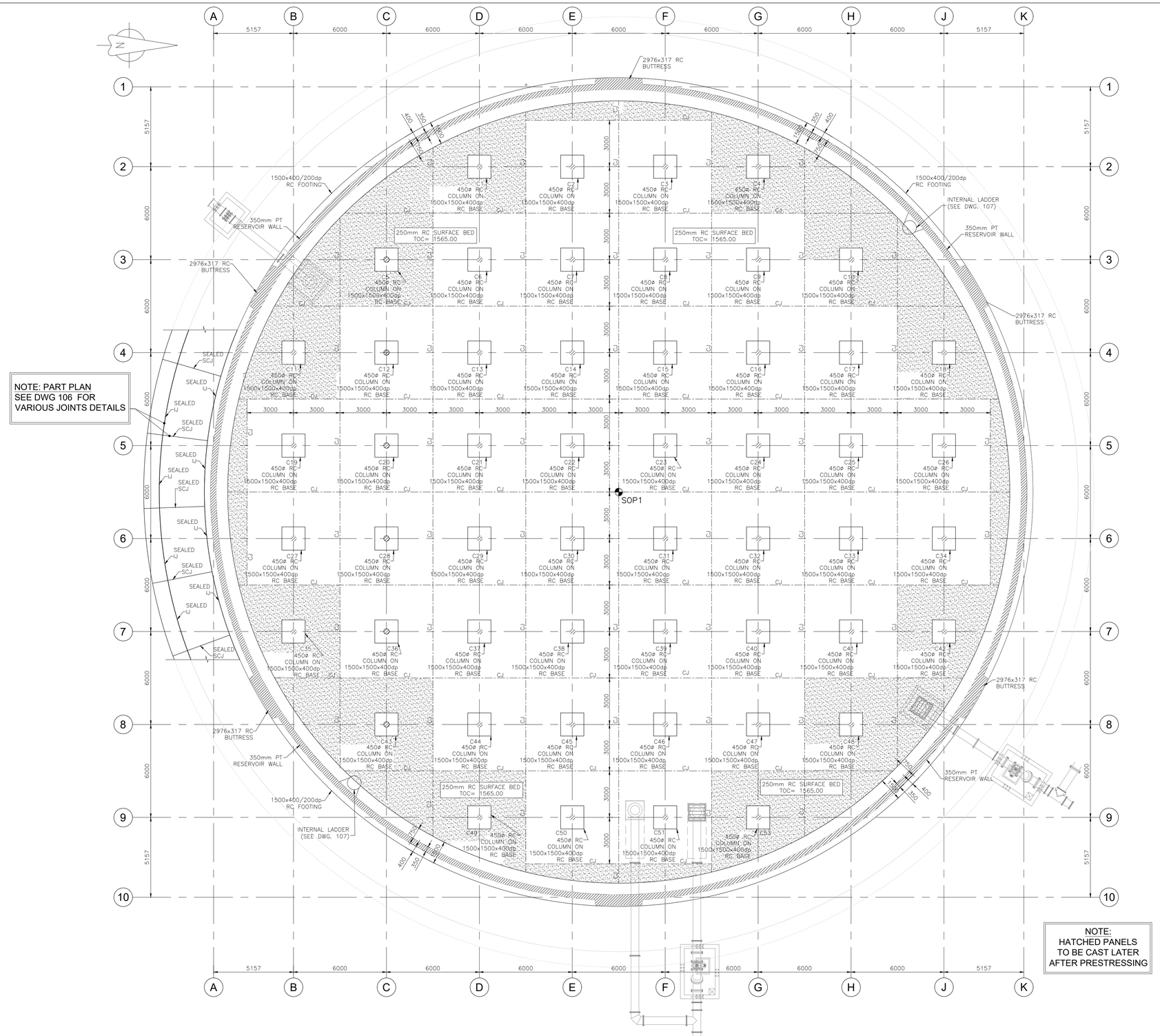
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JW14289R PROJECT No. | 103 DRAWING No. | T REV.

A0 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.

FOR GENERAL NOTES REFER TO DWG 102



NOTE: PART PLAN
SEE DWG 106 FOR
VARIOUS JOINTS DETAILS

NOTE:
HATCHED PANELS
TO BE CAST LATER
AFTER PRESTRESSING

LEGEND

HATCHED PANEL TO BE CAST AFTER PRE-STRESSING OF WALL

C.J CAST JOINT (NO REBAR GOES THRU)

IJ = ISOLATION JOINT

SCJ = SAW CUT JOINT

FOR PIPE DETAILS REFER TO DRAWINGS: JW13037-700 to 703

DWG. No.	DESCRIPTION
111	SUB-SURFACE DRAINAGE LONG SECTIONS AND MANHOLE DETAILS
REFERENCE DRAWINGS	

FOUNDATION & SURFACE BED LAYOUT

SCALE 1 : 100

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FOUNDATION & SURFACE BED LAYOUT

SCALE	REV:	AMENDMENTS	APPROVED DATE:
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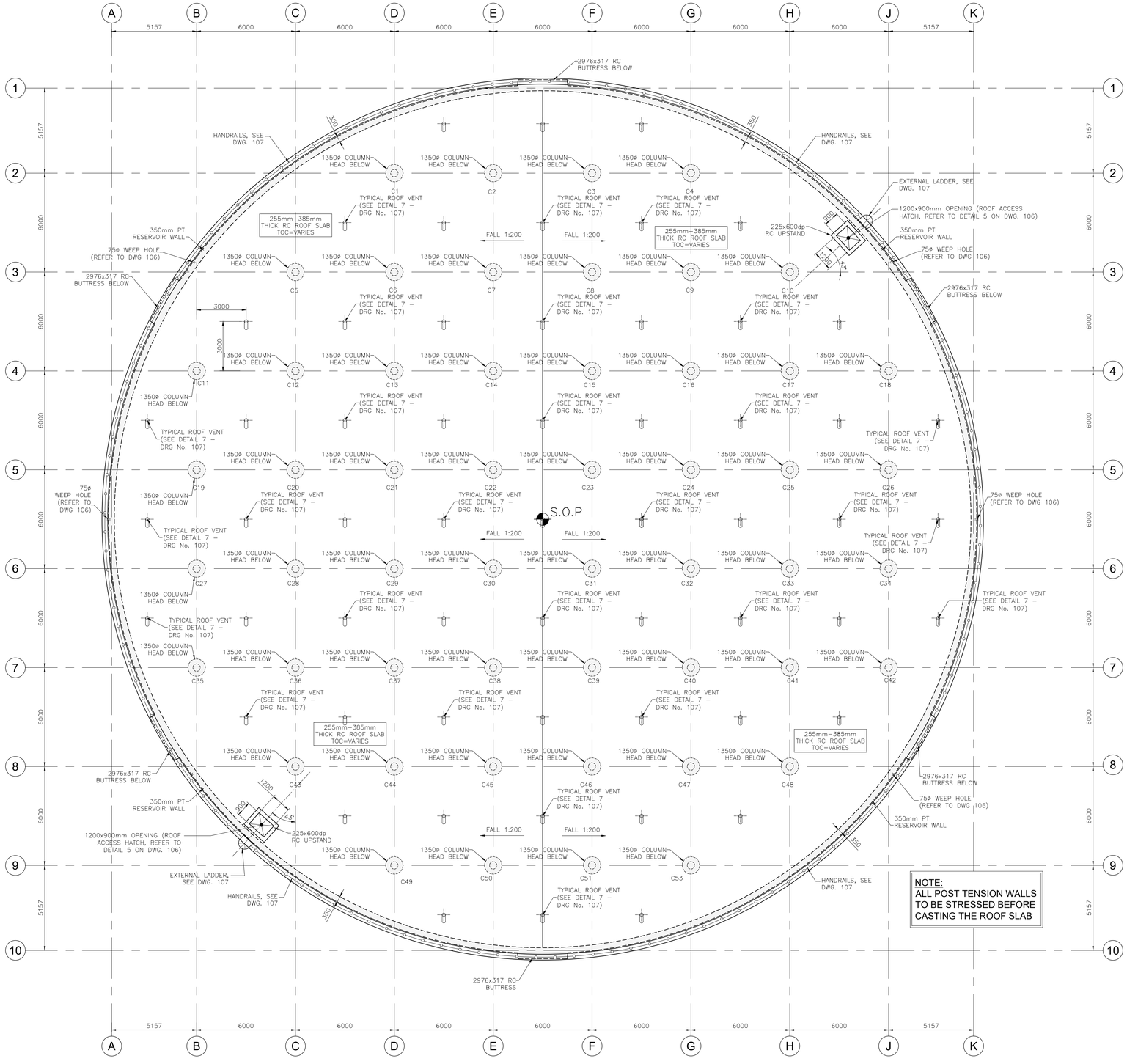
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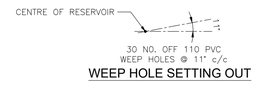
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FILE No.

FOR GENERAL NOTES REFER TO DWG 102



ROOF LAYOUT
SCALE 1 : 100



WEEP HOLE SETTING OUT

DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
106	SECTIONS AND DETAILS
107	MISCELLANEOUS DETAILS
REFERENCE DRAWINGS	

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

ROOF LAYOUT

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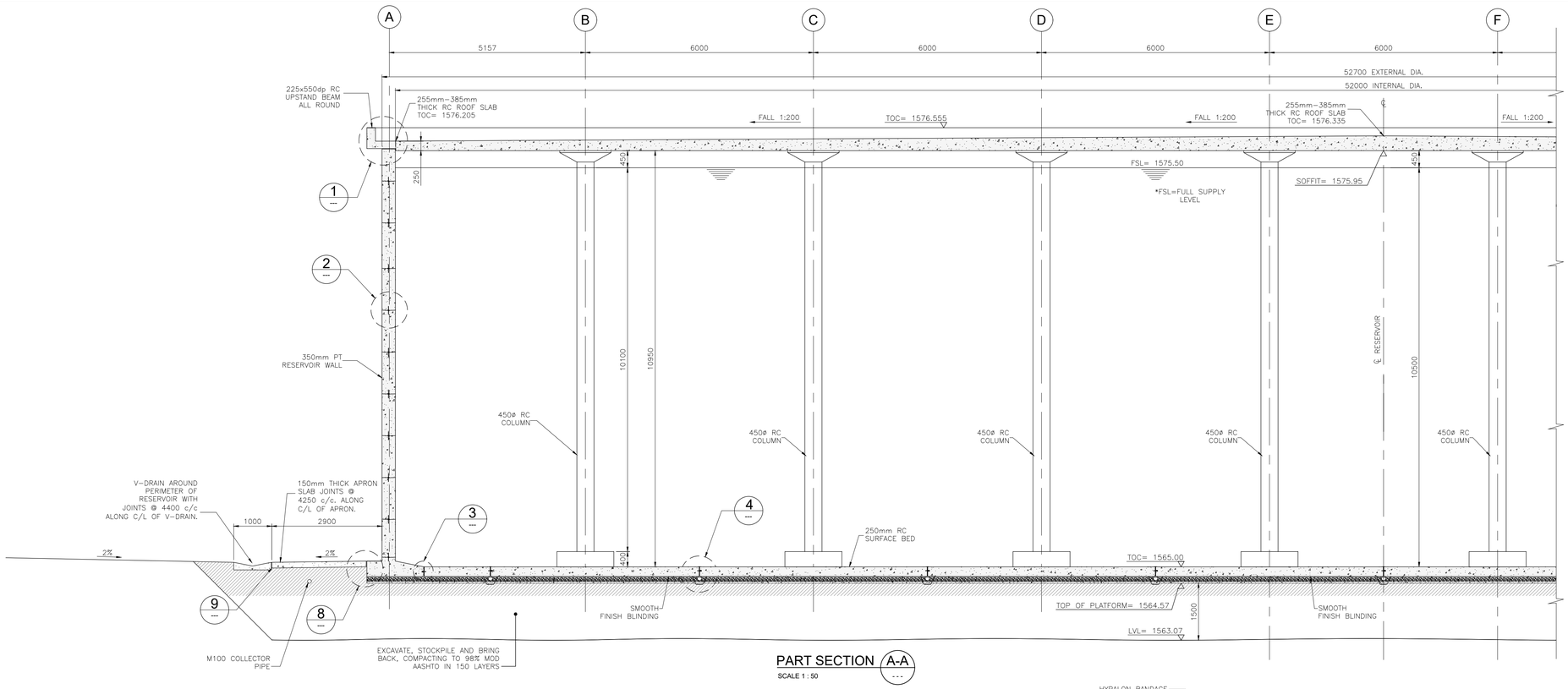
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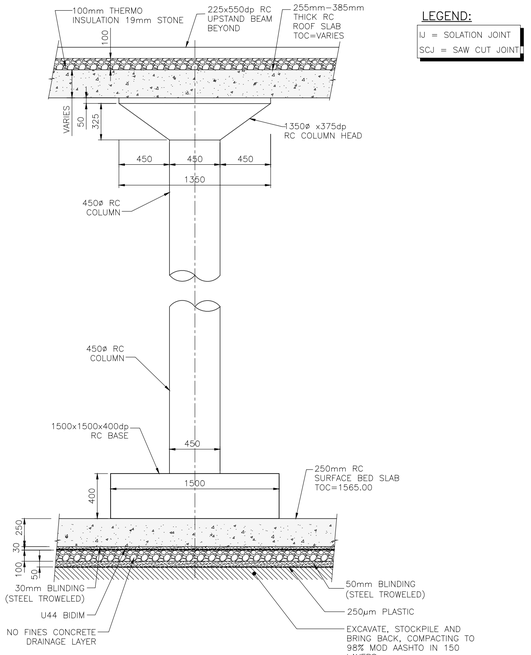
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FOR GENERAL NOTES REFER TO DWG 102



PART SECTION A-A

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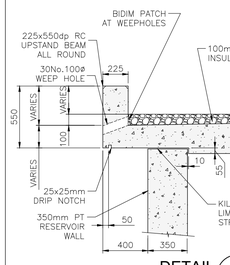
LEGEND:

IJ = SOLATION JOINT

SCJ = SAW CUT JOINT

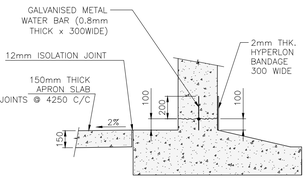
TYPICAL COLUMN DETAIL

SCALE 1 : 20



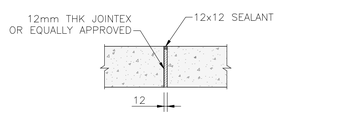
DETAIL 1

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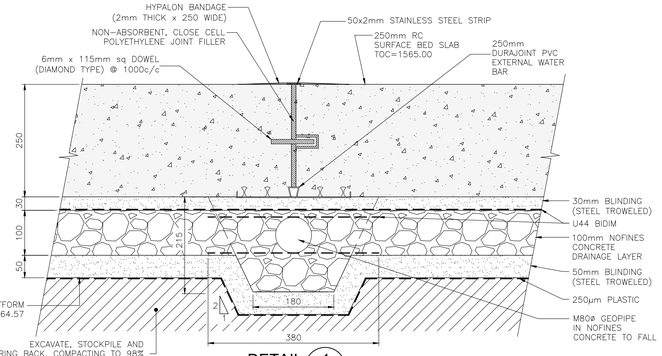
DETAIL 8

SCALE 1 : 20



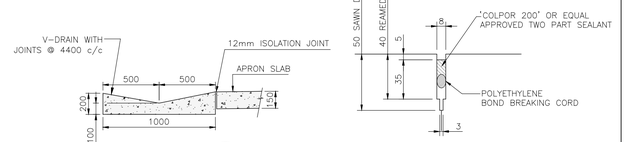
ISOLATION JOINT (I.J.) DETAIL

SCALE 1 : 10



DETAIL 4

SCALE 1 : 5

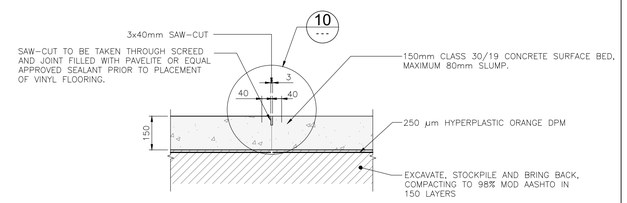


DETAIL 9

SCALE 1 : 20

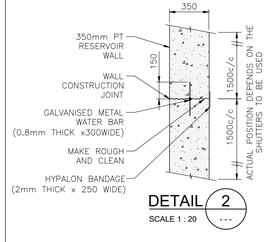
DETAIL 10

SCALE 1 : 2



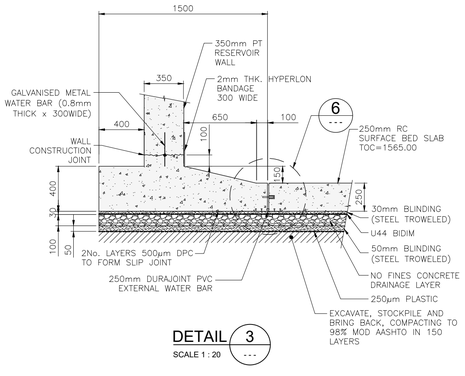
SAW CUT JOINT (SCJ) TYPICAL DETAIL

SCALE 1 : 10



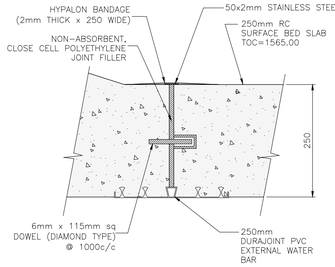
DETAIL 2

SCALE 1 : 20



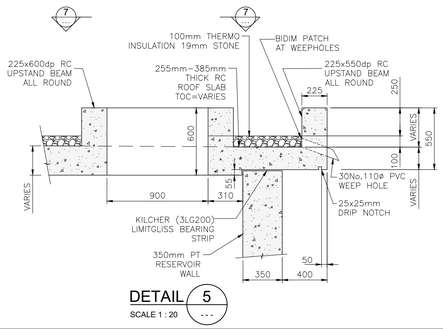
DETAIL 3

SCALE 1 : 20



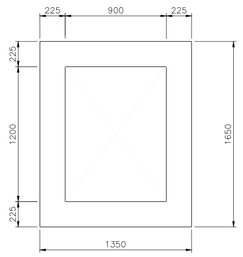
DETAIL 6

SCALE 1 : 5



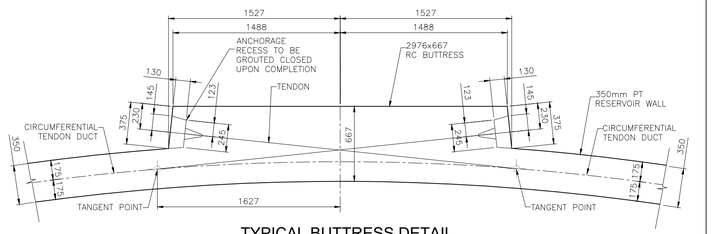
DETAIL 5

SCALE 1 : 20



PLAN 7-7

SCALE 1 : 20



TYPICAL BUTTRESS DETAIL

SCALE 1 : 20

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SECTIONS AND DETAILS

SCALE	REV:	AMENDMENTS	APPROVED DATE:
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DRAWING No: JW14289R - 106

PROJECT No. JW14289R

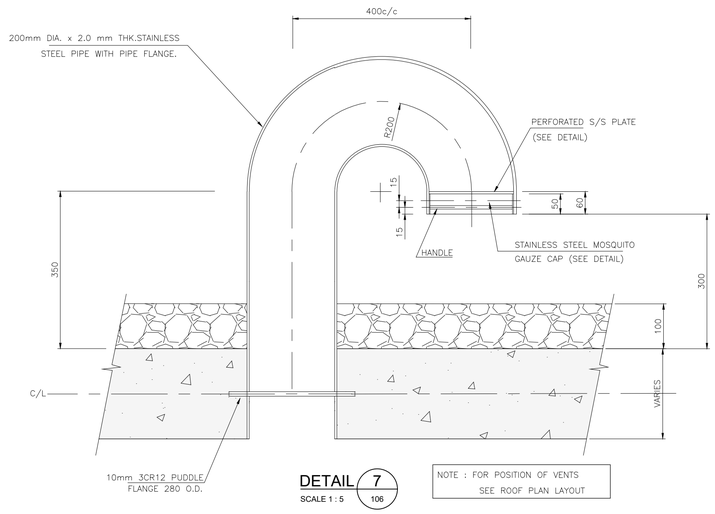
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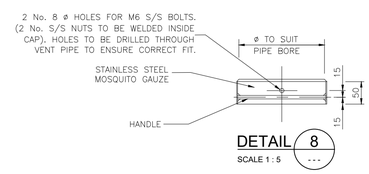
FOR GENERAL NOTES REFER TO DWG 102



DETAIL 7 / 106

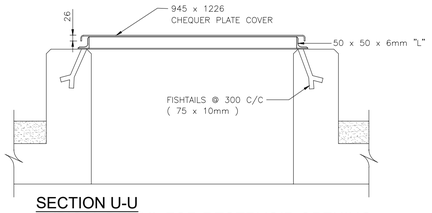
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NOTE : FOR POSITION OF VENTS SEE ROOF PLAN LAYOUT



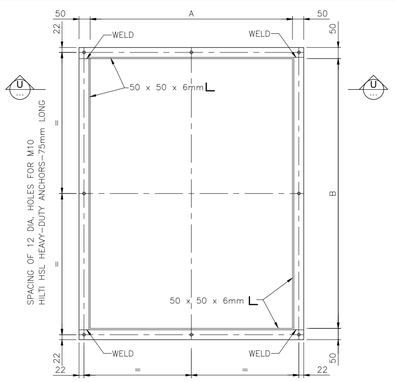
DETAIL 8 / ---

SCALE 1 : 5



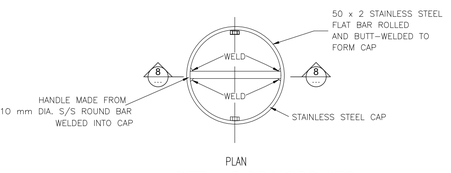
SECTION U-U
TYPICAL DETAIL FOR RESERVOIR OPENING

SCALE 1 : 10



PLAN ON FRAME OF ROOF ACCESS HATCH

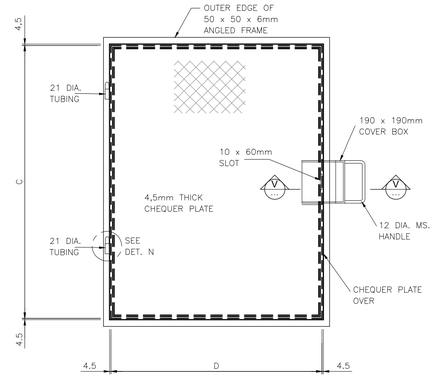
SCALE 1 : 10



PLAN

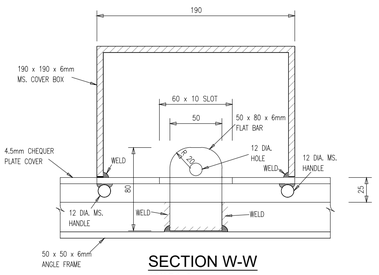
DETAILS OF MOSQUITO GAUZE CAP

SCALE 1 : 5



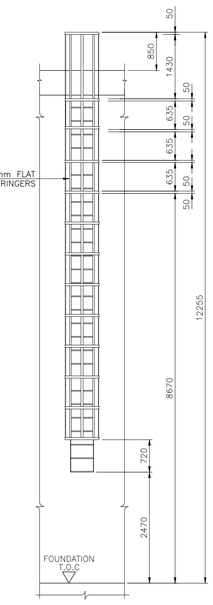
PLAN ON ROOF ACCESS HATCH COVER

SCALE 1 : 10



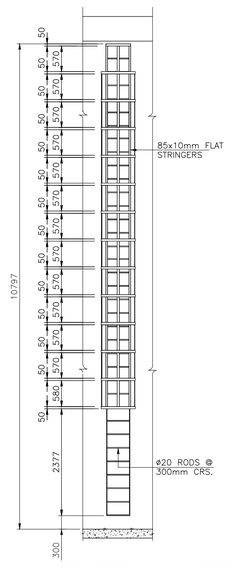
SECTION W-W

SCALE 1 : 2



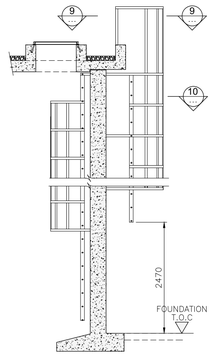
OUTSIDE VERTICAL LADDER

SCALE 1 : 50



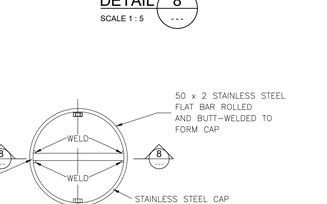
INSIDE VERTICAL LADDER

SCALE 1 : 50



VERTICAL LADDER SECTION

SCALE 1 : 50

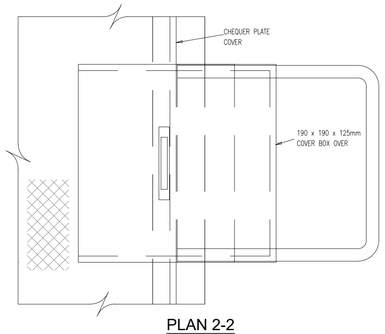


PERFORATED PLATE DETAIL

SCALE 1 : 5

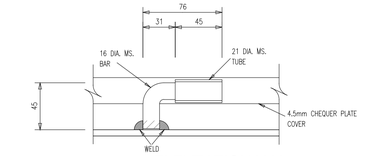
SECTION V-V

SCALE 1 : 2



PLAN 2-2

SCALE 1 : 2



ELEVTATION X-X

SCALE 1 : 2

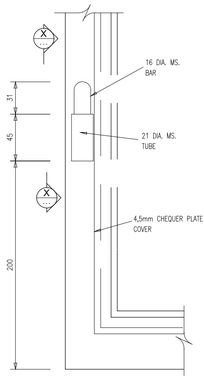
SECTION 9-9 / ---

SCALE 1 : 20



SECTION 10-10 / ---

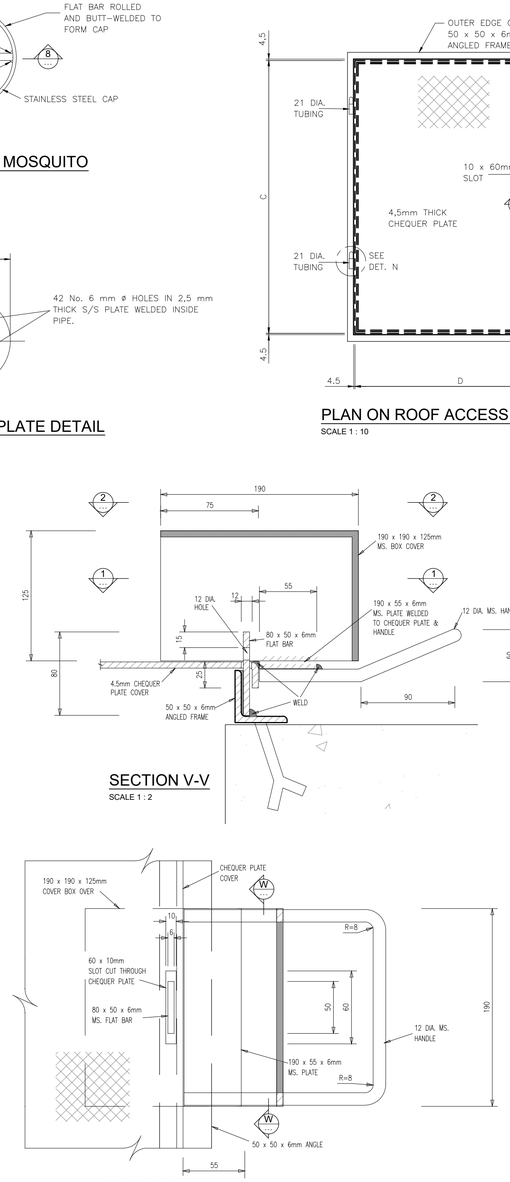
SCALE 1 : 20



DETAIL N

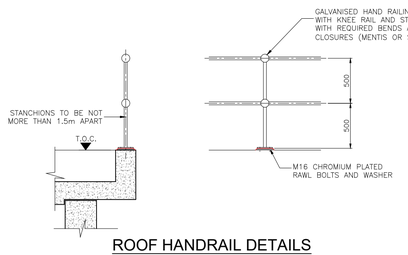
SCALE 1 : 2

SCHEDULE OF FRAMES & COVER PLATES					
LOCATION	No. OFF	A	B	C	D
ROOF ACCESS HATCH	ONE	900	1 200	1 217	936



PLAN 1-1

SCALE 1 : 2



ROOF HANDRAIL DETAILS

SCALE 1 : 25

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DRAWN	S.S	05/05/2015
CHECKED	D.G	07/10/2019
APPROVED BY: K. MUJAJI	SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143	
CHECKED		
APPROVED BY: E. MUDAU	SIGNATURE	DATE
ECSA REG. No.		

Johannesburg Water

TURBINE HALL
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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

MISCELLANEOUS DETAILS

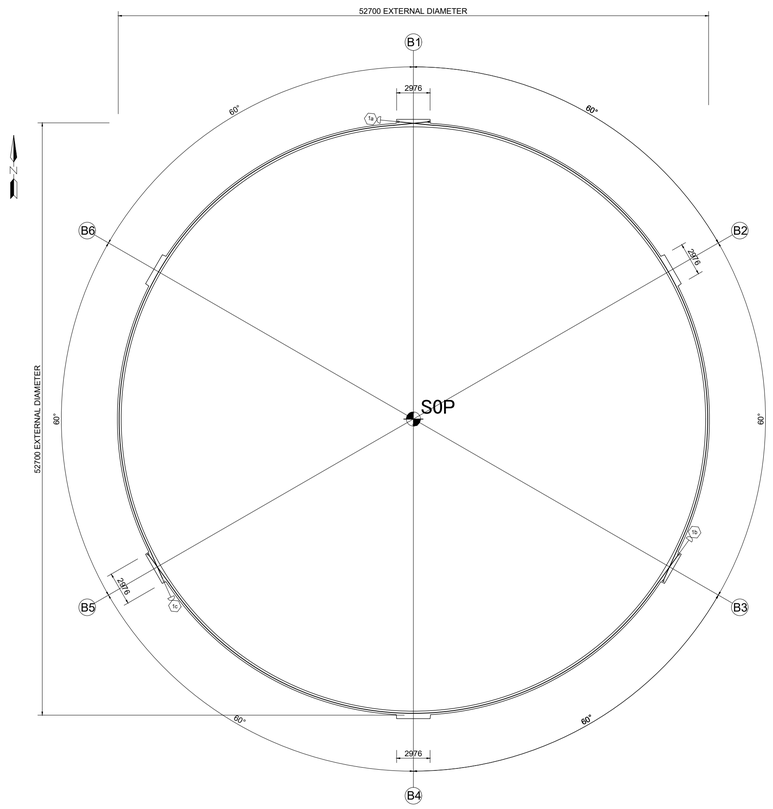
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R - 107

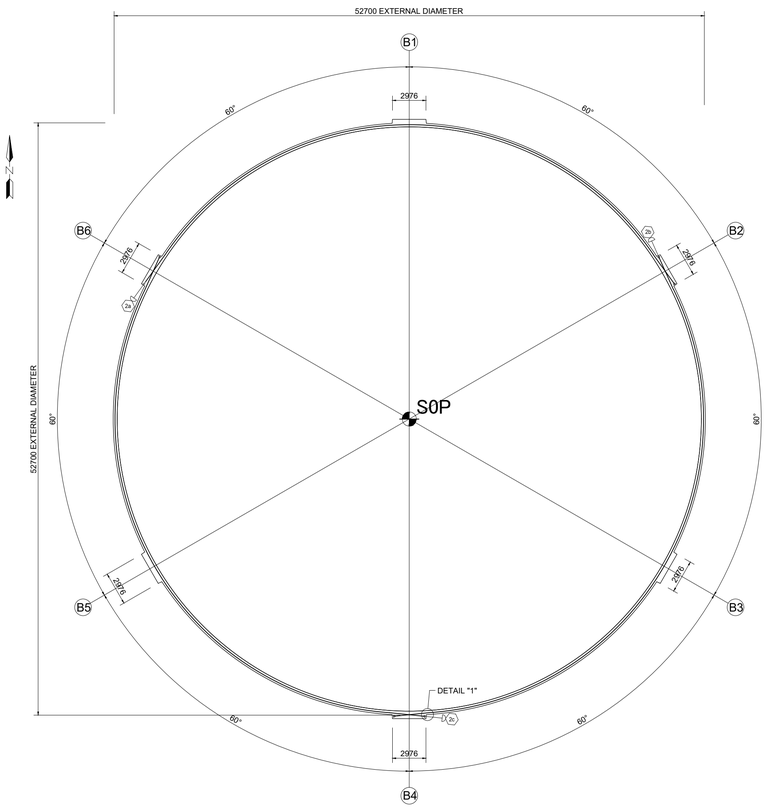
JW14289R — PROJECT No.
107 - T — DRAWING No. / REV.
A0 — ORIGINAL PAGE SIZE
SHEET 1 OF 1
FILE No.

PRESTRESSING NOTES

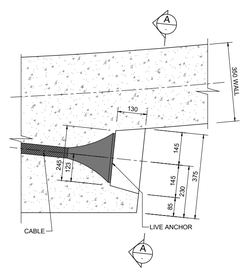
1. PRESTRESSING STEEL TO COMPLY WITH THE REQUIREMENTS OF BS:5896 (LATEST EDITION) AND TO HAVE A GUARANTEED TENSILE STRENGTH OF MINIMUM 1860 MPa.
2. TENDON JACKING TO 75% UTS.
3. TENDONS TO BE JACKED FROM BOTH ENDS.
4. THE 3 ADJACENT TENDONS COVERING THE FULL CIRCUMFERENCE OF THE RESERVOIR, TO BE JACKED AS A SET.
5. ALTERNATE LAYERS OF TENDON SETS TO BE JACKED ON FIRST PASS SO AS TO PROGRESSIVELY INCREASE THE FORCE ON THE RESERVOIR WALL.
6. THE APPLICATION OF STRESSING SHALL NOT COMMENCE UNTIL:–
   i) CONCRETE HAS ATTAINED A COMPRESSIVE STRENGTH OF MIN 35 MPa – (50% STRESSING)
   ii) 28 DAYS OLD – (100% STRESSING).
7. THE DETAIL P/T CABLE LAYOUT AND METHOD STATEMENT SHALL BE SUBMITTED BY THE PRESTRESSING SPECIALIST FOR APPROVAL BY THE ENGINEER AT LEAST ONE MONTH PRIOR TO COMMENCEMENT OF CONSTRUCTION.
8. THE FOLLOWING DESIGN FACTORS HAVE BEEN ASSUMED FOR THE POST TENSIONING
   i) DUCT WOBBLE FACTOR, k = 0,0017/m
   ii) FRICTION FACTOR, Mu = 0,18/rad
   iii) RELAXATION LOSS OF TENDONS = 2,5% MAX
   IV) ASSUMED ANCHORAGE PULL IN = 6mm.
9. THE TENDON/ANCHORING ARRANGEMENT SHOWN ON THIS DRAWING IS BASED ON FREYSSINET'S SYSTEM UTILISING
   i) 15.7mm DIA LR SUPER STRAND BY "HAGGI" UTS 1590 MPa/265kN
   ii) C RANGE ANCHORS (6C15)
   iii) DUCTS SHEATHS SUPERLITE DIA 65mm ID (TO MATCH ANCHOR).
10. STRESSING TO BE ACHIEVED BY JACKING OF COMPLETE TENDON ANCHORAGE. SINGLE STRANDS MAY ONLY BE JACKED WITH ENGINEER'S PRIOR APPROVAL.
11. ANCHORAGE BURSTING REINFORCEMENT HAS BEEN PROVIDED FOR, TO BE VERIFIED BY ANCHORAGE SUPPLIER. SPIRALS TO BE SUPPLIED BY CONTRACTOR.
12. OTHER EQUIVALENT AND APPROVED JACKING SYSTEMS WITH DIFFERENT DESIGN PARAMETERS MAY BE ADOPTED, PROVIDED ADJUSTMENT IS MADE, AND WITH PRIOR APPROVAL BY THE ENGINEER.
13. SHEATH GROUTING TO BE "CONBEXTRA P" AS SUPPLIED BY FOSROC(PTY)LTD, OR EQUAL EXPOSED ANCHORAGE PROJECTING ENDS TO BE GROUTED CLOSED USING NON-SHRINK CEMENTITIOUS GROUT TO ENSURE DURABILITY.



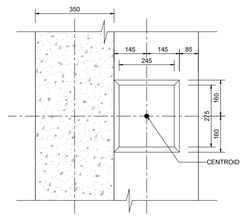
TENDON LAYOUT: B1 TO B3, B3 TO B5 AND B5 TO B1
SCALE 1 : 200



TENDON LAYOUT: B2 TO B4, B4 TO B6 AND B6 TO B2
SCALE 1 : 200



DETAIL "1"
SCALE 1:10



SECTION A-A
SCALE 1:10

DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
106	SECTIONS AND DETAILS
109	POST TENSION LAYOUT (SHEET 2 OF 2)
401	WALL AND COLUMNS REINFORCEMENT LAYOUT
REFERENCE DRAWINGS	

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR
POST TENSION LAYOUT AND DETAILS

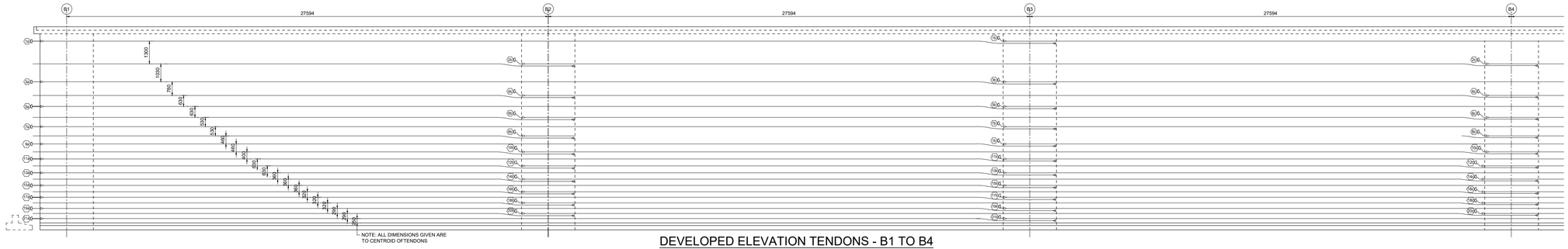
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-108

JW14289R PROJECT No. | 108 DRAWING No. | – | T REV.

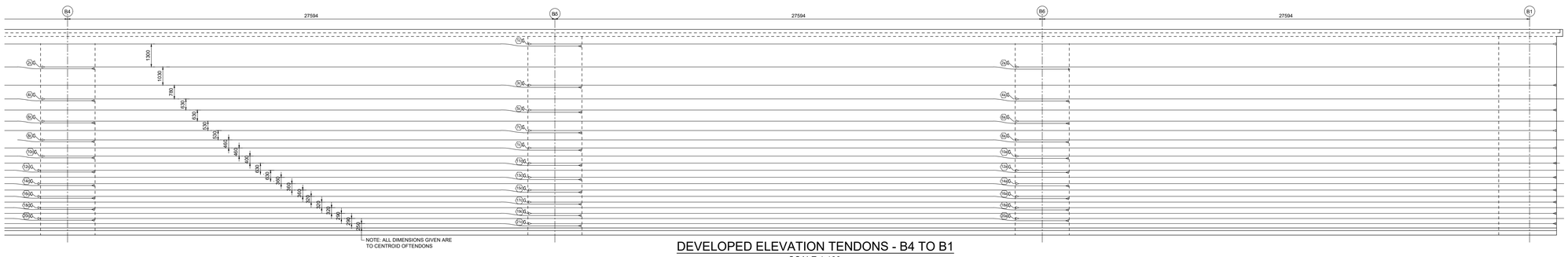
A0 ORIGINAL PAGE SIZE | SHEET 1 OF 2

FILE No.



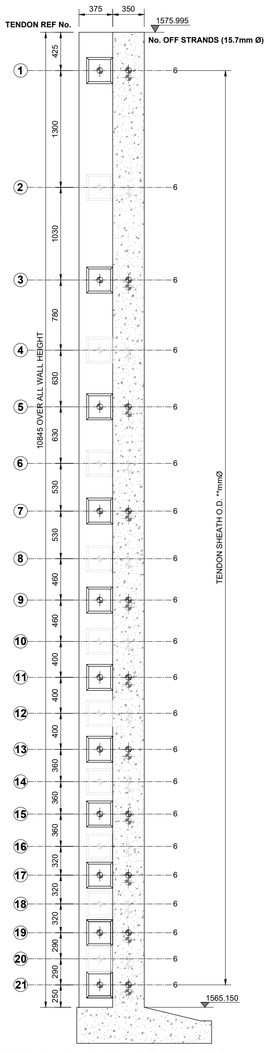
DEVELOPED ELEVATION TENDONS - B1 TO B4

SCALE 1:100



DEVELOPED ELEVATION TENDONS - B4 TO B1

SCALE 1:100



SECTION THOUGH RESERVOIR WALL & BUTTRESS SHOWING CABLE DETAILS

SCALE 1 : 25

TENDON No.	OVERALL LENGTH (m)	STRANDS/ TENDON	U.T.S TENDON (KN)	JACKING FORCE (75% U.T.S) (KN)
1	57.9	6	1590	1192.5
2	57.9	6	1590	1192.5
3	57.9	6	1590	1192.5
4	57.9	6	1590	1192.5
5	57.9	6	1590	1192.5
6	57.9	6	1590	1192.5
7	57.9	6	1590	1192.5
8	57.9	6	1590	1192.5
9	57.9	6	1590	1192.5
10	57.9	6	1590	1192.5
11	57.9	6	1590	1192.5
12	57.9	6	1590	1192.5
13	57.9	6	1590	1192.5
14	57.9	6	1590	1192.5
15	57.9	6	1590	1192.5
16	57.9	6	1590	1192.5
17	57.9	6	1590	1192.5
18	57.9	6	1590	1192.5
19	57.9	6	1590	1192.5
20	57.9	6	1590	1192.5
21	57.9	6	1590	1192.5

PRE-STRESSING 7457.3 MNm
TOTAL No. TENDONS = 63, THUS 126 No. ANCHORS

DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
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108	POST TENSION LAYOUT (SHEET 1 OF 2)
401	WALL AND COLUMNS REINFORCEMENT LAYOUT
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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

POST TENSION LAYOUT AND DETAILS

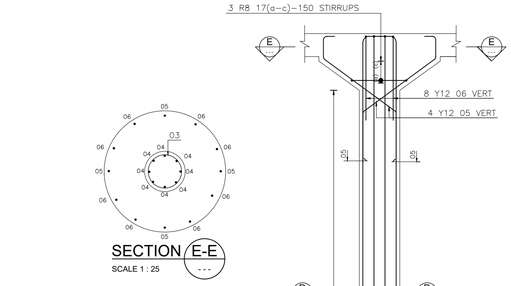
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-109

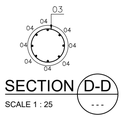
JW14289R PROJECT No. | 109 DRAWING No. | T REV.

A0 ORIGINAL PAGE SIZE | SHEET 2 OF 2

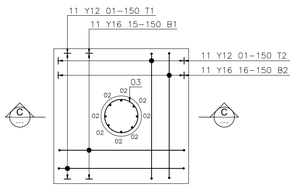
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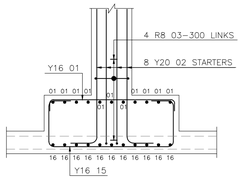
SECTION E-E
SCALE 1 : 25



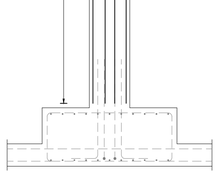
SECTION D-D
SCALE 1 : 25



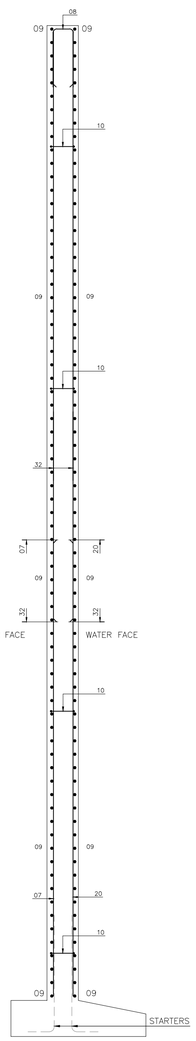
COLUMN AND BASE
52 REQUIRED
SCALE 1 : 25



SECTION C-C
SCALE 1 : 25

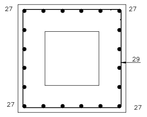


COLUMN REINFORCEMENT
52 REQUIRED
SCALE 1 : 25

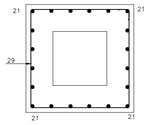


SECTION A-A
SCALE 1 : 25

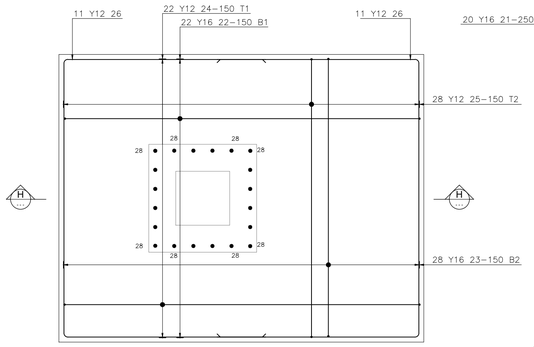
NB: COVER TO THIS COLUMN = 50mm



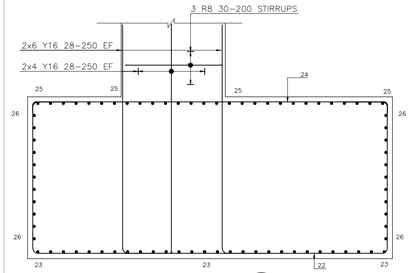
SECTION F-F
SCALE 1 : 25



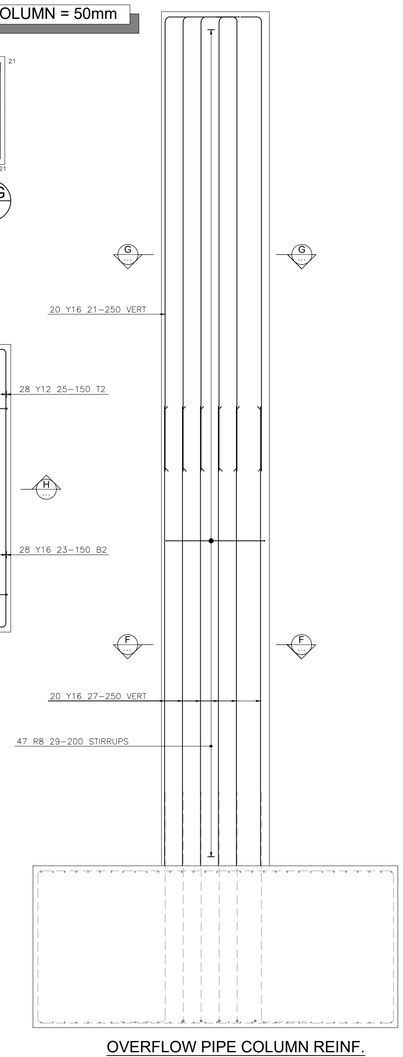
SECTION G-G
SCALE 1 : 25



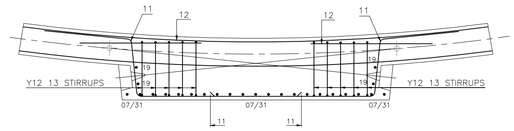
OVERFLOW PIPE BASE & STARTER BARS
1 REQUIRED
SCALE 1 : 25



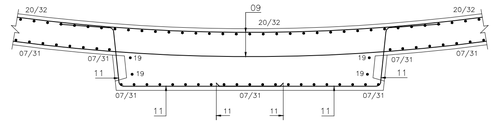
SECTION H-H
SCALE 1 : 25



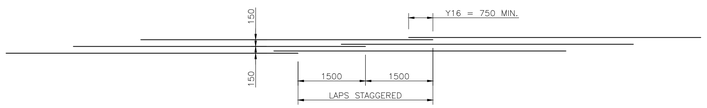
OVERFLOW PIPE COLUMN REINF.
1 REQUIRED
SCALE 1 : 25



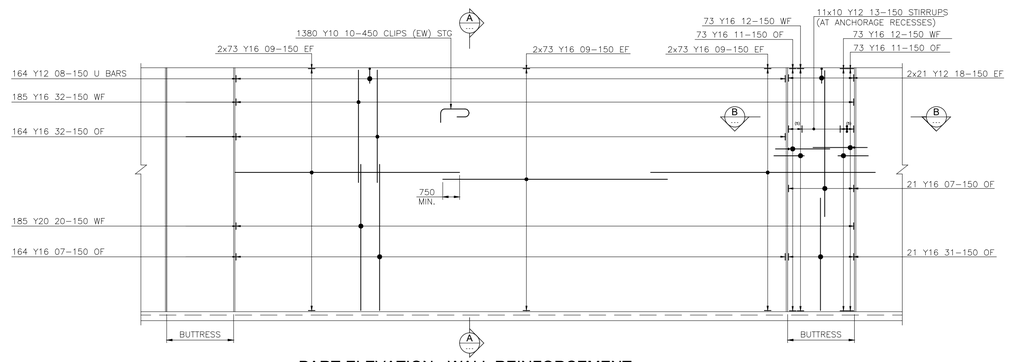
TYPICAL REBAR DETAIL AT ANCHORAGE RECESS
SCALE 1 : 25



TYPICAL SECTION B-B ON BUTTRESS REBAR
SCALE 1 : 25



TYPICAL BAR STAGGERING DETAIL
SCALE 1 : 50



PART-ELEVATION - WALL REINFORCEMENT
(FROM BUTTRESS TO BUTTRESS)
6 REQUIRED
SCALE 1 : 100

REINFORCEMENT NOTES:

1. REINFORCEMENT TO SANS 920:2011 AND SANS 282:2011
2. CONCRETE COVER TO REINFORCEMENT:
   - SURFACE BED – 50mm
   - WALL STRIP FOOTINGS – 50mm.
   - COLUMN PAD FOOTINGS – 50mm.
   - WALLS – 40mm.
   - COLUMNS – 40mm.
   - ROOF SLAB – 30mm.
   - ROOF UPSTAND BEAM – 30mm.
3. MINIMUM LAP LENGTH FOR REINFORCEMENT BARS = 45 x SMALLEST BAR DIAMETER TO BE LAPPED.

REINFORCING LEGEND:

T	–	TOP
M	–	MIDDLE
B	–	BOTTOM
T1	–	FIRST TOP LAYER
T2	–	SECOND TOP LAYER
B1	–	FIRST BOTTOM LAYER
B2	–	SECOND BOTTOM LAYER
ABR	–	ALTERNATE BARS REVERSED
ALT	–	ALTERNATING BARS
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
EW	–	EACH WAY
WF	–	WATER FACE
OF	–	OUTER FACE

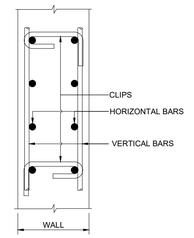
REINFORCING NOTATION:

10 – Y12– A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

CLIPS:

CLIPS TO BE PLACED AS SHOWN



NOTE:

HORIZONTAL REINFORCEMENT IN WALL TO BE STAGGERED

DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
104	FOUNDATION AND SURFACE BED LAYOUT
105	ROOF LAYOUT
106	SECTIONS AND DETAILS
REFERENCE DRAWINGS	

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DRAWN	S.S		05/05/2015
CHECKED	D.G		07/10/2019
APPROVED BY: K. MUJAJI		SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143		
CHECKED			
APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

WALL & COLUMNS REINFORCEMENT LAYOUT

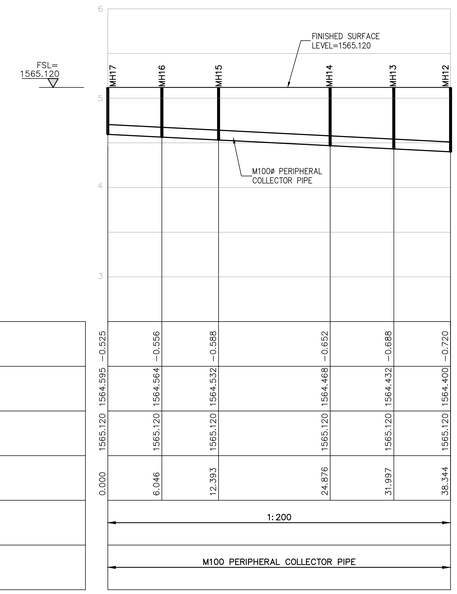
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-110

PROJECT No.	DRAWING No.	REV.
JW14289R	110	T

ORIGINAL PAGE SIZE: A0 — SHEET 1 OF 1

FILE No.

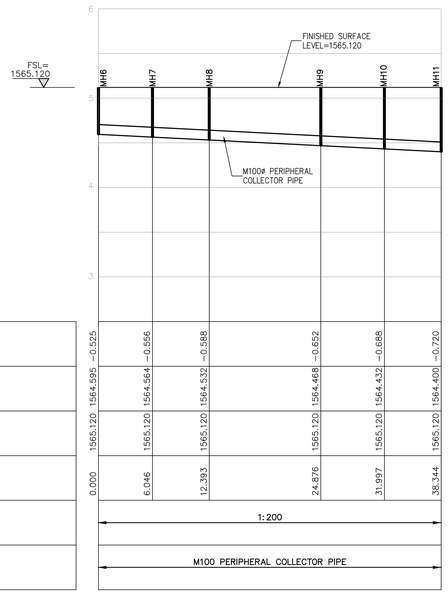


Datum : 1562.500 m

DEPTH TO INVERT	-0.525	-0.556	-0.588	-0.652	-0.688	-0.720
INVERT LEVEL (MANHOLE)	1564.595	1564.564	1564.532	1564.468	1564.432	1564.400
FINISHED SURFACE LEVEL	1565.120	1565.120	1565.120	1565.120	1565.120	1565.120
DISTANCE (m)	0.000	6.046	12.393	24.876	31.997	38.344
PIPE GRADES	1:200					
PIPE DETAILS	M100 PERIPHERAL COLLECTOR PIPE					

LONGITUDINAL SECTION
MH 17 to 12

SCALES HOR.– 1:250
VERT.– 1:25

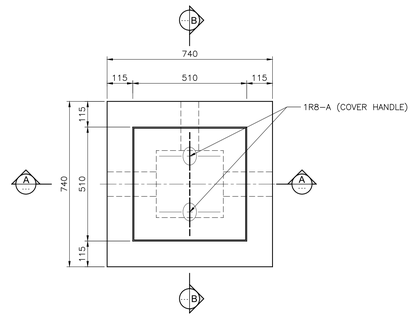


Datum : 1562.500 m

DEPTH TO INVERT	-0.525	-0.556	-0.588	-0.652	-0.688	-0.720
INVERT LEVEL (MANHOLE)	1564.595	1564.564	1564.532	1564.468	1564.432	1564.400
FINISHED SURFACE LEVEL	1565.120	1565.120	1565.120	1565.120	1565.120	1565.120
DISTANCE (m)	0.000	6.046	12.393	24.876	31.997	38.344
PIPE GRADES	1:200					
PIPE DETAILS	M100 PERIPHERAL COLLECTOR PIPE					

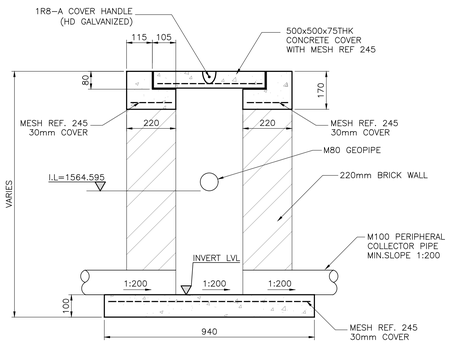
LONGITUDINAL SECTION
MH 06 to 11

SCALES HOR.– 1:250
VERT.– 1:25



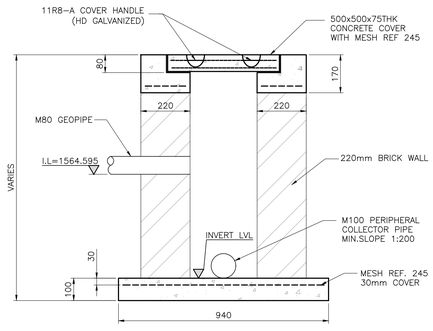
TYPICAL MANHOLE PLAN

SCALE 1 : 10



TYPICAL MANHOLE SECTION A-A

SCALE 1 : 10



TYPICAL MANHOLE SECTION B-B

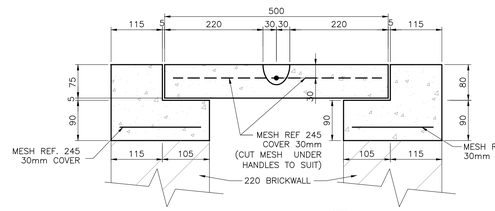
SCALE 1 : 10

MEMBER	REINFORCEMENT						BENDING DIMENSIONS FOR SHAPE CODES (SABS 82)						FIXING AND NON STANDARD BENDING DETAILS
Description	Mark	Type & Size	No. of Mbers	No. of Bars	Total	Cutting Length	Shape code	A	B	C	D	E or r	
MANHOLE COVER	A	R8	22	2	44	250	20	250					

Mass	Size Type	6	8	10	12	Total (Kg)
	"R"		4			4
	"Y"					
(Kg)	Total (Kg)		4			4

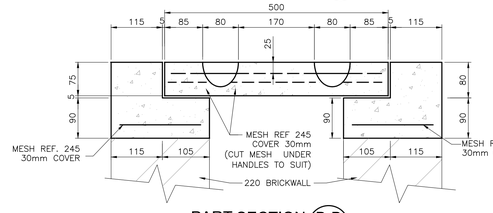
Sheet Title	BENDING SCHEDULE FOR MANHOLE COVER HANDLE (HD GALVANIZED)
Project	WOODMEAD RESERVOIR
Section	MANHOLE COVER HANDLE

Project No.	27684
Schedule No.	1
Ref. Dwg.	111
Revision Suffix	1
Date	28/08/15
Drawn	S.S
Chcked	D.G



PART SECTION A-A

SCALE 1 : 5



PART SECTION B-B

SCALE 1 : 5

DWG. No.	DESCRIPTION
101	SITE LAYOUT AND SECTIONS
102	GENERAL ARRANGEMENT
103	SUB–SURFACE DRAINAGE LAYOUT
104	FOUNDATION & SURFACE BED LAYOUT
106	SECTIONS AND DETAILS
REFERENCE DRAWINGS	

Datum : 1562.500 m

DEPTH TO INVERT	-0.525	-0.557	-0.614	-0.657	-0.690
INVERT LEVEL (MANHOLE)	1564.595	1564.563	1564.506	1564.463	1564.430
FINISHED SURFACE LEVEL	1565.120	1565.120	1565.120	1565.120	1565.120
DISTANCE (m)	0.000	6.347	17.485	25.951	32.298
PIPE GRADES	1:200				
PIPE DETAILS	M100 PERIPHERAL COLLECTOR PIPE				

LONGITUDINAL SECTION
MH 05 to 01

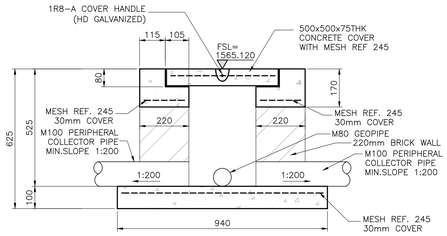
SCALES HOR.– 1:250
VERT.– 1:25

Datum : 1562.500 m

DEPTH TO INVERT	-0.525	-0.557	-0.621	-0.657	-0.690
INVERT LEVEL (MANHOLE)	1564.595	1564.563	1564.506	1564.463	1564.430
FINISHED SURFACE LEVEL	1565.120	1565.120	1565.120	1565.120	1565.120
DISTANCE (m)	0.000	6.347	18.830	25.951	32.298
PIPE GRADES	1:200				
PIPE DETAILS	M100 PERIPHERAL COLLECTOR PIPE				

LONGITUDINAL SECTION
MH 18 to 22

SCALES HOR.– 1:250
VERT.– 1:25



SECTION A-A @ MANHOLE MH5

SCALE 1 : 10

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

SUB-SURFACE DRAINAGE LONG
SECTIONS AND MANHOLE DETAILS

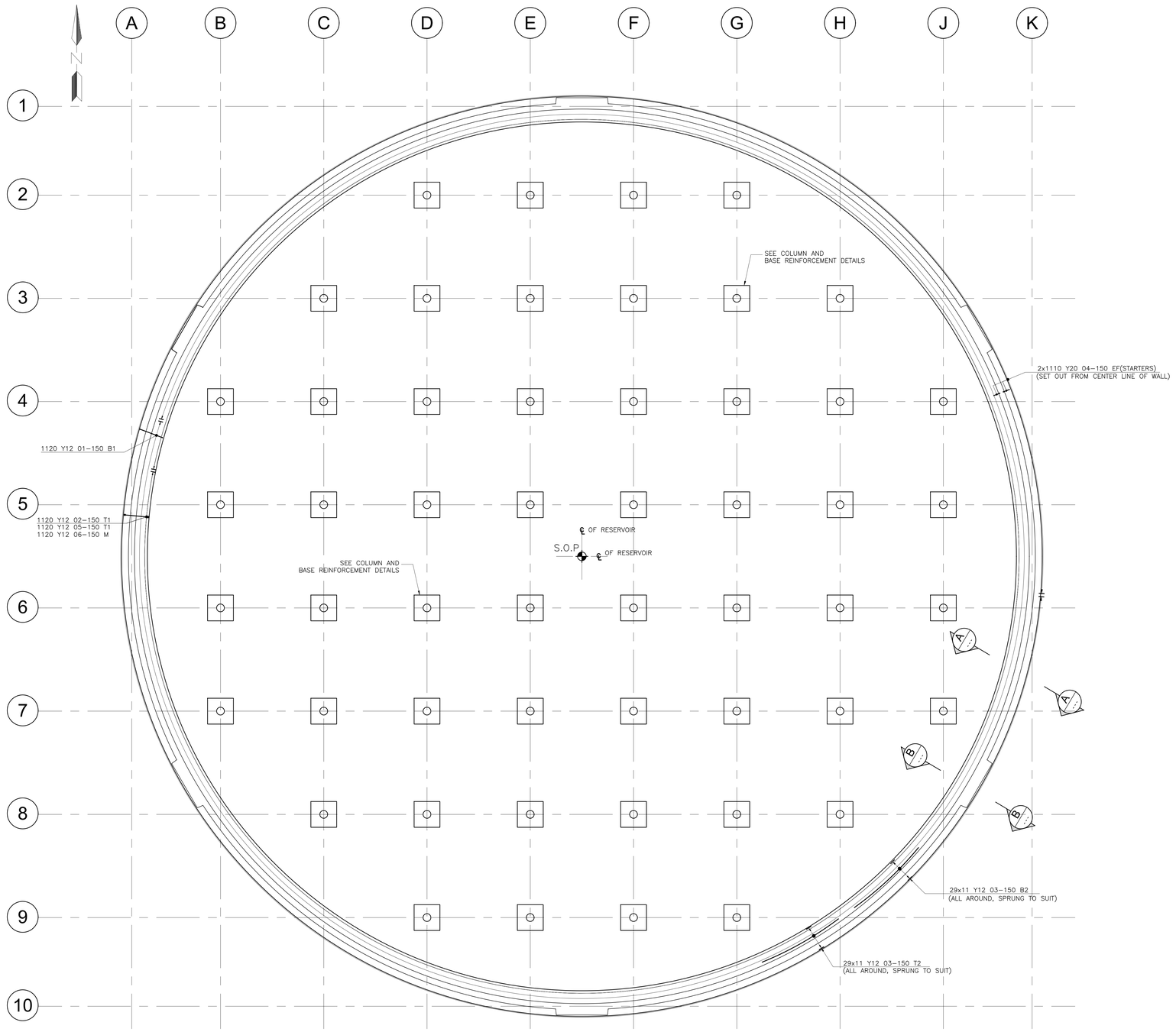
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R - 111

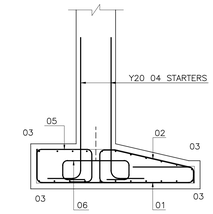
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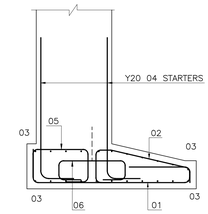
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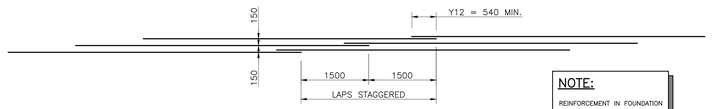
FOUNDATION REINFORCEMENT LAYOUT
SCALE 1:100



SECTION A-A
SCALE 1 : 20

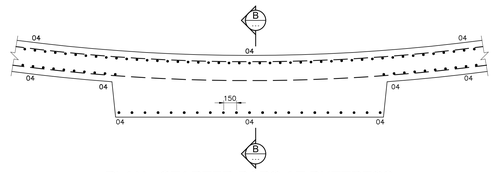


SECTION B-B
SCALE 1 : 20



TYPICAL BAR STAGGERING DETAIL
SCALE 1 : 50

NOTE:
REINFORCEMENT IN FOUNDATION TO BE STAGGERED



PLAN - STARTER BARS AT BUTTRESS
6 REQUIRED
SCALE 1 : 25

REINFORCEMENT NOTES:

1. REINFORCEMENT TO SANS 920:2011 AND SANS 282:2011
2. CONCRETE COVER TO REINFORCEMENT:

SURFACE BED	– 50mm
WALL STRIP FOOTINGS	– 50mm.
COLUMN PAD FOOTINGS	– 50mm.
WALLS	– 40mm.
COLUMNS	– 40mm.
ROOF SLAB	– 30mm.
ROOF UPSTAND BEAM	– 30mm.

3. MINIMUM LAP LENGTH FOR REINFORCEMENT BARS = 45 x SMALLEST BAR DIAMETER TO BE LAPPED.

REINFORCING LEGEND:

T	–	TOP
M	–	MIDDLE
B	–	BOTTOM
T1	–	FIRST TOP LAYER
T2	–	SECOND TOP LAYER
B1	–	FIRST BOTTOM LAYER
B2	–	SECOND BOTTOM LAYER
ABR	–	ALTERNATE BARS REVERSED
ALT	–	ALTERNATING BARS
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
EW	–	EACH WAY

REINFORCING NOTATION:

10 – Y20– A01 – 150 T1

- 10 – NUMBER OF BARS
- Y20 – BAR TYPE AND DIAMETER
- A01 – BAR MARK
- 150 – CENTRES
- T1 – BAR PLACEMENT

DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
104	FOUNDATION & SURFACE BED LAYOUT
106	SECTIONS AND DETAILS
	REFERENCE DRAWINGS

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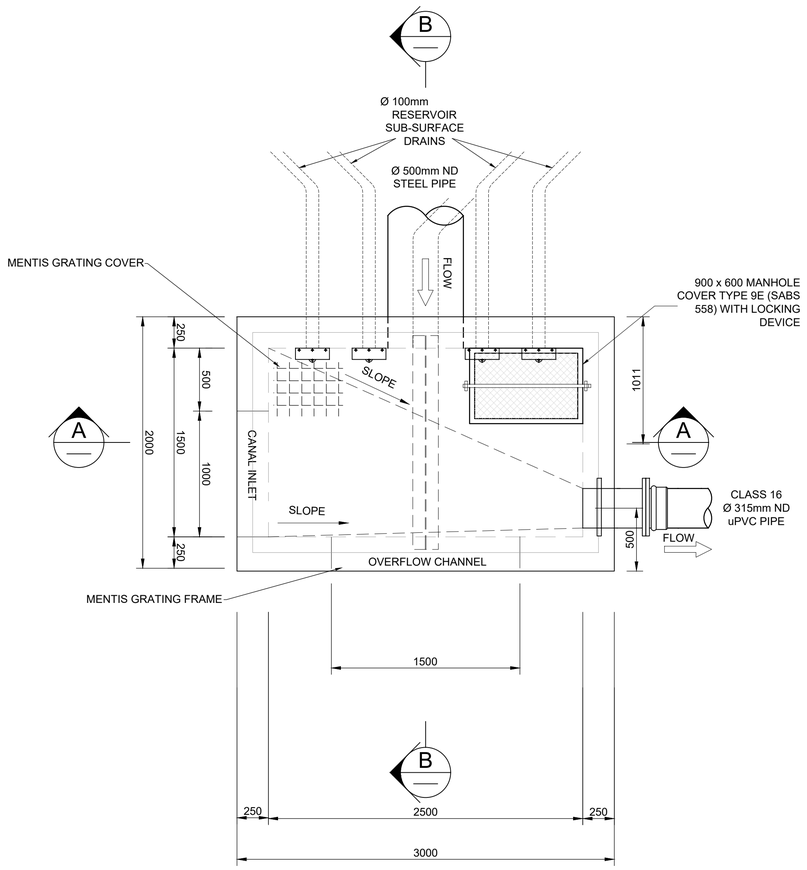
JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR
FOUNDATION REINFORCEMENT LAYOUT

SCALE	REV:	AMENDMENTS	APPROVED DATE:
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DRAWING No: JW14289R-201

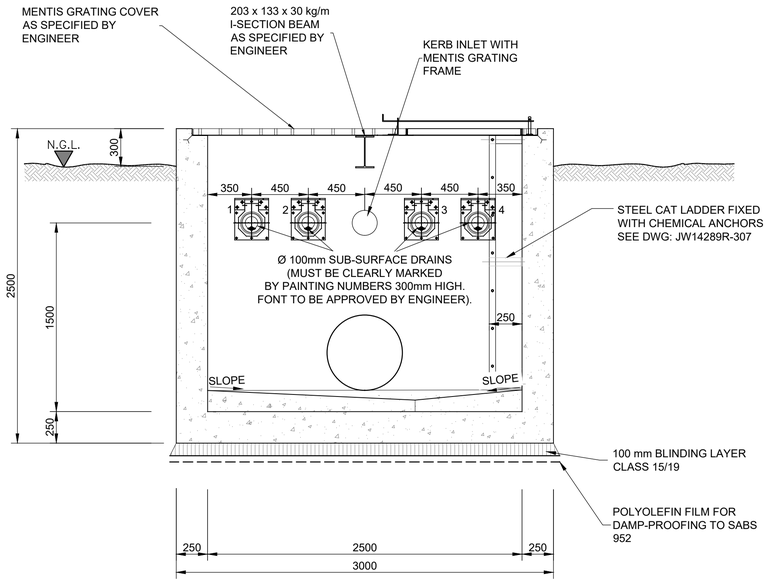
PROJECT No.	DRAWING No.		REV.
JW14289R	201	–	T

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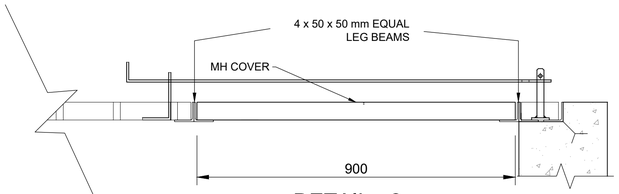
PLAN

SCALE 1:25



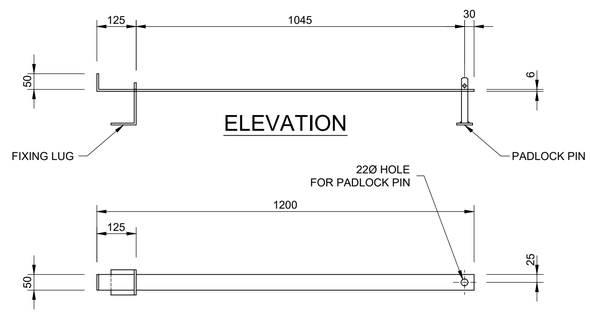
SECTION A-A

SCALE 1:25



DETAIL - 2

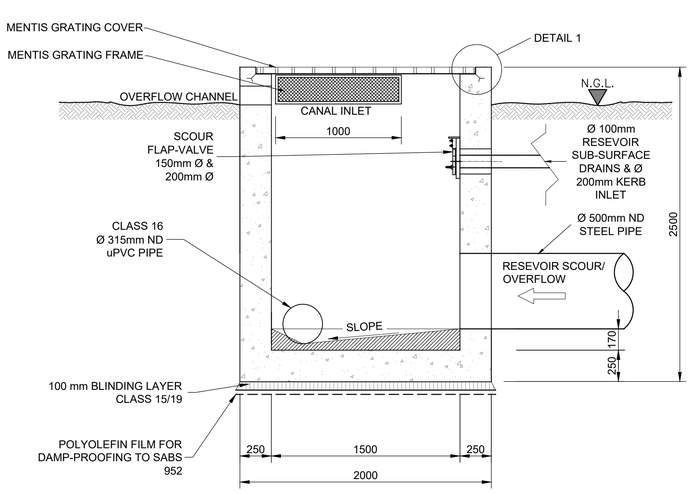
N.T.S



ELEVATION

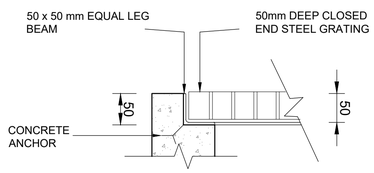
PLAN
LOCKING BAR

SCALE 1:10



SECTION B-B

SCALE 1:25



DETAIL - 1

N.T.S

NOTES:

1. ALL EXPOSED METALWORK TO BE HOT DIP GALVANIZED IN ACCORDANCE WITH S.A.B.S. 1461 AND LEFT UNPAINTED.
2. ALL MAIN PIPES AND CABLE DUCTS MUST BE SEALED WITH "THIOFLEX 600" OR "FLEXI-JOINT" OR OTHER APPROVED.
3. ALL EXPOSED CONCRETE EDGES TO HAVE 25mm CHAMFER.
4. POSITION OF CHAMBERS AND CABLE DUCTS WILL BE INDICATED BY THE ENGINEER AT SITE INSPECTION.
5. CONCRETE GRADE 25/19 WITH ORDINARY PORTLAND CEMENT.
6. FOR PIPE DETAILS SEE INSTALLATION DETAILS DRAWINGS.
7. BEFORE COMMENCEMENT CHECK FOR EXISTING SERVICES.
8. IF CHAMBER IS BUILT ON PAVEMENT, TOP OF CHAMBER TO BE FLASH WITH PAVEMENT.
9. COVER TO REINFORCEMENT 40mm.
10. MENTIS GRATING TO BE GALVANIZED, STEEL BARS TO BE SPACED 40mm IN BOTH DIRECTIONS.

CABLE DUCTS TRENCHING:

A. BEDDING MATERIAL: SHALL BE A SELECTED SOIL OF A GRANULAR NATURE, FREE FROM VEGETATION, LUMPS AND STONES EXCEEDING 15 mm DIAMETER.

B. BACKFILL: MATERIAL EXCAVATED FROM A TRENCH MAY BE USED AS BACKFILL PROVIDED THAT IT CONTAINS NO RUBBLE OR OTHER DEBRIS, THAT IT EXCLUDES STONES GREATER THAN 150 mm OF AVERAGE DIMENSION AND CAN BE COMPACTED TO AT LEAST 90% MODIFIED AASHTO DENSITY.

C. uPVC PIPES TO S.A.B.S. 791.

0 10 20 30 40 50
50mm
ON ORIGINAL

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DRAWN	W.T		27/07/2015
CHECKED	L.D.J		07/10/2019
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ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

STORMWATER CHAMBER

SCALE	REV:	AMENDMENTS	APPROVED DATE:
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DRAWING No: JW14289R-202

JW14289R PROJECT No. | 202 DRAWING No. | T REV.

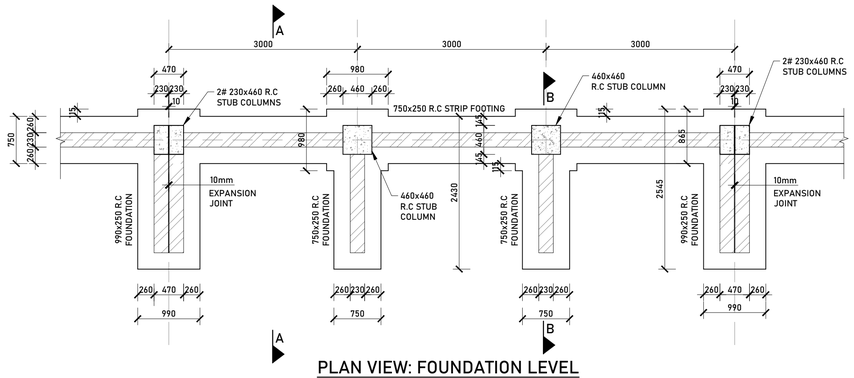
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FILE No.

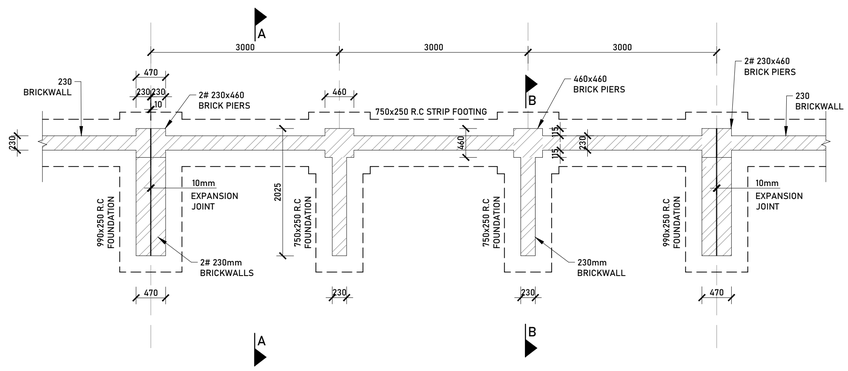
GENERAL NOTES:

1. THE CONTRACTOR MUST VERIFY ALL LEVELS AND DIMENSIONS ON SITE BEFORE ANY WORK COMMENCES. DISCREPANCIES MUST BE REPORTED TO THE ENGINEER IMMEDIATELY. WHERE APPLICABLE DIMENSIONS AND LEVELS ARE TO MATCH EXISTING STRUCTURE.
2. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT LAYOUT ON SITE IN RELATION TO SITE BOUNDARIES AND BUILDING LINES.
3. ALL BRICKWORK TO HAVE 230mm BRICK FORCE.
   TO BE PLACED EVERY 4TH LAYER.
4. CONCRETE STREGHTS:
   i. Foundations C25/19
   ii. Blinding Layer C15/19
5. FACE BRICK TO BE 15MPa min.
6. MORTAR TO BE CLASS 1
7. DRAIN HOLES TO BE PLACED EVERY 6m TO ALLOW FOR FREE FLOW OF WATER.
8. ALL STRIP FOOTINGS ARE CENTRAL TO GRID LINES
9. ALL STUB COLUMNS SEAT AT GRID CENTERS

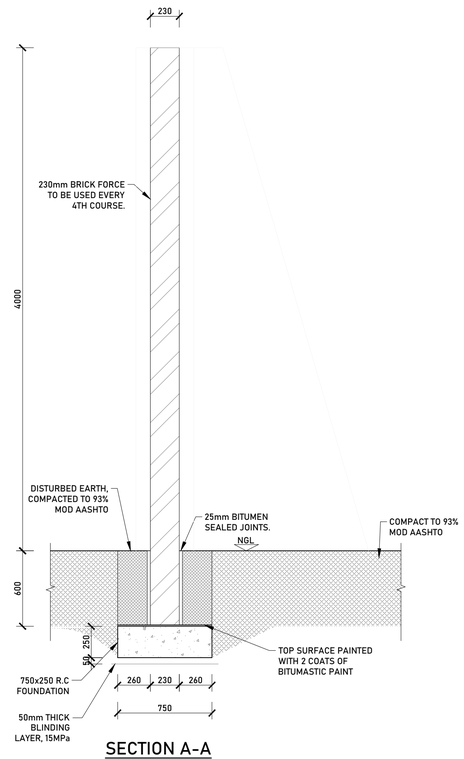
BOUNDARY WALL



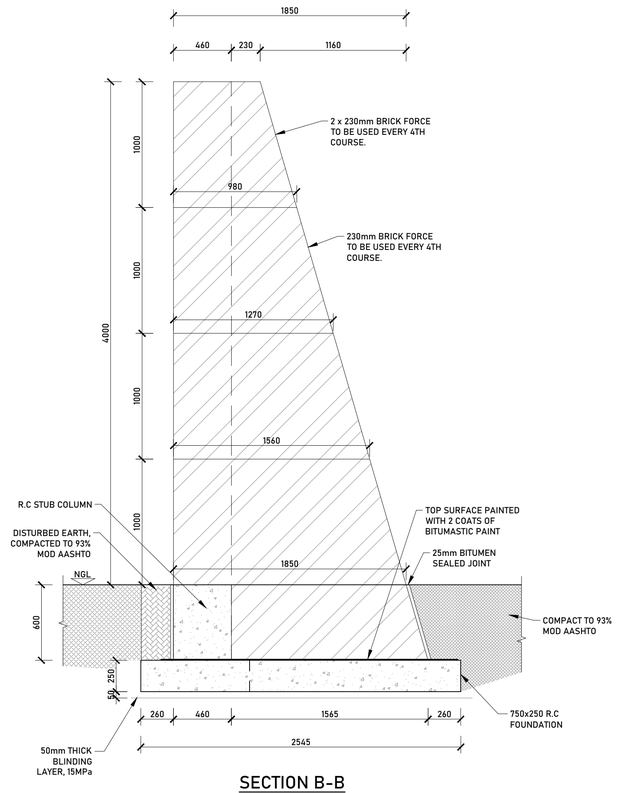
PLAN VIEW: FOUNDATION LEVEL
TYPICAL BOUNDARY WALL
SCALE 1:50



PLAN VIEW: GROUND LEVEL
TYPICAL BOUNDARY WALL
SCALE 1:50



SECTION A-A
SCALE 1 : 25



SECTION B-B
SCALE 1 : 25

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DRAWN	C.K	24/10/2019
CHECKED	K.G	25/10/2019
APPROVED BY: K. MUJAJI	SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143	
CHECKED		
APPROVED BY: E MUDAU	SIGNATURE	DATE
ECSA REG. No.		

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Joburg

JW14289R: CONSTRUCTION OF 22ML WOODMEAD RESERVOIR
BOUNDARY WALL DETAILS

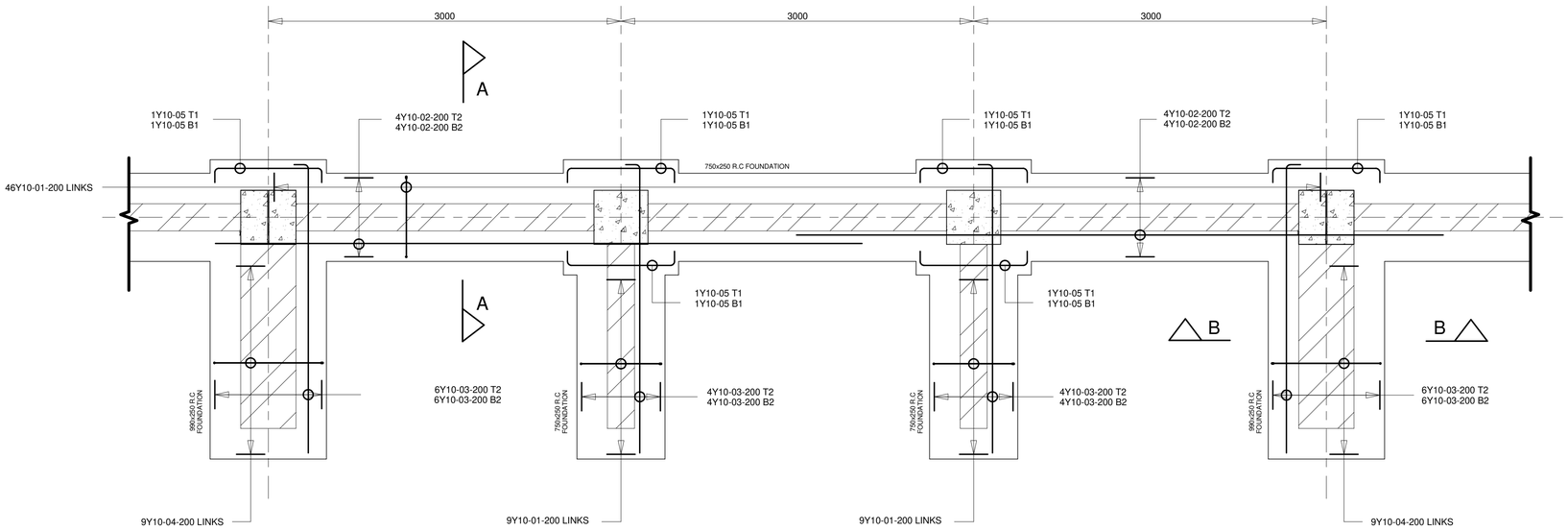
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-220

JW14289R (PROJECT No.) — 220 (DRAWING No.) - T (REV.)

A1 (ORIGINAL PAGE SIZE) SHEET 1 OF 1

FILE No.



FOUNDATION REINFORCEMENT
TYPICAL 9m LONG PANEL FOR BOUNDARY WALL

SCALE 1:25

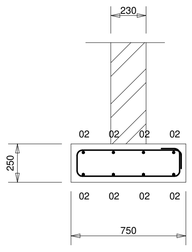
MEMBER	No OF	BARS PER MEMB	DIA.	LENGTH	TOTAL NUM-BER	MARK	S C	BENDING A	B	C	D	E/r
BOUNDRY WALL FOUND.	14	64	Y10	1800	896	01	60	170	670			
		16	Y10	5500	224	02	20	(5500)				
		40	Y10	2550	560	03	34	2450				
		18	Y10	2300	252	04	60	170	910			
		12	Y10	1100	168	05	35	910				
		8	R8	1200	112	10	60	380	150			
STUB COLUMN 230x460	56	4	R8	1200	224	10	60	380	150			
		4	Y12	1100	224	11	54	150	770	(250)		
STUB COLUMN 460x460	28	4	R8	1700	112	12	60	380	380			
		4	Y12	1350	112	13	54	380	770	(250)		

	8	10	12	16	20	25	32	40	TOT
R	234								234
Y		3106	353						3459
TOT	234	3106	353						3693

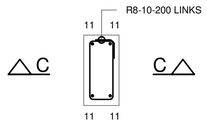
Date	
Det. by	
Ref Dwg	
Job No	
Revision	
Schedule No	

22ML WOODMEAD RESERVOIR
BOUNDARY WALL
FOUNDATION & STUB COLUMNS

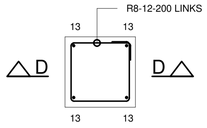
NOTE:
COVER TO REBAR = 40mm



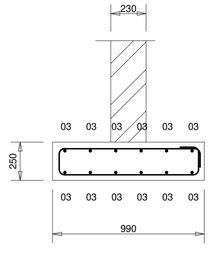
SECTION A-A
SCALE 1 : 20



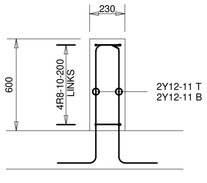
PLAN: COLUMN
230x460 (4 OFF)
SCALE 1 : 20



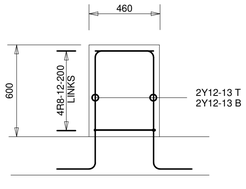
PLAN: COLUMN
460x460 (2 OFF)
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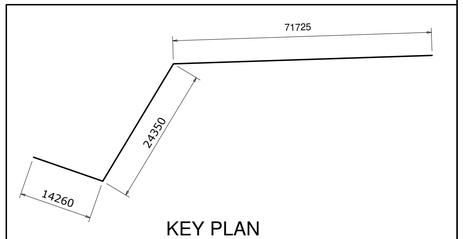
SECTION B-B
SCALE 1 : 20



SECTION C-C
SCALE 1 : 20



SECTION D-D
SCALE 1 : 20



KEY PLAN
N.T.S

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DRAWN	N.S	30/07/2024
CHECKED	D.G	30/07/2024
APPROVED BY: K. MUJAJI		
	SIGNATURE	DATE
ECSA REG. No.	20110143	
CHECKED		
APPROVED BY: E. MUDAU		
	SIGNATURE	DATE
ECSA REG. No.		

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JW14289R: CONSTRUCTION OF 22ML WOODMEAD RESERVOIR
BOUNDARY WALL DETAILS AND FOUNDATION REINFORCEMENT

SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUED FOR TENDER	20/08/2024

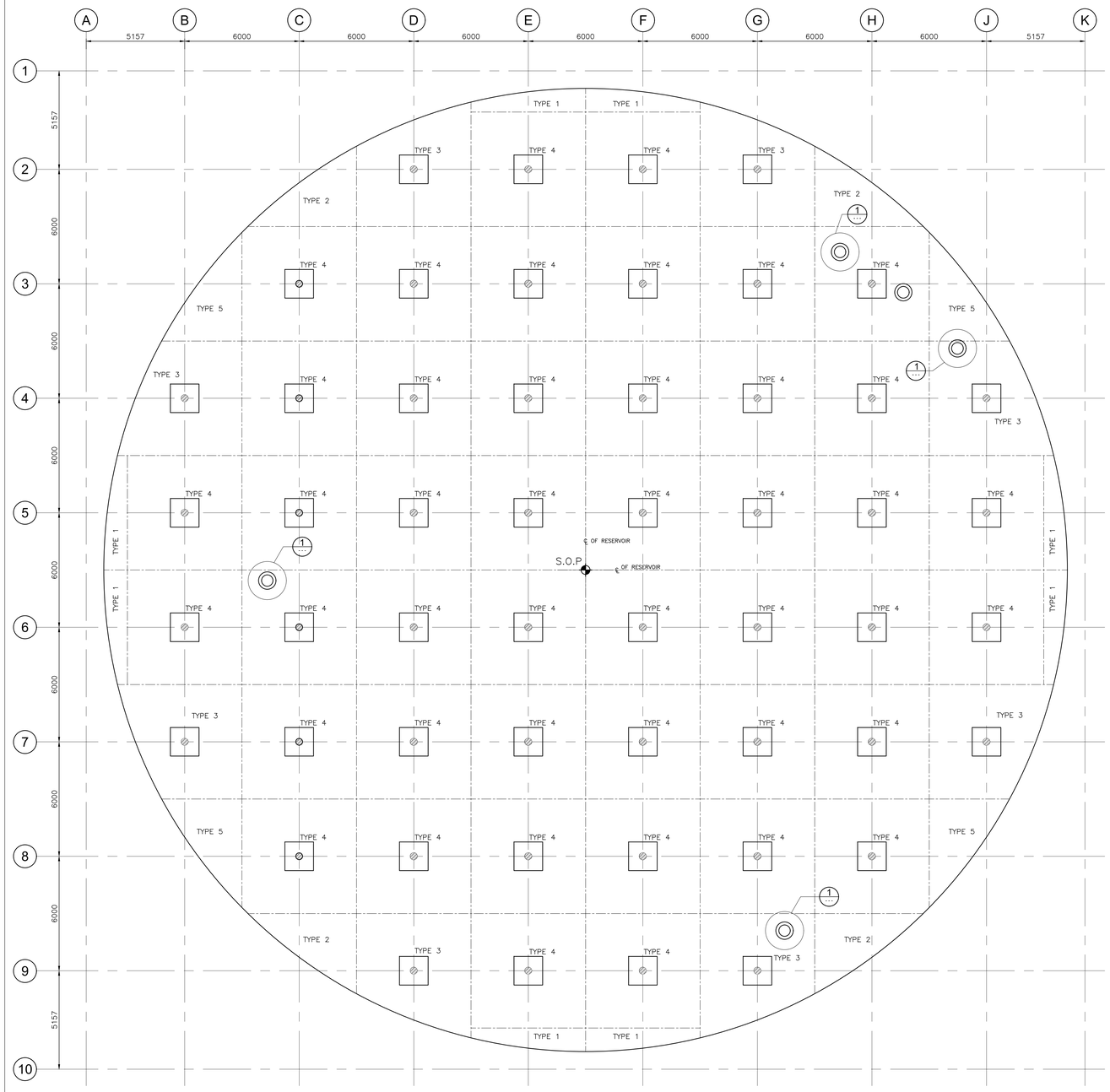
DRAWING-No. JW14289R-221

PROJECT No.	DRAWING No.	REV.
JW14289R	221	T

A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1 | FILE No.

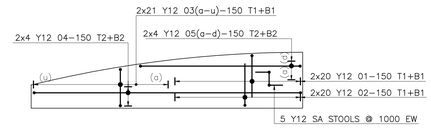
D:\Dropbox (Mariswe)\MARISWE SA PROJECTS\27684RW_Woodmead Reservoir\03_DRAWINGS\01_UWP\05_STR\01_Working\Rebar

A1



SURFACE BED REINFORCEMENT LAYOUT

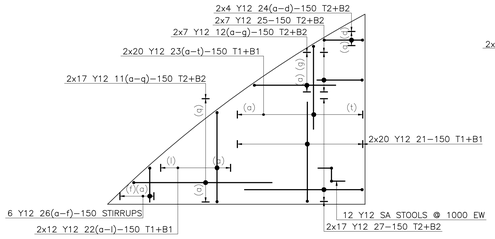
SCALE 1 : 100



SURFACE BED TYPICAL
TYPE 1 REINFORCEMENT

8 REQUIRED

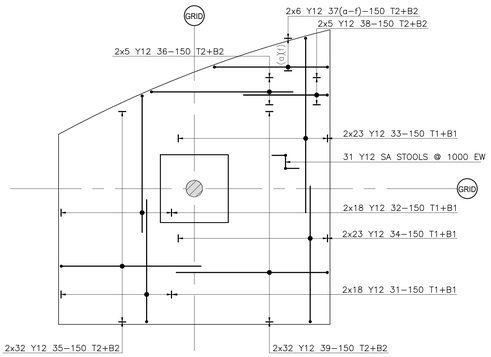
SCALE 1 : 50



SURFACE BED TYPICAL
TYPE 2 REINFORCEMENT

4 REQUIRED

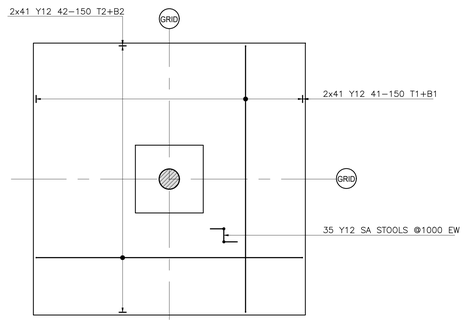
SCALE 1 : 50



SURFACE BED TYPICAL
TYPE 3 REINFORCEMENT

8 REQUIRED

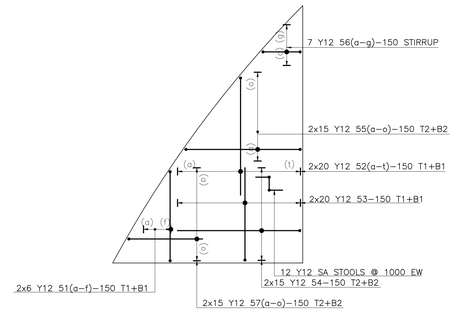
SCALE 1 : 50



SURFACE BED TYPICAL
TYPE 4 REINFORCEMENT

40 REQUIRED

SCALE 1 : 50



SURFACE BED TYPICAL
TYPE 5 REINFORCEMENT

4 REQUIRED

SCALE 1 : 50

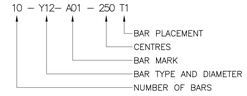
REINFORCEMENT NOTES:

1. REINFORCEMENT TO SANS 920:2011 AND SANS 282:2011
2. CONCRETE COVER TO REINFORCEMENT:
   - SURFACE BED – 50mm
   - WALL STRIP FOOTINGS – 50mm.
   - COLUMN PAD FOOTINGS – 50mm.
   - WALLS – 40mm.
   - COLUMNS – 40mm.
   - ROOF SLAB – 30mm.
   - ROOF UPSTAND BEAM – 30mm.
3. MINIMUM LAP LENGTH FOR REINFORCEMENT BARS = 45 x SMALLEST BAR DIAMETER TO BE LAPPED.

REINFORCING LEGEND:

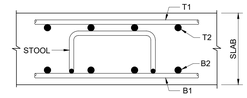
T	–	TOP
M	–	MIDDLE
B	–	BOTTOM
T1	–	FIRST TOP LAYER
T2	–	SECOND TOP LAYER
B1	–	FIRST BOTTOM LAYER
B2	–	SECOND BOTTOM LAYER
ABR	–	ALTERNATE BARS REVERSED
ALT	–	ALTERNATING BARS
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
EW	–	EACH WAY

REINFORCING NOTATION:

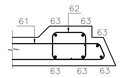


STOOLS:

STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN.

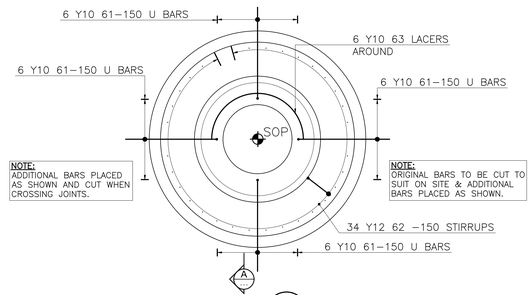


DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
104	FOUNDATION AND SURFACE BED LAYOUT
106	SECTIONS AND DETAILS
REFERENCE DRAWINGS	



SECTION A-A

SCALE 1 : 20



DETAIL 1

SCALE 1 : 20

4 REQUIRED

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DRAWN	S.S		05/05/2015
CHECKED	D.G		07/10/2019
APPROVED BY: K. MUJAJI	SIGNATURE		31/07/2024 DATE
ECSA REG. No.	20110143		
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APPROVED BY: E. MUDAU	SIGNATURE		DATE
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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

SURFACE BED REINFORCEMENT LAYOUT

SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-301

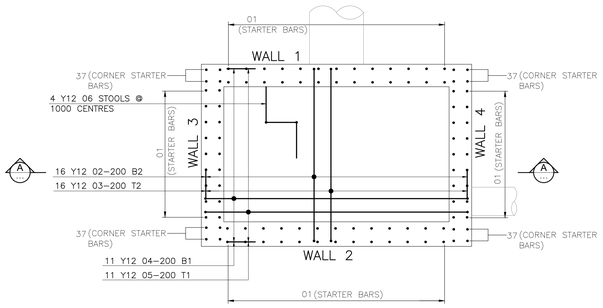
JW14289R – 301 – T

PROJECT No. DRAWING No. REV.

A0 SHEET 1 OF 1

ORIGINAL PAGE SIZE

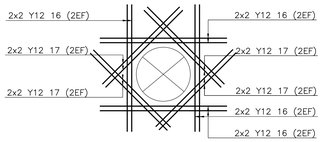
FILE No.



BASE SLAB PLAN- STORMWATER CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



DETAIL 2

SCALE 1 : 25

TRIMMER BARS (2 NO. OFF)

NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   - BASE SLAB = 40mm
   - WALLS = 40mm
   - ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

REINFORCING LEGEND:

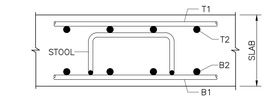
1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	IF	–	INNER FACE
14.	OF	–	OUTER FACE
13.	EW	–	EACH WAY

REINFORCING NOTATION:

10 – Y12 – A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

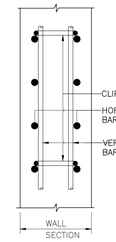
STOOLS

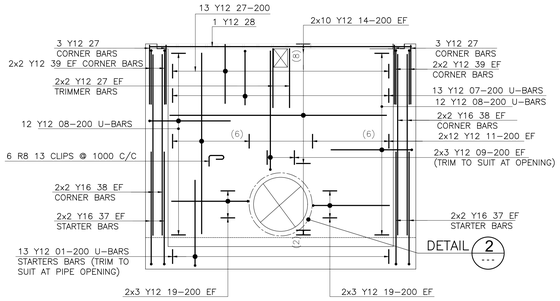


NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN

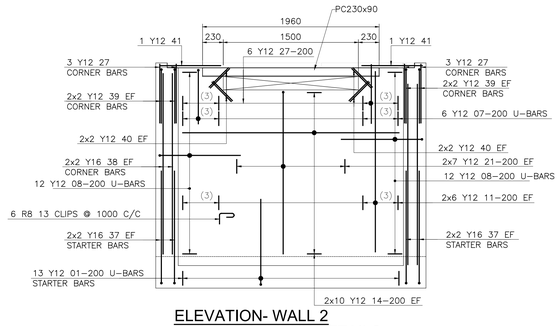




ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

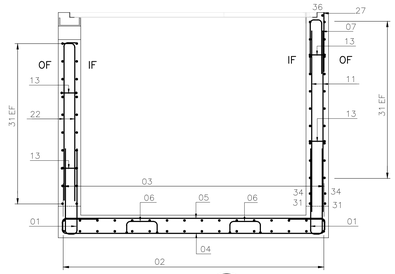
SCALE 1 : 25



ELEVATION- WALL 2 REINFORCEMENT DETAILS

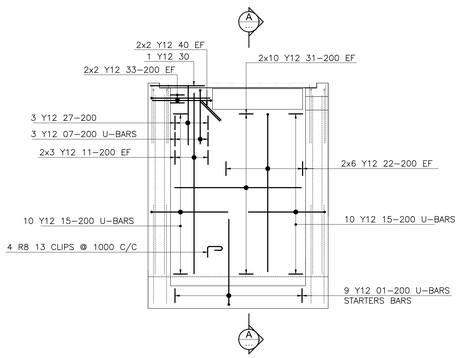
1 REQUIRED

SCALE 1 : 25



SECTION A-A

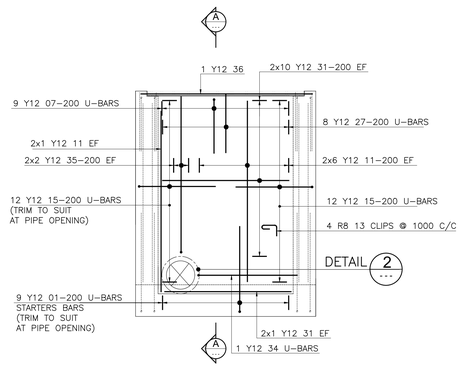
SCALE 1 : 25



ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

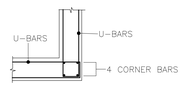
SCALE 1 : 25



ELEVATION- WALL 4 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



PLAN : TYPICAL REINFORCEMENT CORNER DETAIL

4 REQUIRED

SCALE 1 : 25

JW14289–202	STORMWATER CHAMBER
REFERENCE DRAWINGS	

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Joburg

JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

STORMWATER CHAMBER : REINFORCEMENT DETAILS

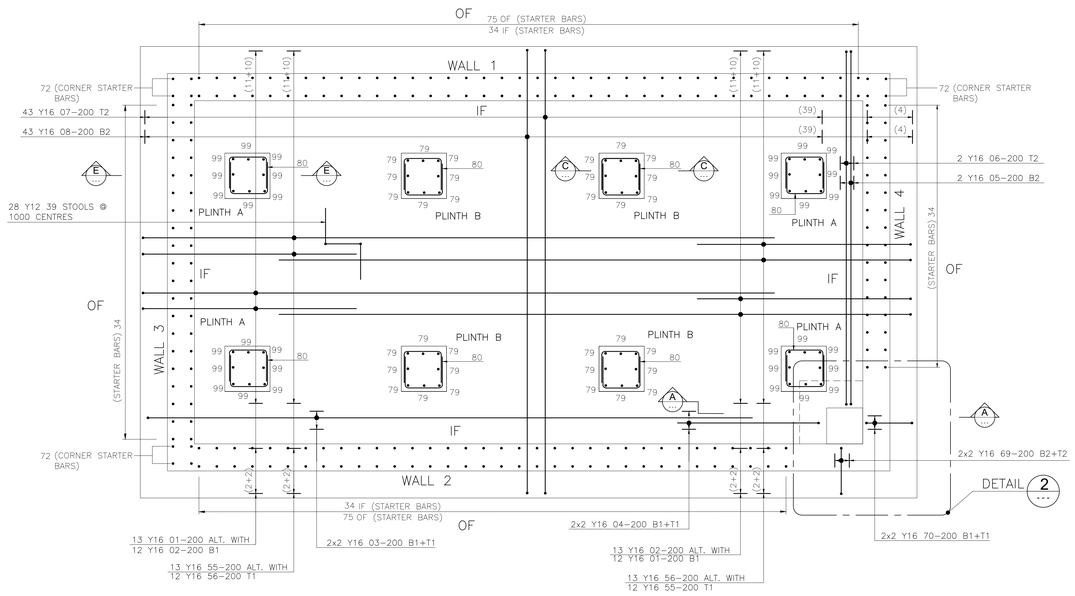
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-400

JW14289R (PROJECT No.) – 400 (DRAWING No.) – T (REV.)

A0 (ORIGINAL PAGE SIZE) SHEET 1 OF 1

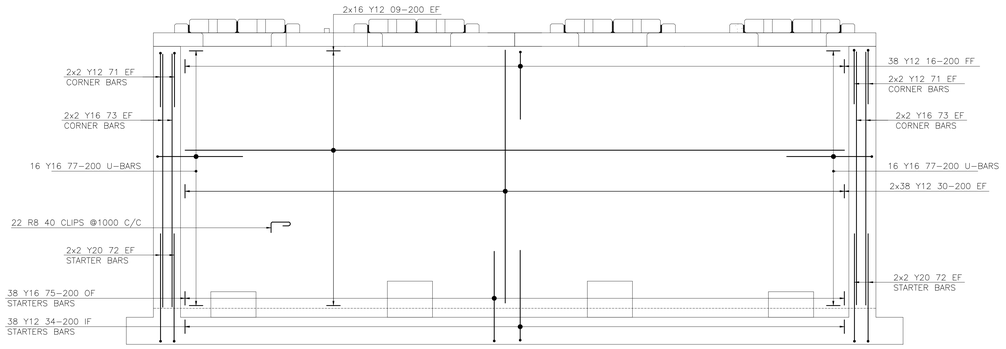
FILE No.



BASE SLAB PLAN- RESERVOIR FLOW CONTROL VALVE CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

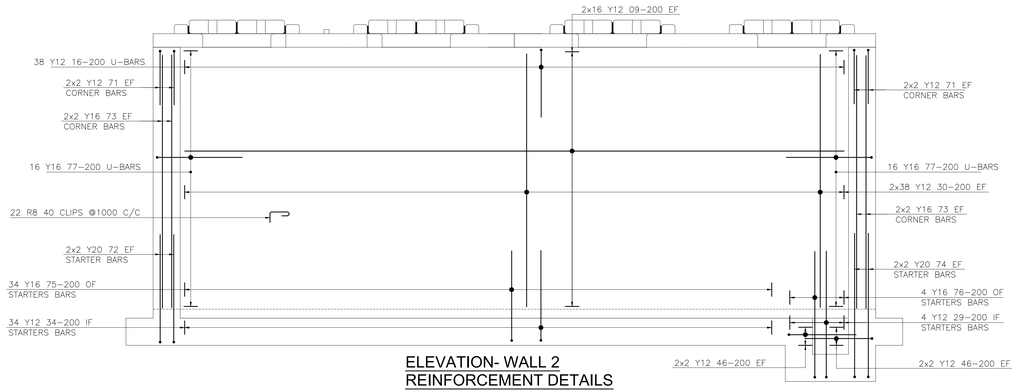
SCALE 1 : 25



ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



ELEVATION- WALL 2 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

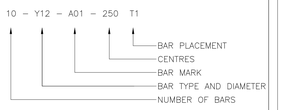
NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   BASE SLAB = 40mm
   WALLS = 40mm
   ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

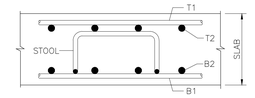
REINFORCING LEGEND:

1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	IN	–	INNER FACE
14.	OF	–	OUTER FACE
15.	EW	–	EACH WAY

REINFORCING NOTATION:



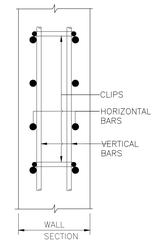
STOOLS

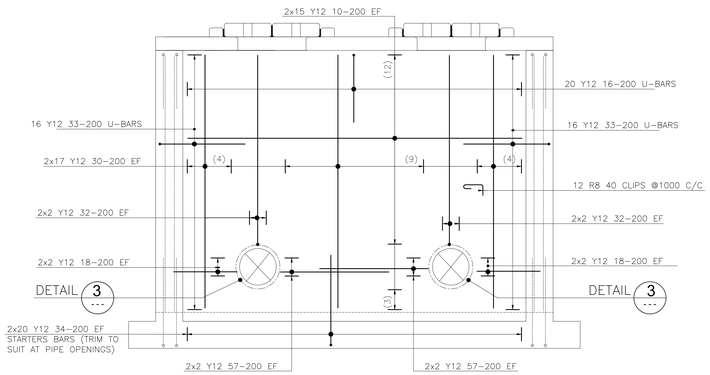


NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN

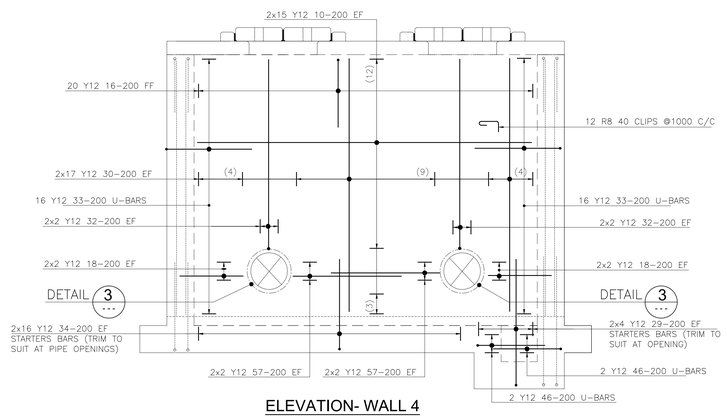




ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

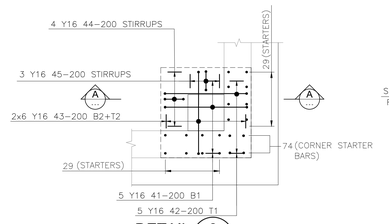
SCALE 1 : 25



ELEVATION- WALL 4 REINFORCEMENT DETAILS

1 REQUIRED

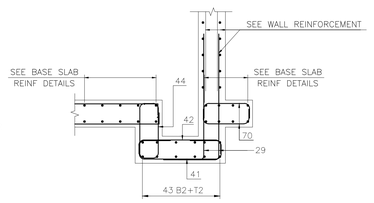
SCALE 1 : 25



DETAIL 2

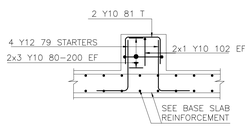
SCALE 1 : 25

SUMP
(1 NO. OFF)



SECTION A-A

SCALE 1 : 25

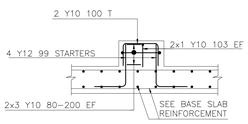


SECTION C-C

SCALE 1 : 25

PLINTH B

PLINTH BARS
(4 NO. OFF)



SECTION E-E

SCALE 1 : 25

PLINTH A

PLINTH BARS
(4 NO. OFF)

ISSUE FOR TENDER ONLY

JW14289–304	BYPASS PRV CHAMBER PIPE AND FITTING
JW14289–305	BYPASS PRV CHAMBER DETAILS
REFERENCE DRAWINGS	

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P.O.Box 25549
Monument Park
0105
TEL: +27 (0) 12 424 9700
FAX: +27 (0) 12 460 4071

DESIGNED	K.M		20/09/2022
DRAWN	T.T		23/09/2022
CHECKED	D.G		27/09/2022
APPROVED BY: K. MUJAJI	SIGNATURE		31/07/2024 DATE
ECSA REG. No.	20110143		
CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE		DATE
ECSA REG. No.			

Johannesburg Water

TURBINE HALL
65 NTEMI PILISO STREET
NEWTOWN
2113

TEL: (011) 688-1542
FAX: (011) 688-6604

Joburg

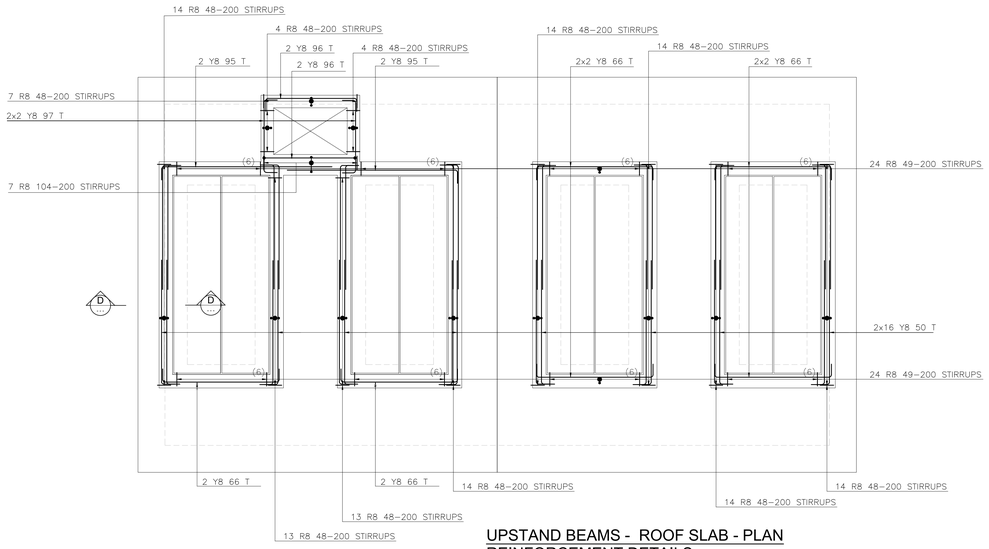
JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

BYPASS PRV CHAMBER : REINFORCEMENT DETAILS 1

SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-402

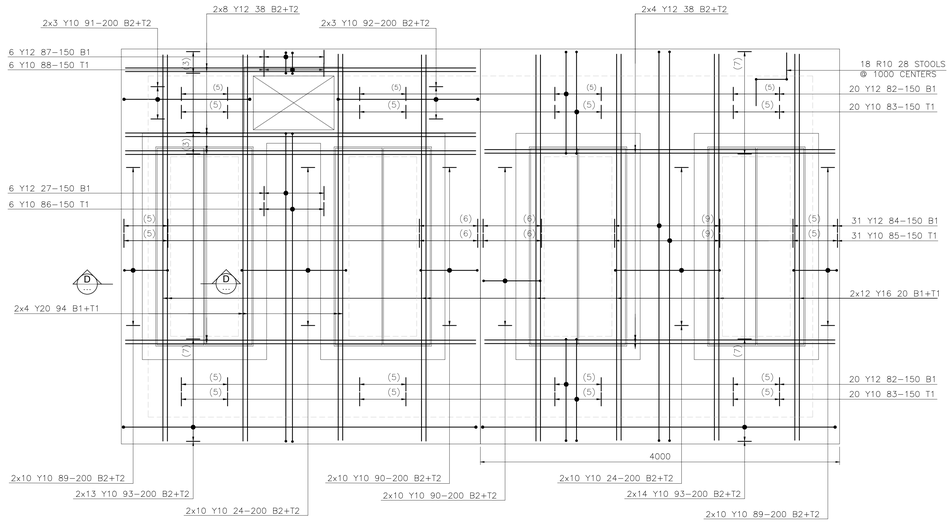
JW14289R — PROJECT No.
402 — DRAWING No.
T — REV.
A0 — ORIGINAL PAGE SIZE
SHEET 1 OF 2
FILE No.



UPSTAND BEAMS - ROOF SLAB - PLAN REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



ROOF SLAB - PLAN REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

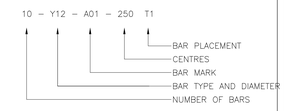
NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   BASE SLAB = 40mm
   WALLS = 40mm
   ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

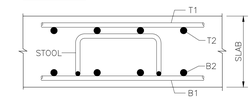
REINFORCING LEGEND:

1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	IN	–	INNER FACE
14.	OF	–	OUTER FACE
15.	EW	–	EACH WAY

REINFORCING NOTATION:



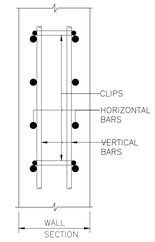
STOOLS

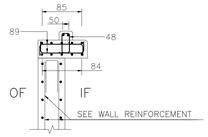


NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

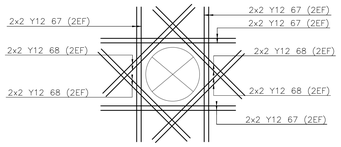
CLIPS TO BE PLACED AS SHOWN





SECTION D-D

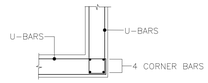
SCALE 1 : 25



DETAIL 3

SCALE 1 : 25

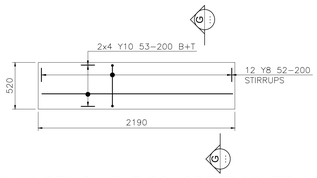
TRIMMER BARS (4 NO. OFF)



PLAN : TYPICAL REINFORCEMENT CORNER DETAIL

4 REQUIRED

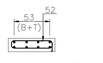
SCALE 1 : 25



PLAN- REMOVABLE CONCRETE COVER REINFORCEMENT DETAILS

8 REQUIRED

SCALE 1 : 25



SECTION G-G

SCALE 1 : 25

JW14289-304	BYPASS PRV CHAMBER PIPE AND FITTING
JW14289-305	BYPASS PRV CHAMBER DETAILS
REFERENCE DRAWINGS	

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DESIGNED	K.M		20/07/2015
DRAWN	T.T		23/09/2022
CHECKED	D.G		27/09/2022
APPROVED BY: K. MUJAJI		SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143		
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APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

BYPASS PRV CHAMBER : REINFORCEMENT DETAILS 2

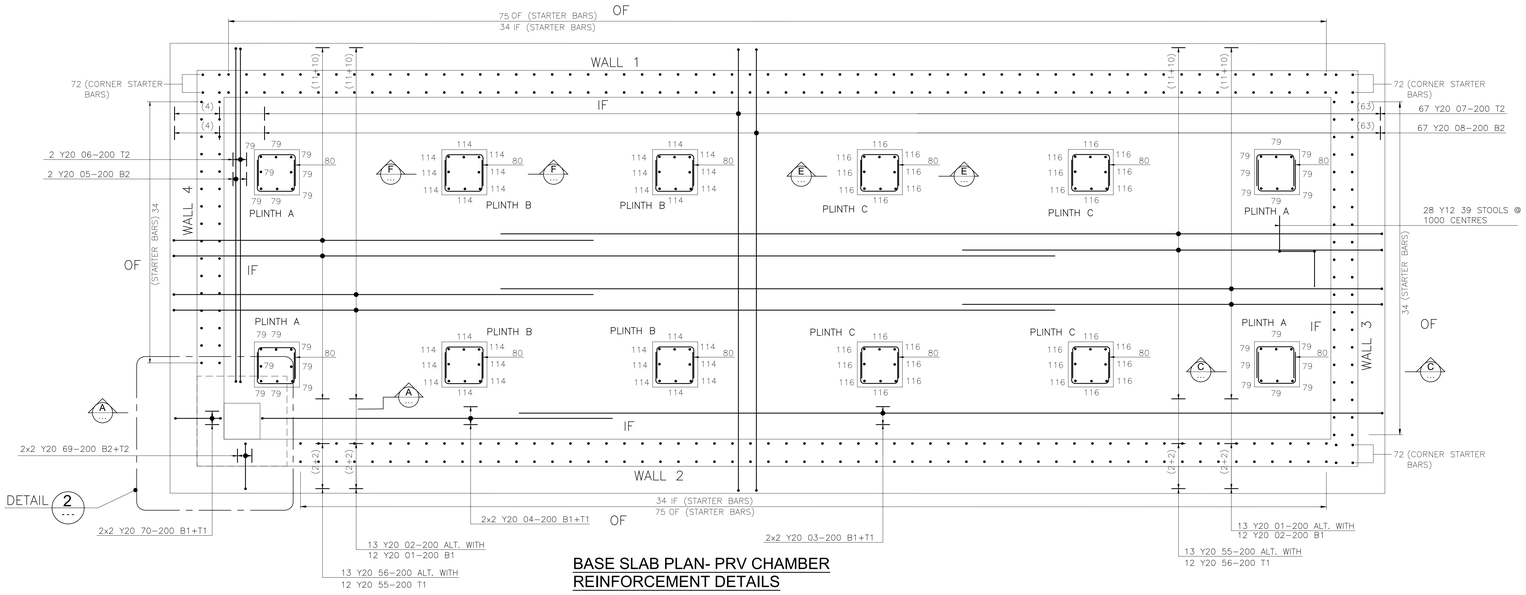
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-403

PROJECT No.	DRAWING No.	REV.
JW14289R	403 –	T

ORIGINAL PAGE SIZE: A0 SHEET 2 OF 2

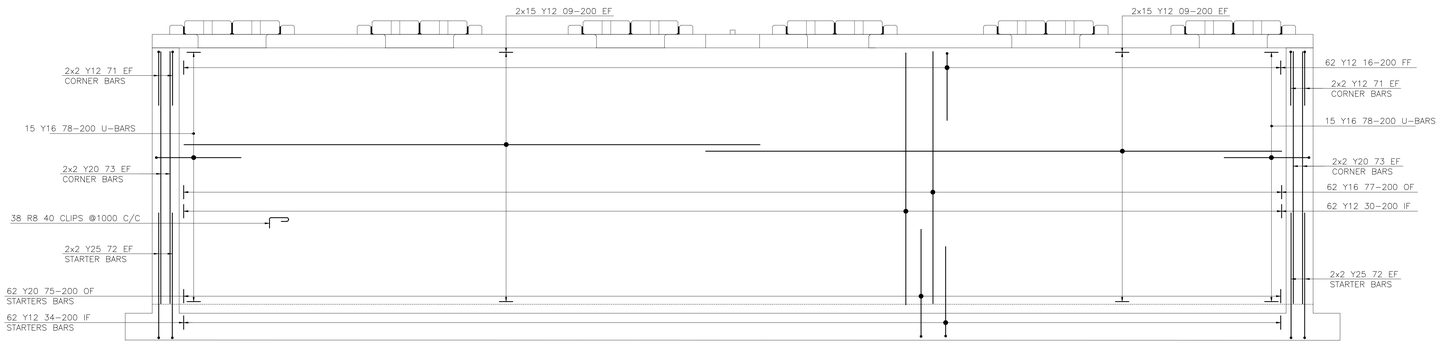
FILE No.



BASE SLAB PLAN- PRV CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

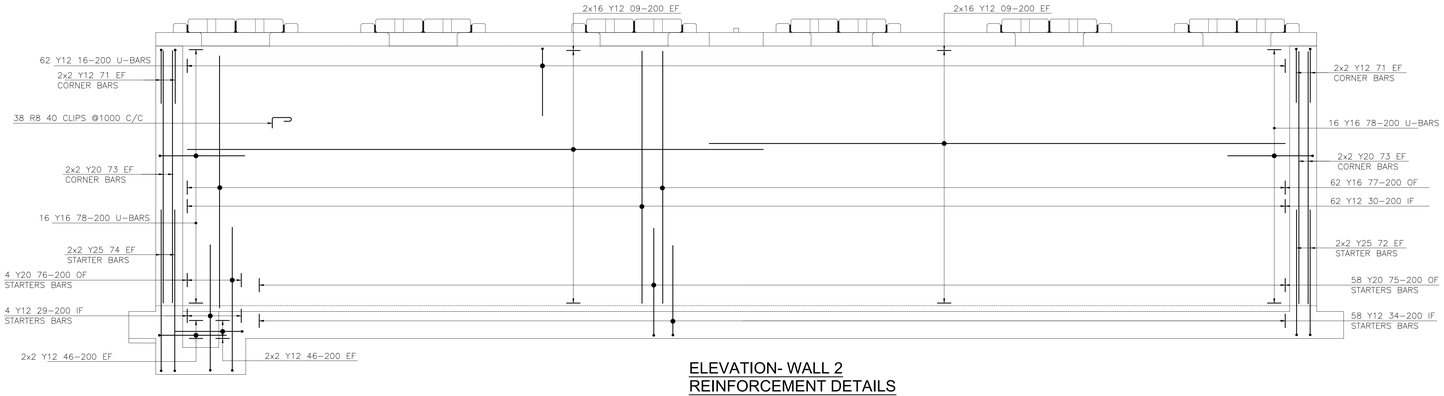
SCALE 1 : 25



ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



ELEVATION- WALL 2 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   - BASE SLAB = 40mm
   - WALLS = 40mm
   - ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

REINFORCING LEGEND:

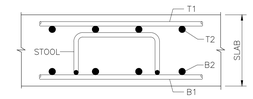
1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	IN	–	INNER FACE
14.	OF	–	OUTER FACE
15.	EW	–	EACH WAY

REINFORCING NOTATION:

10 – Y12 – A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

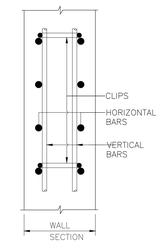
STOOLS

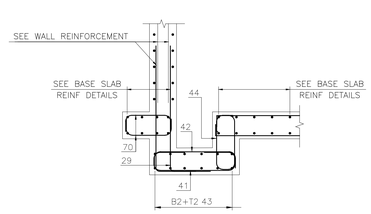


NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

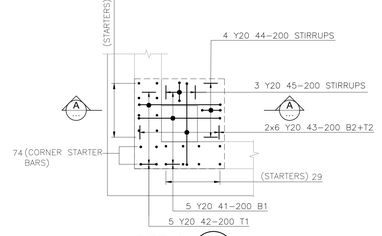
CLIPS TO BE PLACED AS SHOWN





SECTION A-A

SCALE 1 : 25

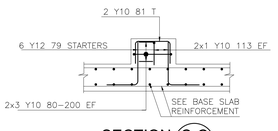


DETAIL 2

SCALE 1 : 25

SUMP

(1 NO. OFF)



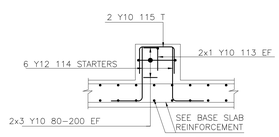
SECTION C-C

SCALE 1 : 25

PLINTH A

PLINTH BARS

(4 NO. OFF)



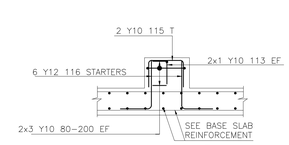
SECTION F-F

SCALE 1 : 25

PLINTH B

PLINTH BARS

(4 NO. OFF)



SECTION E-E

SCALE 1 : 25

PLINTH C

PLINTH BARS

(4 NO. OFF)

JW14289-306	RESERVOIR INLET PRV CHAMBER PIPE AND FITTING SCHEDULE
JW14289-307	RESERVOIR INLET PRV CHAMBER DETAILS
REFERENCE DRAWINGS	

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APPROVED BY: E. MUDAU	SIGNATURE		DATE
ECSA REG. No.			

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

INLET PRV CHAMBER : REINFORCEMENT DETAILS 1

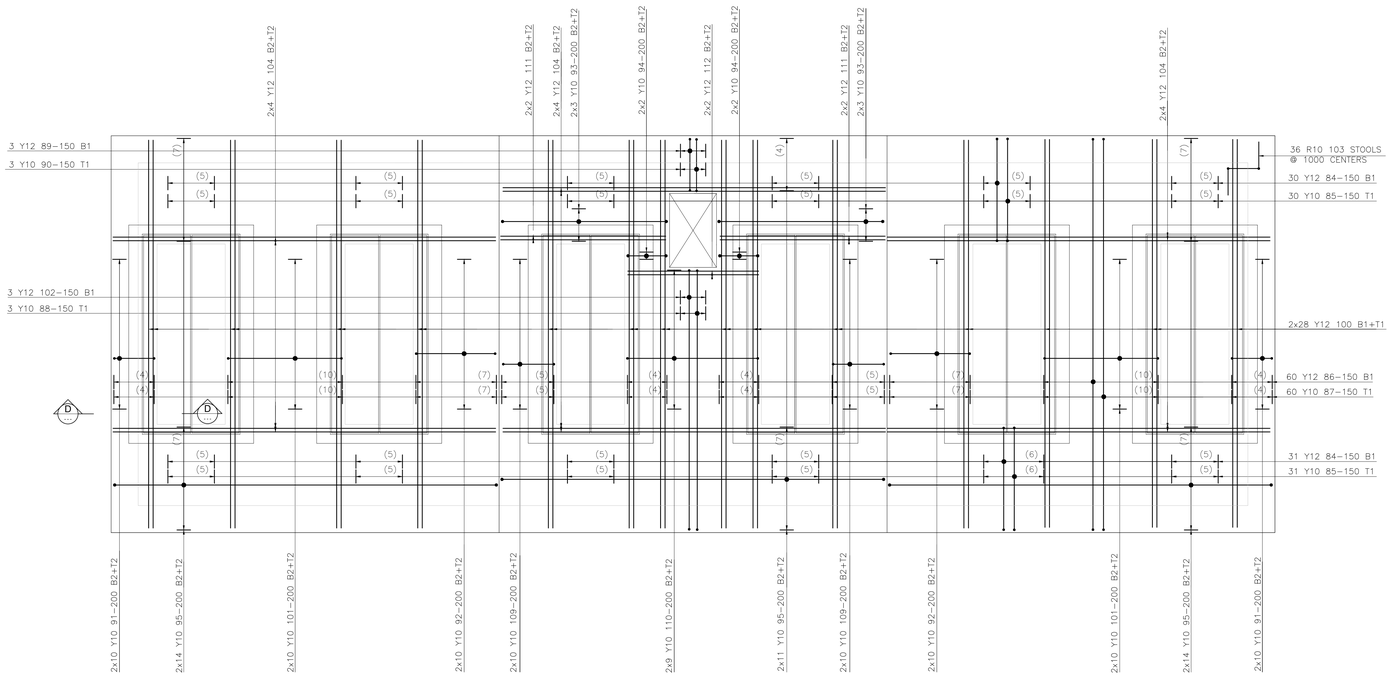
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-404

JW14289R	404	–	T
PROJECT No.	DRAWING No.		REV.

A0 ORIGINAL PAGE SIZE — SHEET 1 OF 2

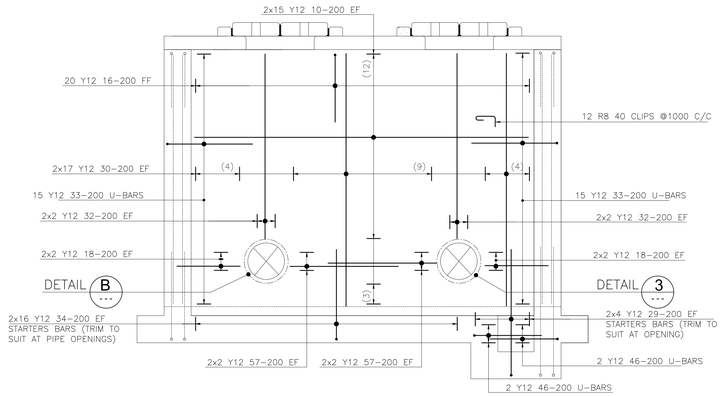
FILE No.



ROOF SLAB - PLAN REINFORCEMENT DETAILS

1 REQUIRED

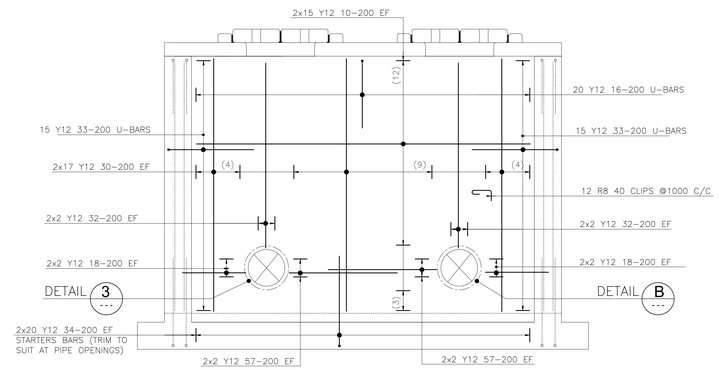
SCALE 1 : 25



ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

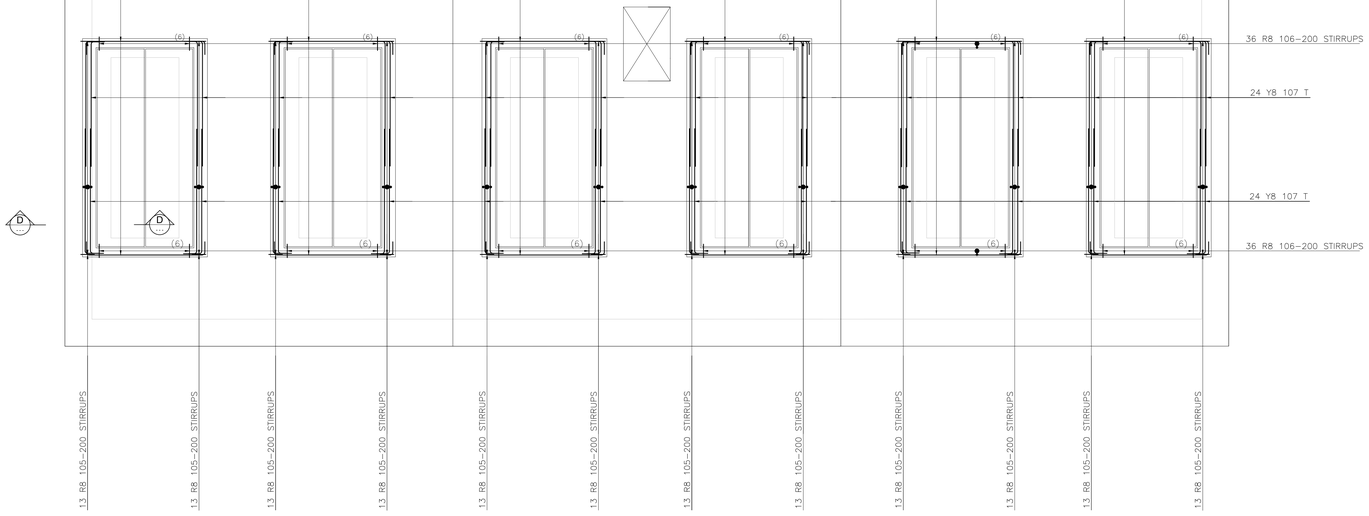
SCALE 1 : 25



ELEVATION- WALL 4 REINFORCEMENT DETAILS

1 REQUIRED

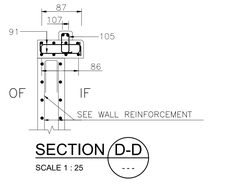
SCALE 1 : 25



UPSTAND BEAMS - ROOF SLAB - PLAN REINFORCEMENT DETAILS

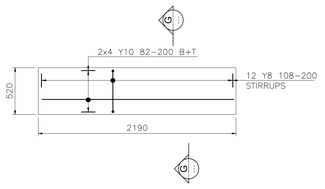
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SECTION D-D

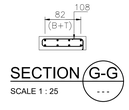
SCALE 1 : 25



PLAN- REMOVABLE CONCRETE COVER REINFORCEMENT DETAILS

12 REQUIRED

SCALE 1 : 25



SECTION G-G

SCALE 1 : 25

NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   BASE SLAB = 40mm
   WALLS = 40mm
   ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

REINFORCING LEGEND:

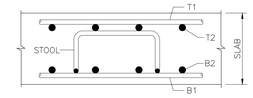
1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	IN	–	INNER FACE
14.	OF	–	OUTER FACE
15.	EW	–	EACH WAY

REINFORCING NOTATION:

10 – Y12 – A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

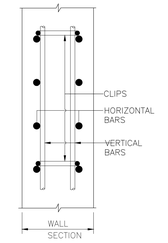
STOOLS



NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN



JW14289-306	RESERVOIR INLET PRV CHAMBER PIPE AND FITTING SCHEDULE
JW14289-307	RESERVOIR INLET PRV CHAMBER DETAILS
REFERENCE DRAWINGS	

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Previously:
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DESIGNED	K.M		21/09/2022
DRAWN	T.T		23/09/2022
CHECKED	D.G		27/09/2022
APPROVED BY: K. MUJAJI	SIGNATURE		31/07/2024 DATE
ECSA REG. No.	20110143		
CHECKED			
APPROVED BY: E. MUDAU	SIGNATURE		DATE
ECSA REG. No.			

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Joburg

JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

INLET PRV CHAMBER : REINFORCEMENT DETAILS 2

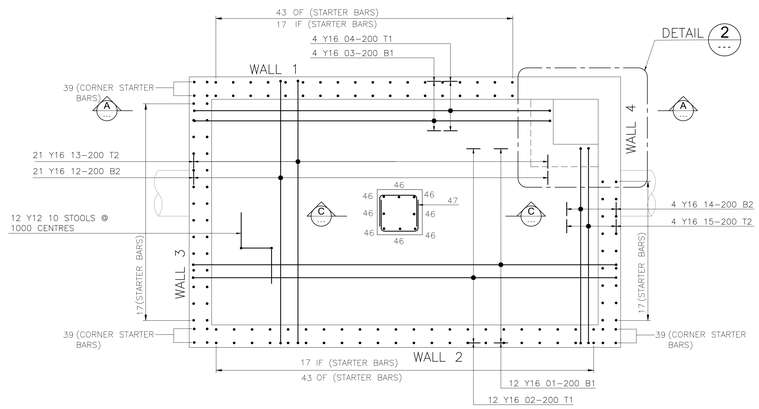
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-405

JW14289R (PROJECT No.) | 405 – T (DRAWING No. – REV.)

A0 (ORIGINAL PAGE SIZE) | SHEET 2 OF 2

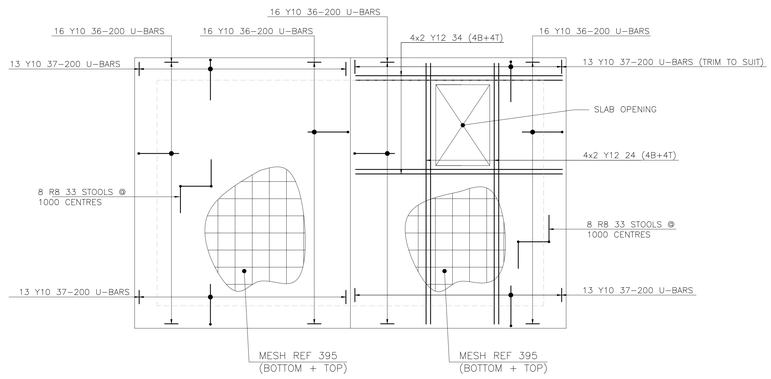
FILE No.



BASE SLAB PLAN- OUT FLOW METER CHAMBER REINFORCEMENT DETAILS

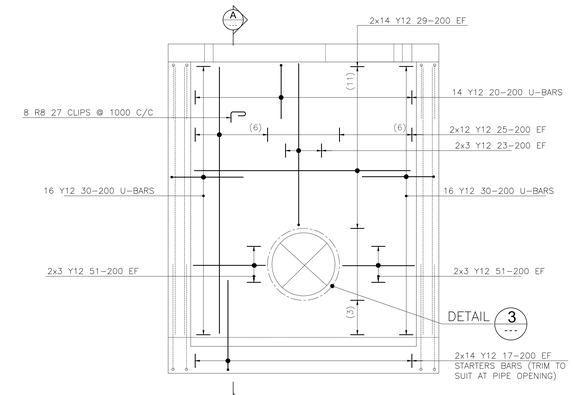
1 REQUIRED

SCALE 1 : 25



PLAN- ROOF SLAB DETAIL

SCALE 1 : 25



ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

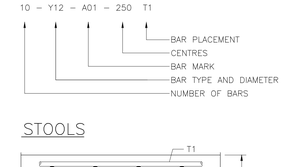
NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   - BASE SLAB = 40mm
   - WALLS = 40mm
   - ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

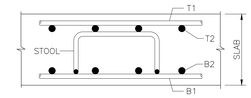
REINFORCING LEGEND:

1. T	–	TOP
2. M	–	MIDDLE
3. B	–	BOTTOM
4. T1	–	FIRST TOP LAYER
5. T2	–	SECOND TOP LAYER
6. B1	–	FIRST BOTTOM LAYER
7. B2	–	SECOND BOTTOM LAYER
8. ABR	–	ALTERNATE BARS REVERSED
9. ALT	–	ALTERNATING BARS
10. NF	–	NEAR FACE
11. FF	–	FAR FACE
12. EF	–	EACH FACE
13. IN	–	INNER FACE
14. OF	–	OUTER FACE
15. EW	–	EACH WAY

REINFORCING NOTATION:



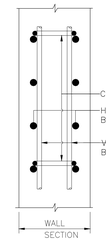
STOOLS

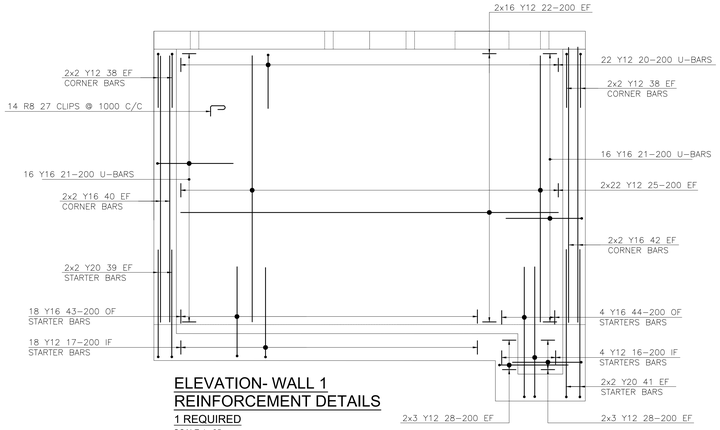


NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN

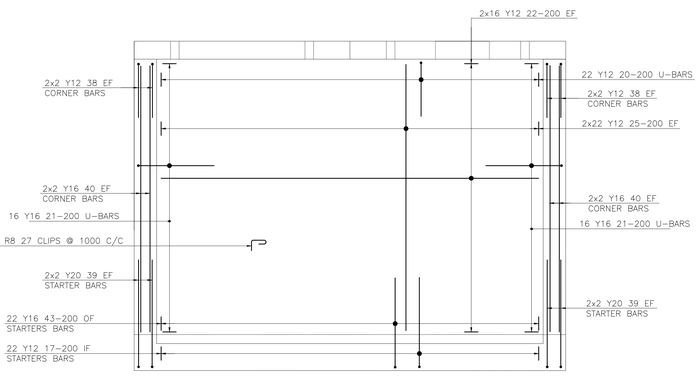




ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

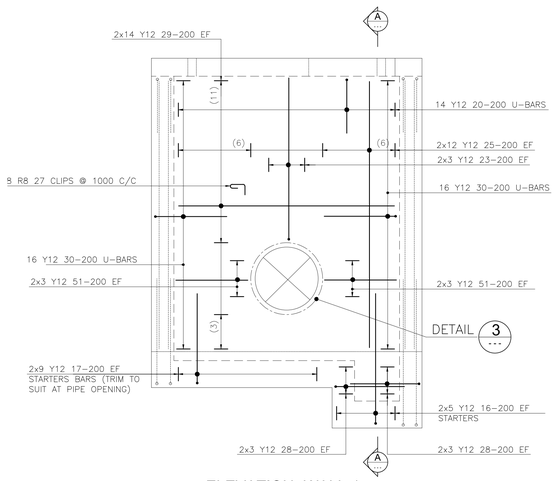
SCALE 1 : 25



ELEVATION- WALL 2 REINFORCEMENT DETAILS

1 REQUIRED

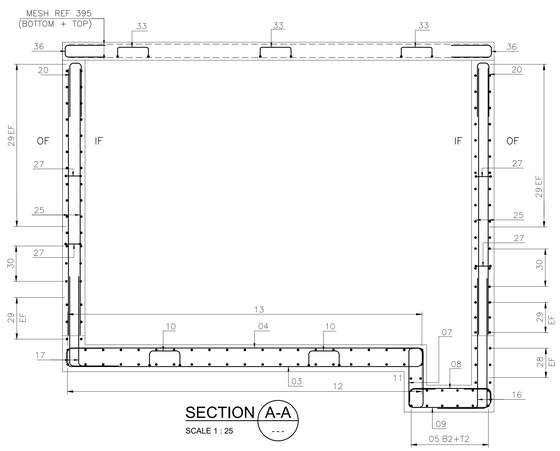
SCALE 1 : 25



ELEVATION- WALL 4 REINFORCEMENT DETAILS

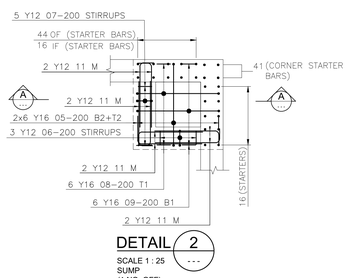
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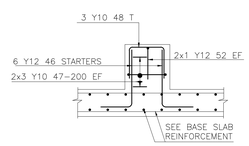
SECTION A-A

SCALE 1 : 25



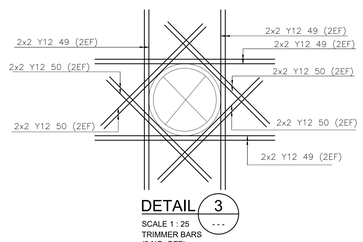
DETAIL 2

SCALE 1 : 25
SUMP
(1 NO. OFF)



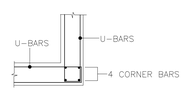
SECTION C-C

SCALE 1 : 25
PLINTH BARS
(1 NO. OFF)



DETAIL 3

SCALE 1 : 25
TRIMMER BARS
(2 NO. OFF)



PLAN : TYPICAL REINFORCEMENT CORNER DETAIL

4 REQUIRED

SCALE 1 : 25

JW14289-308	OUTLET FLOW METER CHAMBER AND INSTALLATION DEATILS
REFERENCE DRAWINGS	

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Joburg

JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

OUTLET FLOW METER CHAMBER : REINFORCEMENT DETAILS

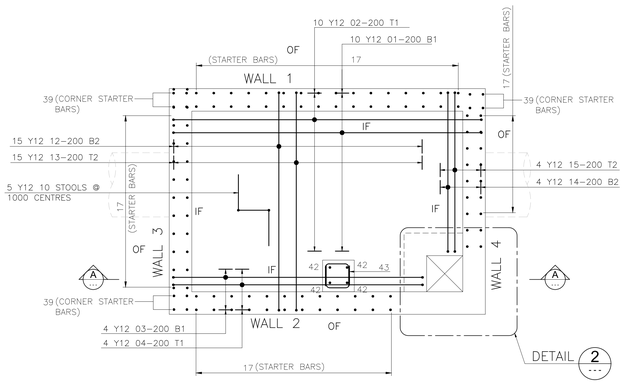
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-406

PROJECT No.	DRAWING No.	REV.
JW14289R	406 –	T

ORIGINAL PAGE SIZE: A0 | SHEET 1 OF 1

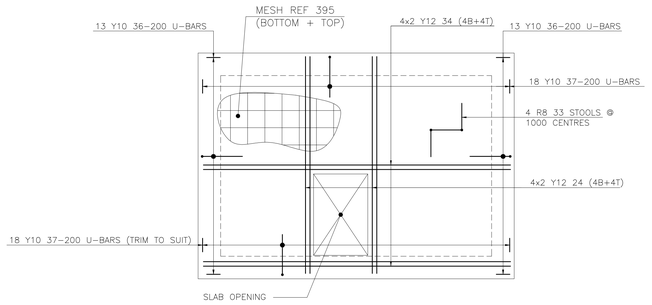
FILE No.



BASE SLAB PLAN- OUTLET ISOLATION VALVE CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

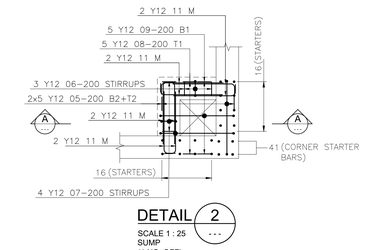
SCALE 1 : 25



PLAN - ROOF SLAB - OUTLET ISOLATION VALVE CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

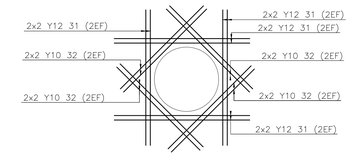


DETAIL 2

SCALE 1 : 25

SUMP

(1 NO. OFF)



DETAIL 3

SCALE 1 : 25

TRIMMER BARS

(2 NO. OFF)

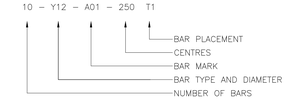
NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   - BASE SLAB = 40mm
   - WALLS = 40mm
   - ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

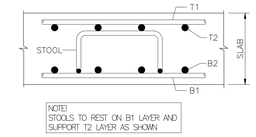
REINFORCING LEGEND:

1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	EW	–	EACH WAY

REINFORCING NOTATION:



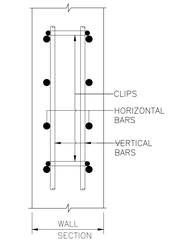
STOOLS

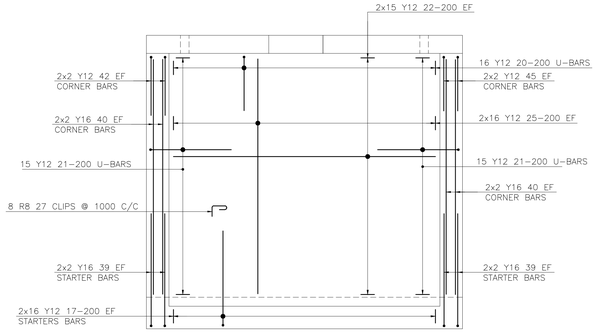


NOTE!
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN

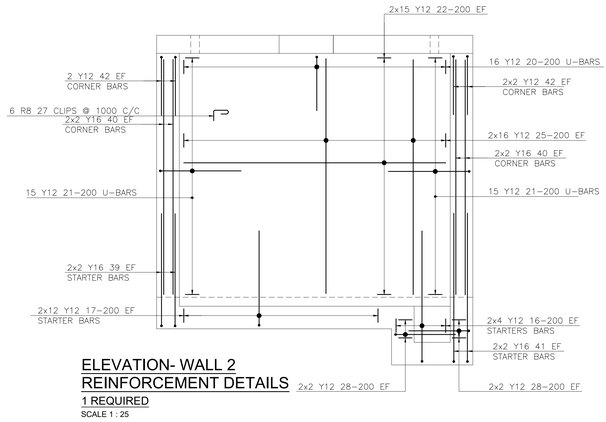




ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

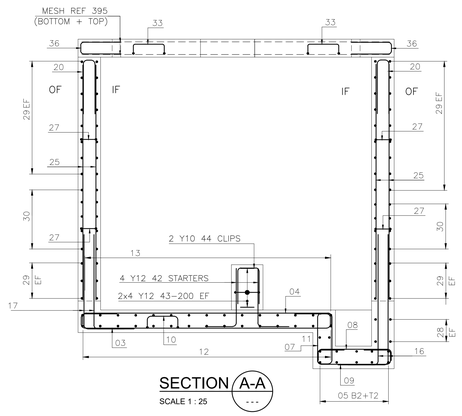
SCALE 1 : 25



ELEVATION- WALL 2 REINFORCEMENT DETAILS

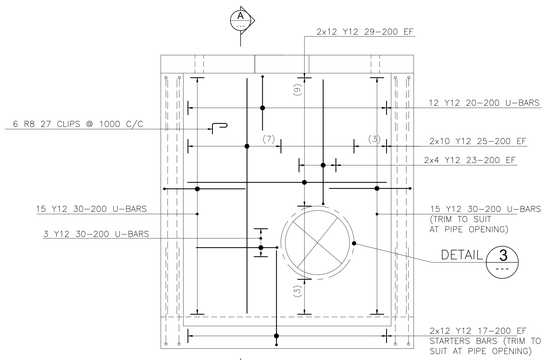
1 REQUIRED

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SECTION A-A

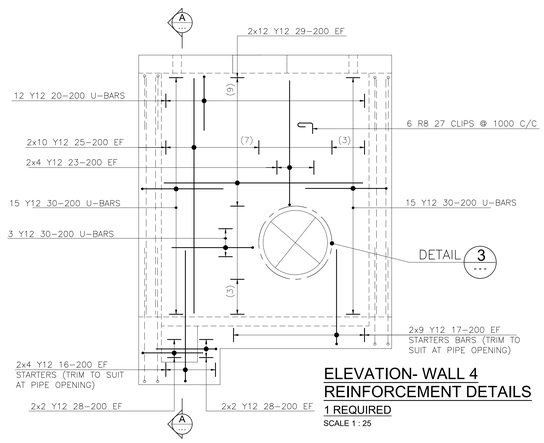
SCALE 1 : 25



ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

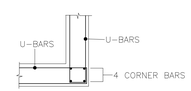
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ELEVATION- WALL 4 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



PLAN : TYPICAL REINFORCEMENT CORNER DETAIL

4 REQUIRED

SCALE 1 : 25

JW14289-309	OUTLET ISOLATION CHAMBER AND INSTALATION DEATILS
REFERENCE DRAWINGS	

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DESIGNED	K.M		20/09/2022
DRAWN	T.T		23/09/2022
CHECKED	D.G		26/09/2022
APPROVED BY: K. MUJAJI		SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143		
CHECKED			
APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

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Joburg

JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

OUTLET ISOLATION VALVE CHAMBER

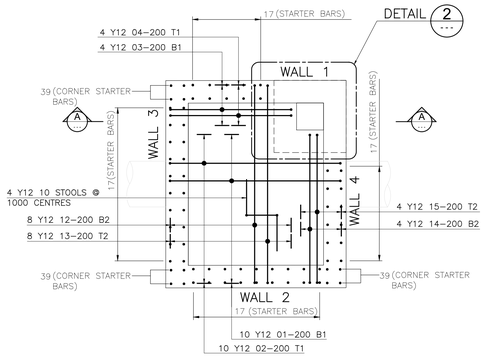
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-408

JW14289R	408	–	T
PROJECT No.	DRAWING No.		REV.

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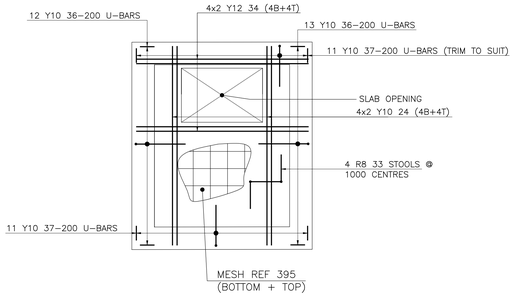
FILE No.



BASE SLAB PLAN - INSULATING GASKET KIT MANHOLE REINFORCEMENT DETAILS

1 REQUIRED

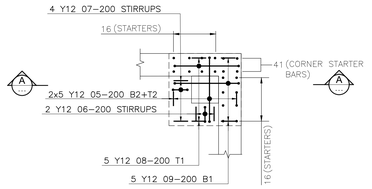
SCALE 1 : 25



PLAN - ROOF SLAB-INSULATING GASKET KIT MANHOLE REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

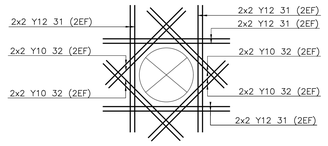


DETAIL 2

SCALE 1 : 25

SUMP

(1 NO. OFF)



DETAIL 3

SCALE 1 : 25

TRIMMER BARS

(2 NO. OFF)

NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   - BASE SLAB = 40mm
   - WALLS = 40mm
   - ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

REINFORCING LEGEND:

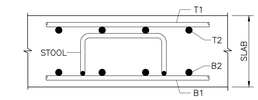
1.	T	–	TOP
2.	M	–	MIDDLE
3.	B	–	BOTTOM
4.	T1	–	FIRST TOP LAYER
5.	T2	–	SECOND TOP LAYER
6.	B1	–	FIRST BOTTOM LAYER
7.	B2	–	SECOND BOTTOM LAYER
8.	ABR	–	ALTERNATE BARS REVERSED
9.	ALT	–	ALTERNATING BARS
10.	NF	–	NEAR FACE
11.	FF	–	FAR FACE
12.	EF	–	EACH FACE
13.	EW	–	EACH WAY

REINFORCING NOTATION:

10 – Y12 – A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

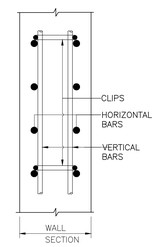
STOOLS

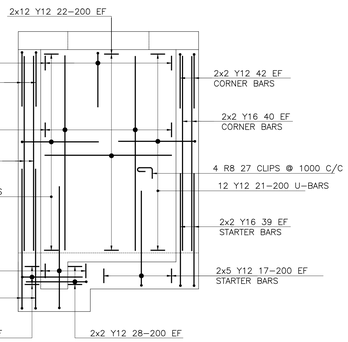


NOTE!
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN

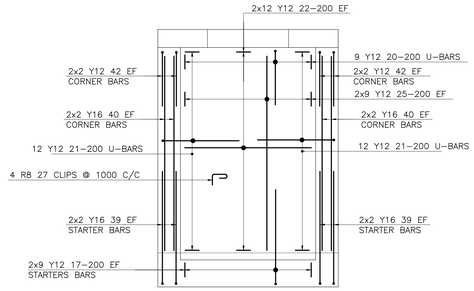




ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

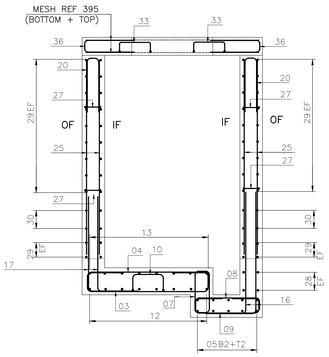
SCALE 1 : 25



ELEVATION- WALL 2 REINFORCEMENT DETAILS

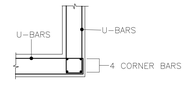
1 REQUIRED

SCALE 1 : 25



SECTION A-A

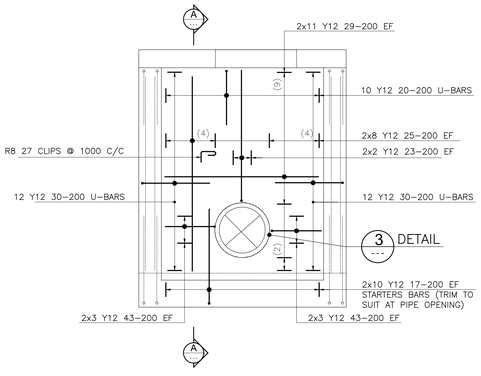
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PLAN : TYPICAL REINFORCEMENT CORNER DETAIL

4 REQUIRED

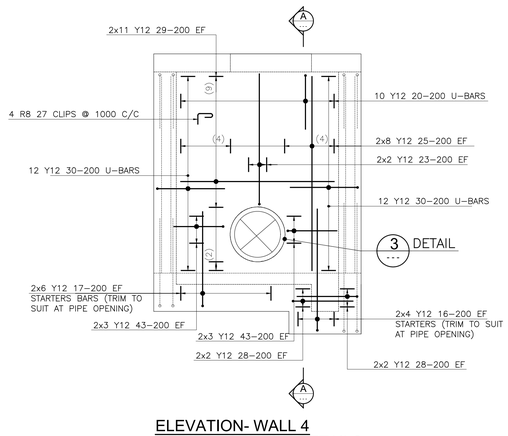
SCALE 1 : 25



ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



ELEVATION- WALL 4 REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25

JW14289–310	TYPICAL INSULATION GASKET KIT MANHOLE DETAIL
REFERENCE DRAWINGS	

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DESIGNED	K.M		20/09/2022
DRAWN	T.T		24/09/2022
CHECKED	D.G		26/09/2022
APPROVED BY: K. MUJAJI		SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143		
CHECKED			
APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

Johannesburg Water

TURBINE HALL
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TEL: (011) 688-1542
FAX: (011) 688-6604

Joburg

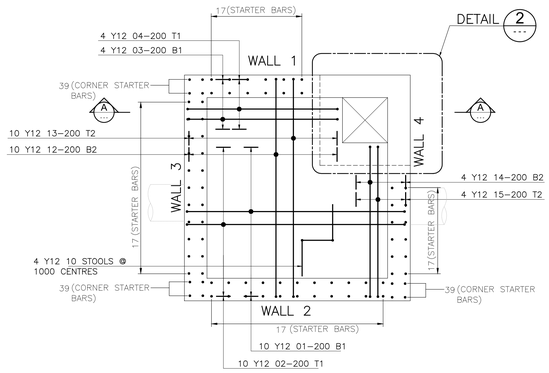
JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

TYPICAL INSULATING GASKET KIT MANHOLE

SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	0	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-409

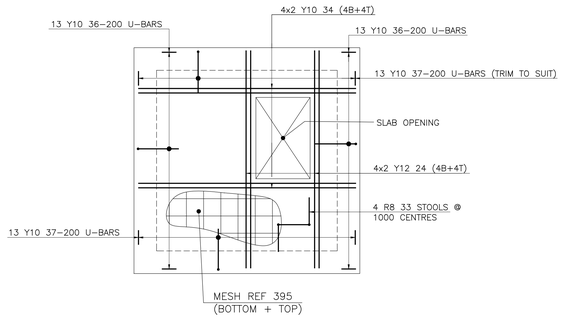
JW14289R — PROJECT No.
409 – T — DRAWING No. – REV.
A0 — ORIGINAL PAGE SIZE
SHEET 1 OF 1
FILE No.



BASE SLAB PLAN- INLET FLOW METER CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

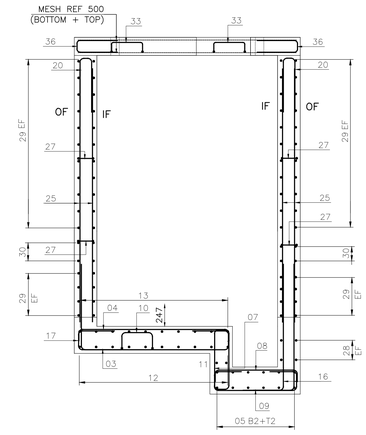
SCALE 1 : 25



ROOF SLAB PLAN- INLET FLOW METER CHAMBER REINFORCEMENT DETAILS

1 REQUIRED

SCALE 1 : 25



SECTION A-A

SCALE 1 : 25

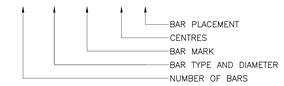
NOTES:

1. REINFORCEMENT TO SANS 920: 2011 AND SANS 282: 2011
2. COVER TO REINFORCEMENT:
   BASE SLAB = 40mm
   WALLS = 40mm
   ROOF SLAB = 30mm
3. MINIMUM LAP LENGTH = 45 x SMALLER BAR DIAMETER, MINIMUM LAP DIMENSION INDICATED TO BE APPLICABLE.

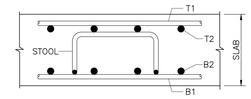
REINFORCING LEGEND:

1.	T	– TOP
2.	M	– MIDDLE
3.	B	– BOTTOM
4.	T1	– FIRST TOP LAYER
5.	T2	– SECOND TOP LAYER
6.	B1	– FIRST BOTTOM LAYER
7.	B2	– SECOND BOTTOM LAYER
8.	ABR	– ALTERNATE BARS REVERSED
9.	ALT	– ALTERNATING BARS
10.	NF	– NEAR FACE
11.	FF	– FAR FACE
12.	EF	– EACH FACE
13.	EW	– EACH WAY

REINFORCING NOTATION:



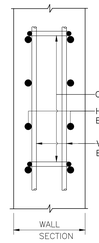
STOOLS

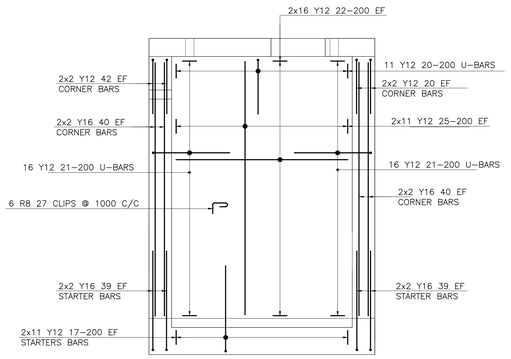


NOTE:
STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN

CLIPS DETAIL:

CLIPS TO BE PLACED AS SHOWN

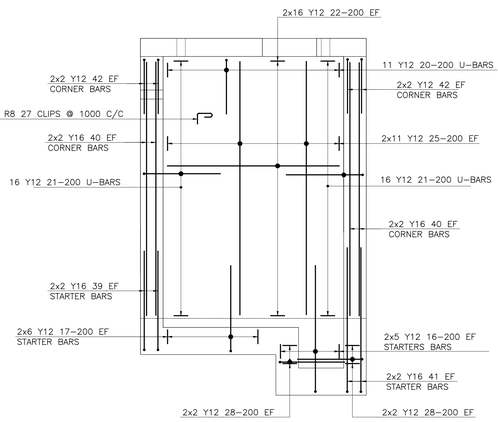




ELEVATION- WALL 2 REINFORCEMENT DETAILS

1 REQUIRED

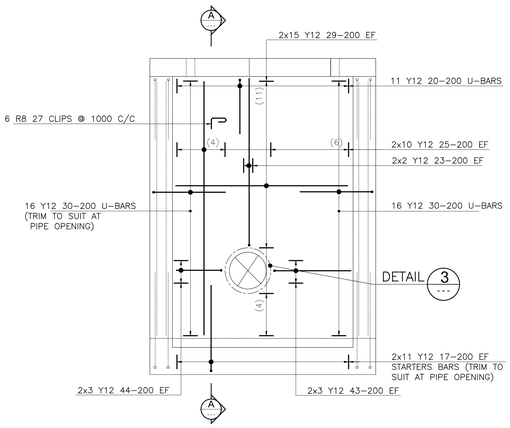
SCALE 1 : 25



ELEVATION- WALL 1 REINFORCEMENT DETAILS

1 REQUIRED

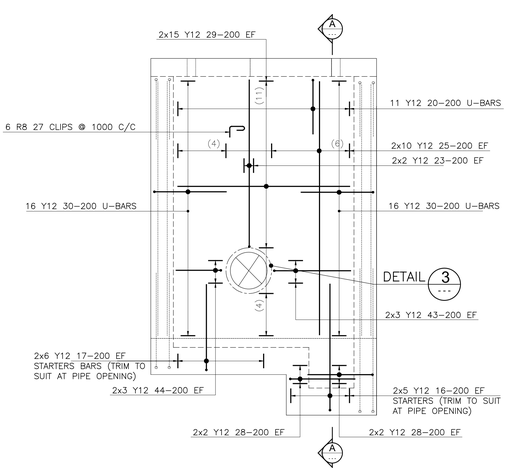
SCALE 1 : 25



ELEVATION- WALL 3 REINFORCEMENT DETAILS

1 REQUIRED

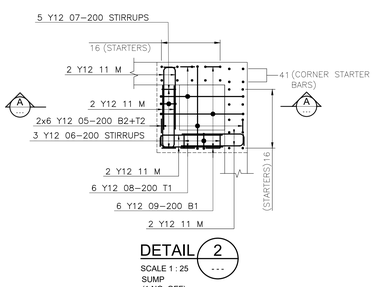
SCALE 1 : 25



ELEVATION- WALL 4 REINFORCEMENT DETAILS

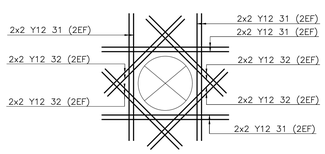
1 REQUIRED

SCALE 1 : 25



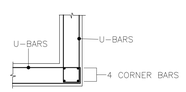
DETAIL 2

SCALE 1 : 25
SUMP
(1 NO. OFF)



DETAIL 3

SCALE 1 : 25
TRIMMER BARS
(2 NO. OFF)



PLAN : TYPICAL REINFORCEMENT CORNER DETAIL

4 REQUIRED

SCALE 1 : 25

JW14289–300	INLET FLOW CHAMBER AND INSTALATION DETAILS
REFERENCE DRAWINGS	

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DESIGNED	K.M	20/09/20122
DRAWN	T.T	22/09/2022
CHECKED	D.G	26/09/2022
APPROVED BY: K. MUJAJI	SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143	
CHECKED		
APPROVED BY: E. MUDAU	SIGNATURE	DATE
ECSA REG. No.		

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FAX: (011) 688-6604

Joburg

JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

INLET FLOW METER CHAMBER

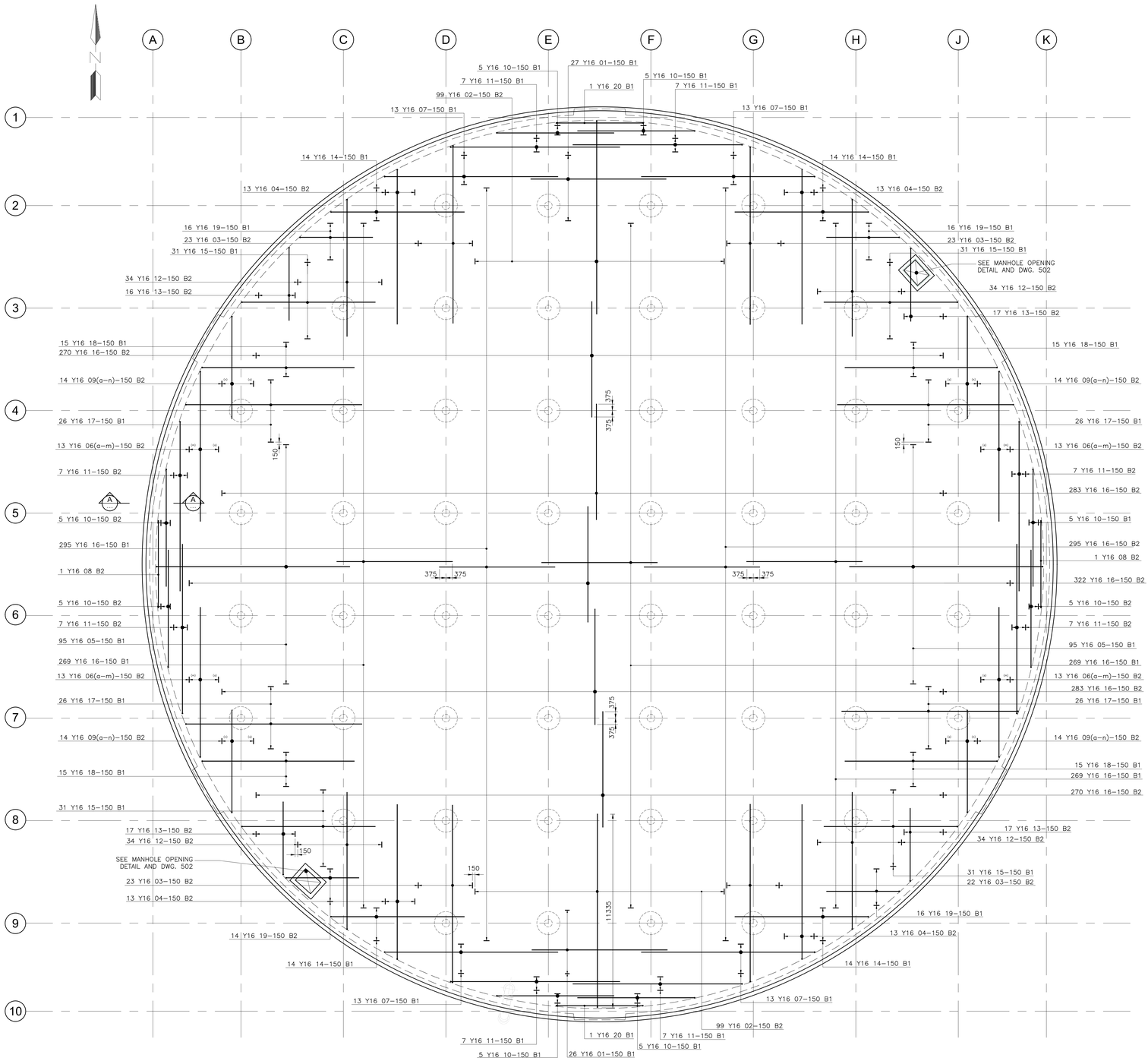
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-410

JW14289R	410	–	T
PROJECT No.	DRAWING No.		REV.

A0 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.



ROOF SLAB BOTTOM REINFORCEMENT LAYOUT

SCALE 1 : 100

REINFORCEMENT NOTES:

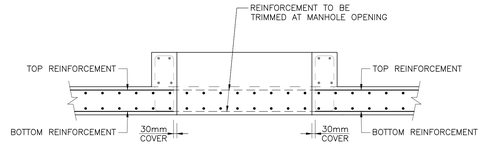
1. REINFORCEMENT TO SANS 920:2011 AND SANS 282:2011
2. CONCRETE COVER TO REINFORCEMENT:

SURFACE BED	–	50mm
WALL STRIP FOOTINGS	–	50mm.
COLUMN PAD FOOTINGS	–	50mm.
WALLS	–	40mm.
COLUMNS	–	40mm.
ROOF SLAB	–	30mm.
ROOF UPSTAND BEAM	–	30mm.

3. MINIMUM LAP LENGTH FOR REINFORCEMENT BARS = 45 x SMALLEST BAR DIAMETER TO BE LAPPED.

REINFORCING LEGEND:

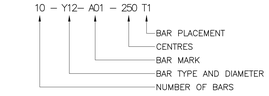
T	–	TOP
M	–	MIDDLE
B	–	BOTTOM
T1	–	FIRST TOP LAYER
T2	–	SECOND TOP LAYER
B1	–	FIRST BOTTOM LAYER
B2	–	SECOND BOTTOM LAYER
ABR	–	ALTERNATE BARS REVERSED
ALT	–	ALTERNATING BARS
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
EW	–	EACH WAY



MANHOLE OPENING DETAIL

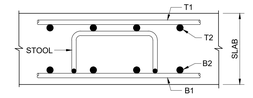
SCALE 1 : 20

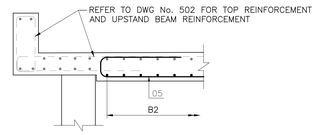
REINFORCING NOTATION:



STOOLS:

STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN.





SECTION A-A

SCALE 1 : 20

DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
105	ROOF LAYOUT
502	ROOF SLAB TOP 'T1' REINFORCEMENT LAYOUT
503	ROOF SLAB TOP 'T2' REINFORCEMENT LAYOUT
REFERENCE DRAWINGS	

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DESIGNED	K.M		05/05/2015
DRAWN	S.S		05/05/2015
CHECKED	D.G		05/05/2019
APPROVED BY: K. MUJAJI		SIGNATURE	31/07/2024 DATE
ECSA REG. No.	20110143		
CHECKED			
APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

Johannesburg Water

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Joburg

JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR
ROOF SLAB BOTTOM REINFORCEMENT LAYOUT

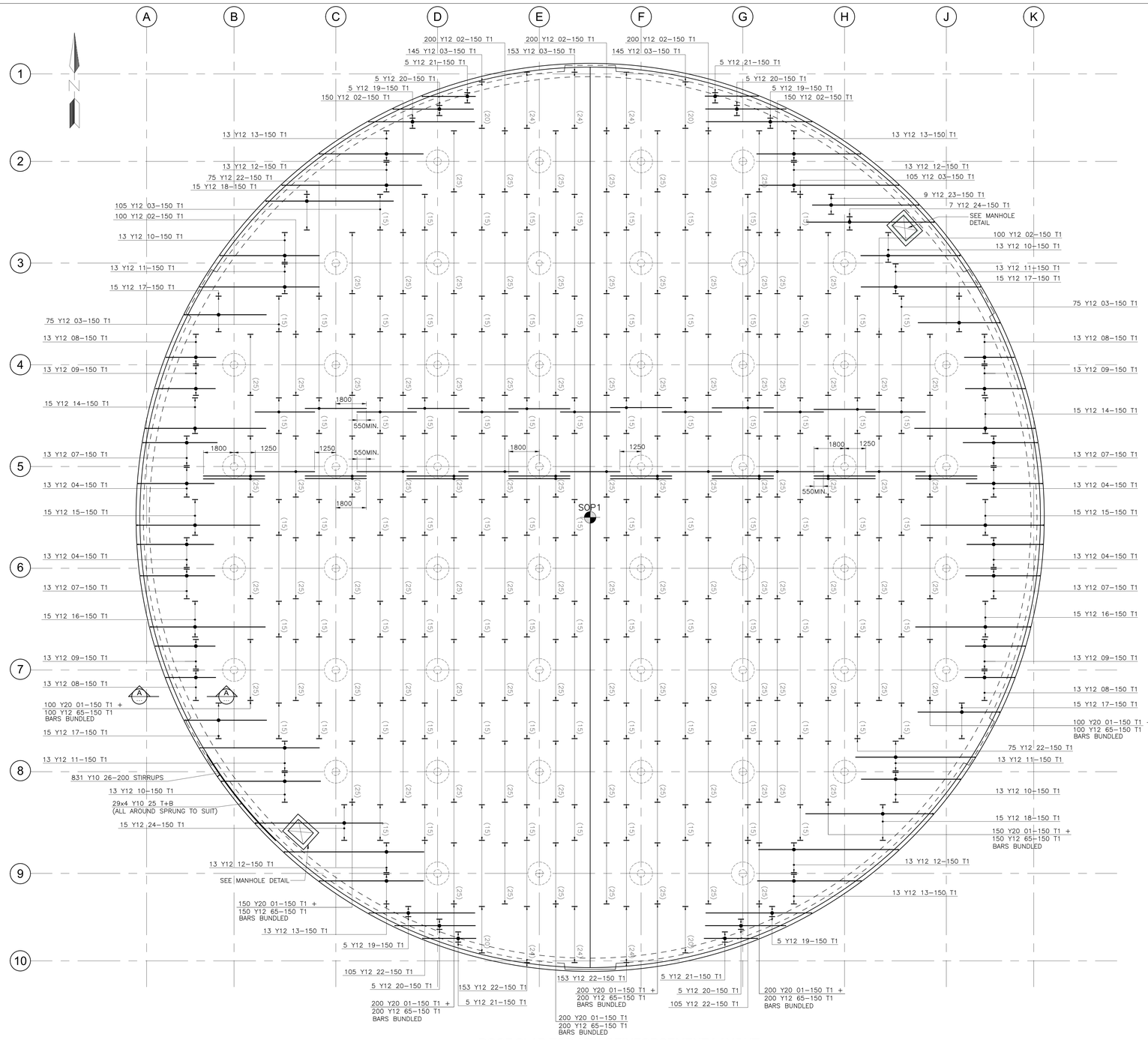
SCALE	REV:	AMENDMENTS	APPROVED DATE:
AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-501

PROJECT No.	DRAWING No.	REV.
JW14289R	501	T

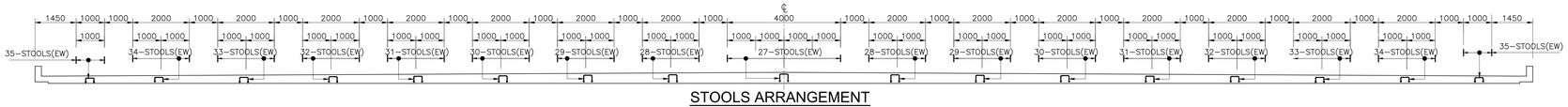
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FILE No.



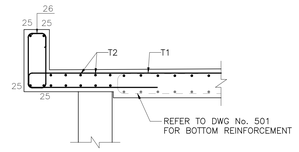
ROOF SLAB TOP (T1) REINFORCEMENT LAYOUT

SCALE 1 : 100



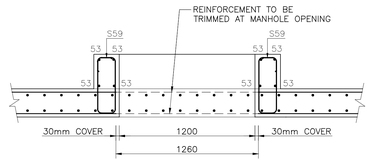
STOOLS ARRANGEMENT

SCALE 1 : 75



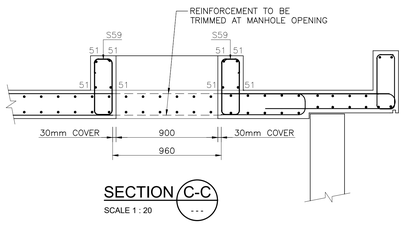
SECTION A-A

SCALE 1 : 20



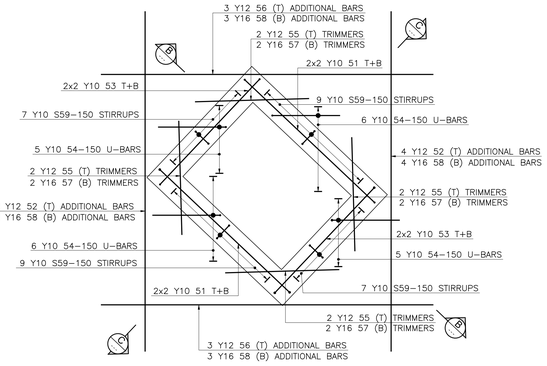
SECTION B-B

SCALE 1 : 20



SECTION C-C

SCALE 1 : 20



MANHOLE DETAIL

SCALE 1 : 20
2 NO. OFF

REINFORCEMENT NOTES:

1. REINFORCEMENT TO SANS 920:2011 AND SANS 282:2011
2. CONCRETE COVER TO REINFORCEMENT:
   - SURFACE BED – 50mm
   - WALL STRIP FOOTINGS – 50mm.
   - COLUMN PAD FOOTINGS – 50mm.
   - WALLS – 40mm.
   - COLUMNS – 40mm.
   - ROOF SLAB – 30mm.
   - ROOF UPSTAND BEAM – 30mm.
3. MINIMUM LAP LENGTH FOR REINFORCEMENT BARS = 45 x SMALLEST BAR DIAMETER TO BE LAPPED.

REINFORCING LEGEND:

T	–	TOP
M	–	MIDDLE
B	–	BOTTOM
T1	–	FIRST TOP LAYER
T2	–	SECOND TOP LAYER
B1	–	FIRST BOTTOM LAYER
B2	–	SECOND BOTTOM LAYER
ABR	–	ALTERNATE BARS REVERSED
ALT	–	ALTERNATING BARS
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
EW	–	EACH WAY

REINFORCING NOTATION:

10 – Y12– A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

STOOLS:

STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN.



DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
501	ROOF SLAB BOTTOM REINFORCEMENT LAYOUT
503	ROOF SLAB TOP 'T2' REINFORCEMENT LAYOUT
REFERENCE DRAWINGS	

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DRAWN	S.S		05/05/2015
CHECKED	D.G		07/10/2019
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APPROVED BY: E. MUDAU		SIGNATURE	DATE
ECSA REG. No.			

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR
ROOF SLAB TOP (T1) REINFORCEMENT LAYOUT

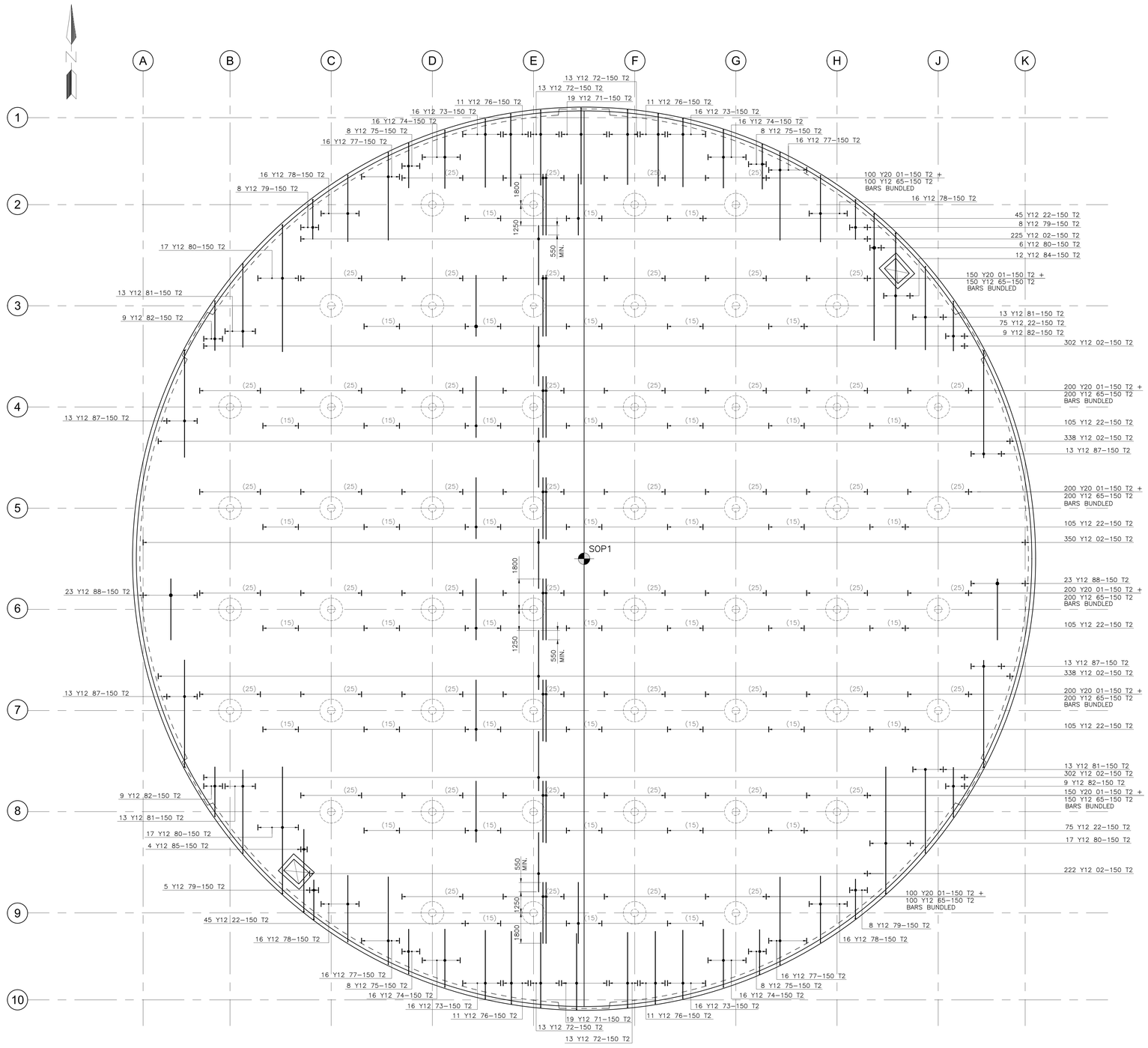
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AS SHOWN	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-502

JW14289R PROJECT No. | 502 DRAWING No. | T REV.

A0 ORIGINAL PAGE SIZE | SHEET 1 OF 1

FILE No.



ROOF SLAB TOP (T2) REINFORCEMENT LAYOUT

SCALE 1 : 100

REINFORCEMENT NOTES:

1. REINFORCEMENT TO SANS 920:2011 AND SANS 282:2011
2. CONCRETE COVER TO REINFORCEMENT:

SURFACE BED	– 50mm
WALL STRIP FOOTINGS	– 50mm.
COLUMN PAD FOOTINGS	– 50mm.
WALLS	– 40mm.
COLUMNS	– 40mm.
ROOF SLAB	– 30mm.
ROOF UPSTAND BEAM	– 30mm.

3. MINIMUM LAP LENGTH FOR REINFORCEMENT BARS = 45 x SMALLEST BAR DIAMETER TO BE LAPPED.

REINFORCING LEGEND:

T	–	TOP
M	–	MIDDLE
B	–	BOTTOM
T1	–	FIRST TOP LAYER
T2	–	SECOND TOP LAYER
B1	–	FIRST BOTTOM LAYER
B2	–	SECOND BOTTOM LAYER
ABR	–	ALTERNATE BARS REVERSED
ALT	–	ALTERNATING BARS
NF	–	NEAR FACE
FF	–	FAR FACE
EF	–	EACH FACE
EW	–	EACH WAY

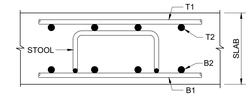
REINFORCING NOTATION:

10 – Y12– A01 – 250 T1

- BAR PLACEMENT
- CENTRES
- BAR MARK
- BAR TYPE AND DIAMETER
- NUMBER OF BARS

STOOLS:

STOOLS TO REST ON B1 LAYER AND SUPPORT T2 LAYER AS SHOWN.



DWG. No.	DESCRIPTION
102	GENERAL ARRANGEMENT
501	ROOF SLAB BOTTOM REINFORCEMENT LAYOUT
502	ROOF SLAB TOP 'T1' REINFORCEMENT LAYOUT
REFERENCE DRAWINGS	

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JW14289R: CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

ROOF SLAB (T2) REINFORCEMENT LAYOUT

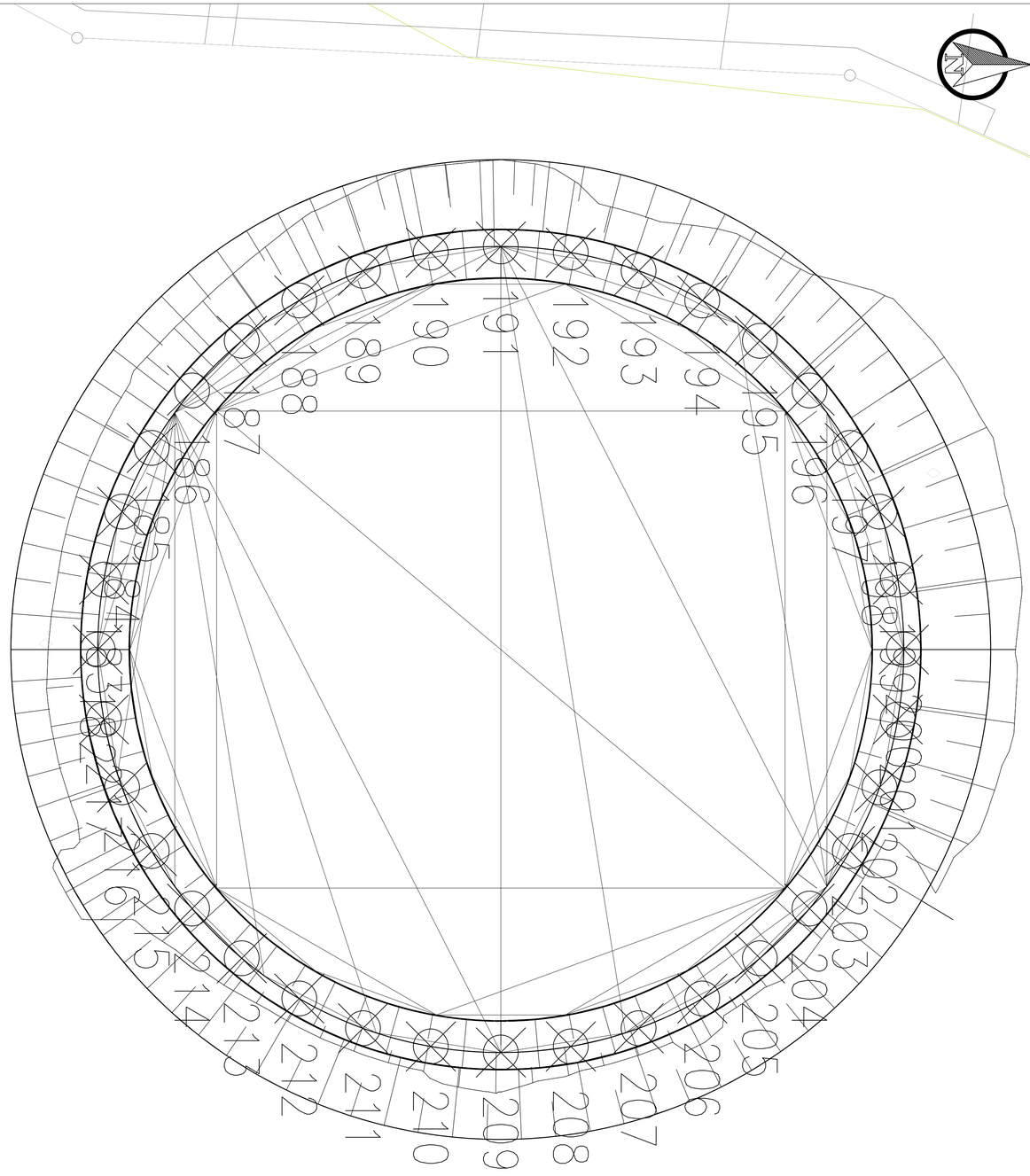
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DRAWING No: JW14289R-503

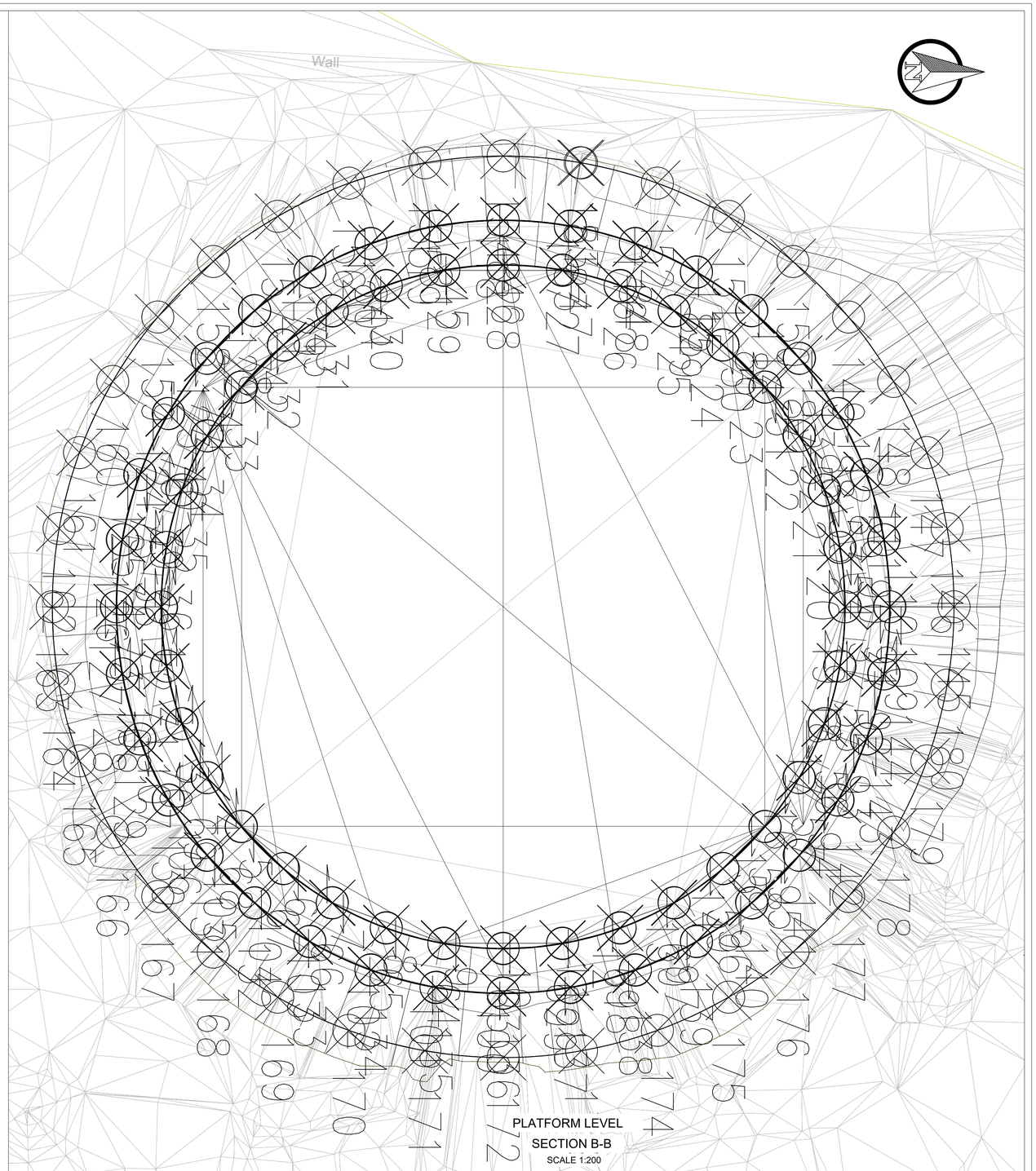
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JW14289R	503	T

ORIGINAL PAGE SIZE: A0 SHEET 2 OF 2

FILE No.



EXCAVATION LEVEL
SECTION A-A
SCALE 1:200



PLATFORM LEVEL
SECTION B-B
SCALE 1:200

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

TERRACE LEVEL PLANS

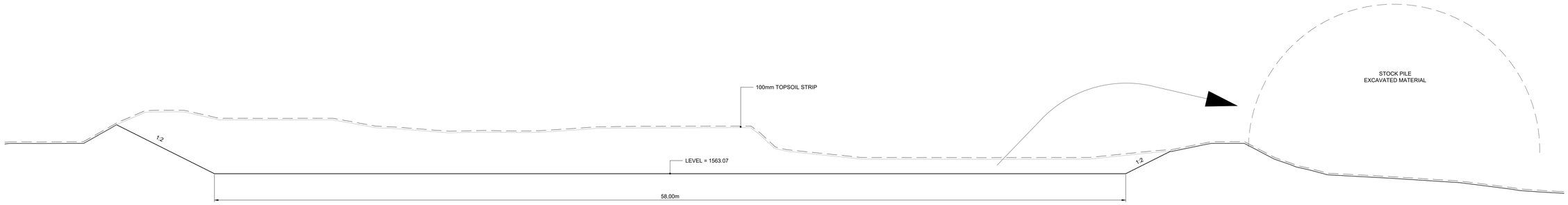
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1:200	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-601

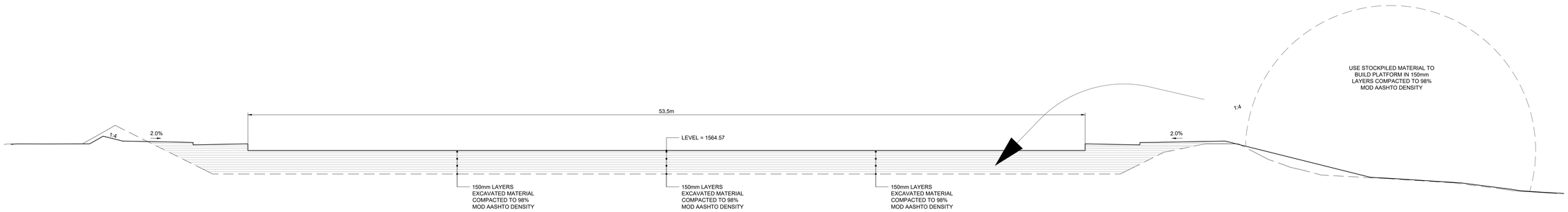
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A1 ORIGINAL PAGE SIZE | SHEET 1 OF 1

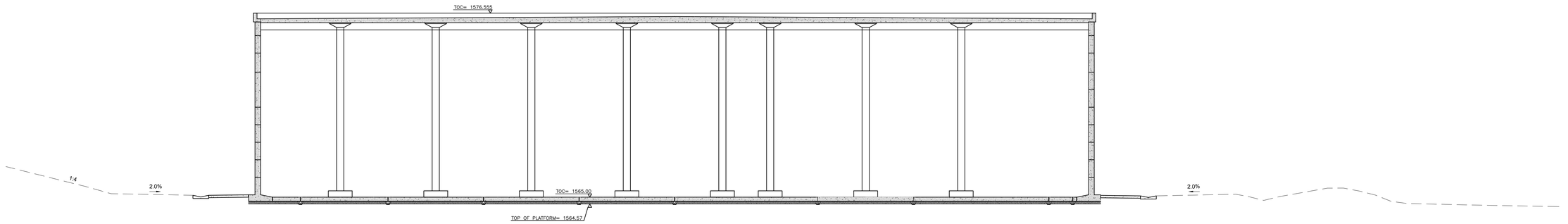
FILE No.



EXCAVATION LEVEL
SECTION A-A
SCALE 1:100



PLATFORM LEVEL
SECTION B-B
SCALE 1:100



FINAL LEVEL
SCALE 1:100

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

TYPICAL PAVEMENT DESIGN FOR PLATFORM

SCALE	REV:	AMENDMENTS	APPROVED DATE:
1:100	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-602

JW14289R PROJECT No. | 0 DRAWING No. | - | T REV.

A0 ORIGINAL PAGE SIZE | SHEET 2 OF 2

FILE No.

POINT TABLE			
POINT	Y	X	LEVEL
1	91116.190	2883303.460	1564.570
2	91111.554	2883303.055	1564.570
3	91107.058	2883301.850	1564.570
4	91102.840	2883299.883	1564.570
5	91099.028	2883297.214	1564.570
6	91095.737	2883293.923	1564.570
7	91093.067	2883290.110	1564.570
8	91091.100	2883285.892	1564.570
9	91089.896	2883281.397	1564.570
10	91089.490	2883276.760	1564.570
11	91089.896	2883272.124	1564.570
12	91091.100	2883267.628	1564.570
13	91093.067	2883263.410	1564.570
14	91095.737	2883259.598	1564.570
15	91099.028	2883256.307	1564.570
16	91102.840	2883253.637	1564.570
17	91107.058	2883251.671	1564.570
18	91111.554	2883250.466	1564.570
19	91116.190	2883250.060	1564.570
20	91120.826	2883250.466	1564.570

POINT TABLE			
POINT	Y	X	LEVEL
21	91125.322	2883251.671	1564.570
22	91129.540	2883253.637	1564.570
23	91133.352	2883256.307	1564.570
24	91136.643	2883259.598	1564.570
25	91139.313	2883263.410	1564.570
26	91141.280	2883267.628	1564.570
27	91142.484	2883272.124	1564.570
28	91142.890	2883276.760	1564.570
29	91142.484	2883281.397	1564.570
30	91141.280	2883285.892	1564.570
31	91139.313	2883290.110	1564.570
32	91136.643	2883293.923	1564.570
33	91133.352	2883297.214	1564.570
34	91129.540	2883299.883	1564.570
35	91125.322	2883301.850	1564.570
36	91120.826	2883303.055	1564.570

POINT TABLE			
POINT	Y	X	LEVEL
38	91120.835	2883303.104	1565.000
39	91125.339	2883301.897	1565.000
40	91129.565	2883299.927	1565.000
41	91133.385	2883297.252	1565.000
42	91136.682	2883293.955	1565.000
43	91139.356	2883290.135	1565.000
44	91141.327	2883285.909	1565.000
45	91142.534	2883281.405	1565.000
46	91142.940	2883276.760	1565.000
47	91142.534	2883272.115	1565.000
48	91141.327	2883267.611	1565.000
49	91139.356	2883263.385	1565.000
50	91136.682	2883259.566	1565.000
51	91133.385	2883256.269	1565.000
52	91129.565	2883253.594	1565.000
53	91125.339	2883251.624	1565.000
54	91120.835	2883250.417	1565.000
55	91111.545	2883250.417	1565.000
56	91107.041	2883251.624	1565.000
57	91102.815	2883253.594	1565.000

POINT TABLE			
POINT	Y	X	LEVEL
58	91098.995	2883256.269	1565.000
59	91095.698	2883259.566	1565.000
60	91093.024	2883263.385	1565.000
61	91091.053	2883267.611	1565.000
62	91089.846	2883272.115	1565.000
63	91089.440	2883276.760	1565.000
64	91089.846	2883281.405	1565.000
65	91091.053	2883285.909	1565.000
66	91093.024	2883290.135	1565.000
67	91095.698	2883293.955	1565.000
68	91098.995	2883297.252	1565.000
69	91102.815	2883299.927	1565.000
70	91107.041	2883301.897	1565.000
71	91111.545	2883303.104	1565.000
72	91116.190	2883303.510	1565.000
73	91116.190	2883306.960	1564.930
74	91121.434	2883306.502	1564.930
75	91126.519	2883305.139	1564.930
76	91131.290	2883302.914	1564.930
77	91135.602	2883299.895	1564.930

POINT TABLE			
POINT	Y	X	LEVEL
78	91139.324	2883296.173	1564.930
79	91142.344	2883291.860	1564.930
80	91144.569	2883287.089	1564.930
81	91145.931	2883282.005	1564.930
82	91146.390	2883276.760	1564.930
83	91145.931	2883271.516	1564.930
84	91144.569	2883266.431	1564.930
85	91142.344	2883261.660	1564.930
86	91139.324	2883257.348	1564.930
87	91135.602	2883253.626	1564.930
88	91131.290	2883250.606	1564.930
89	91126.519	2883248.382	1564.930
90	91121.434	2883247.019	1564.930
91	91116.190	2883246.560	1564.930
92	91110.946	2883247.019	1564.930
93	91105.861	2883248.382	1564.930
94	91101.090	2883250.606	1564.930
95	91096.778	2883253.626	1564.930
96	91093.055	2883257.348	1564.930
97	91090.036	2883261.660	1564.930

POINT TABLE			
POINT	Y	X	LEVEL
98	91087.811	2883266.431	1564.930
99	91086.449	2883271.516	1564.930
100	91085.990	2883276.760	1564.930
101	91086.449	2883282.005	1564.930
102	91087.811	2883287.089	1564.930
103	91090.036	2883291.860	1564.930
104	91093.055	2883296.173	1564.930
105	91096.778	2883299.895	1564.930
106	91101.090	2883302.914	1564.930
107	91105.861	2883305.139	1564.930
108	91110.946	2883306.502	1564.930
109	91116.190	2883246.510	1565.080
110	91121.443	2883246.970	1565.080
111	91126.536	2883248.335	1565.080
112	91131.315	2883250.563	1565.080
113	91135.634	2883253.587	1565.080
114	91139.363	2883257.316	1565.080
115	91142.387	2883261.635	1565.080
116	91144.616	2883266.414	1565.080
117	91145.980	2883271.507	1565.080

POINT TABLE			
POINT	Y	X	LEVEL
118	91146.440	2883276.760	1565.080
119	91145.980	2883282.013	1565.080
120	91144.616	2883287.106	1565.080
121	91142.387	2883291.885	1565.080
122	91139.363	2883296.205	1565.080
123	91135.634	2883299.933	1565.080
124	91131.315	2883302.958	1565.080
125	91126.536	2883305.186	1565.080
126	91121.443	2883306.551	1565.080
127	91116.190	2883307.010	1565.080
128	91110.937	2883306.551	1565.080
129	91105.844	2883305.186	1565.080
130	91101.065	2883302.958	1565.080
131	91096.746	2883299.933	1565.080
132	91093.017	2883296.205	1565.080
133	91089.993	2883291.885	1565.080
134	91087.764	2883287.106	1565.080
135	91086.400	2883282.013	1565.080
136	91085.940	2883276.760	1565.080
137	91086.400	2883271.507	1565.080

POINT TABLE			
POINT	Y	X	LEVEL
138	91087.764	2883266.414	1565.080
139	91089.993	2883261.635	1565.080
140	91093.017	2883257.316	1565.080
141	91096.746	2883253.587	1565.080
142	91101.065	2883250.563	1565.080
143	91105.844	2883248.335	1565.080
144	91110.937	2883246.970	1565.080
145	91116.190	2883241.510	1565.180
146	91122.311	2883242.046	1565.180
147	91128.246	2883243.636	1565.180
148	91133.815	2883246.233	1565.180
149	91138.848	2883249.757	1565.180
150	91143.193	2883254.102	1565.180
151	91146.717	2883259.135	1565.180
152	91149.314	2883264.704	1565.180
153	91150.904	2883270.639	1565.180
154	91151.440	2883276.760	1565.180
155	91150.904	2883282.881	1565.180
156	91149.314	2883288.817	1565.180
157	91146.717	2883294.385	1565.180

POINT TABLE			
POINT	Y	X	LEVEL
158	91143.193	2883299.419	1565.180
159	91138.848	2883303.763	1565.180
160	91133.815	2883307.288	1565.180
161	91128.246	2883309.885	1565.180
162	91122.311	2883311.475	1565.180
163	91116.190	2883312.010	1565.180
164	91110.069	2883311.475	1565.180
165	91104.134	2883309.885	1565.180
166	91098.565	2883307.288	1565.180
167	91093.532	2883303.763	1565.180
168	91089.187	2883299.419	1565.180
169	91085.663	2883294.385	1565.180
170	91083.066	2883288.817	1565.180
171	91081.475	2883282.881	1565.180
172	91080.940	2883276.760	1565.180
173	91081.475	2883270.639	1565.180
174	91083.066	2883264.704	1565.180
175	91085.663	2883259.135	1565.180
176	91089.187	2883254.102	1565.180
177	91093.532	2883249.757	1565.180

POINT TABLE			
POINT	Y	X	LEVEL
178	91098.565	2883246.233	1565.180
179	91104.134	2883243.636	1565.180
180	91110.069	2883242.046	1565.180
182	91116.190	2883305.760	1563.070
183	91121.226	2883305.320	1563.070
184	91126.109	2883304.011	1563.070
185	91130.690	2883301.875	1563.070
186	91134.831	2883298.976	1563.070
187	91138.405	2883295.401	1563.070
188	91141.305	2883291.260	1563.070
189	91143.441	2883286.679	1563.070
190	91144.749	2883281.796	1563.070
191	91145.190	2883276.760	1563.070
192	91144.749	2883271.725	1563.070
193	91143.441	2883266.842	1563.070
194	91141.305	2883262.260	1563.070
195	91138.405	2883258.119	1563.070
196	91134.831	2883254.545	1563.070
197	91130.690	2883251.646	1563.070
198	91126.109	2883249.509	1563.070

POINT TABLE			
POINT	Y	X	LEVEL
199	91121.226	2883248.201	1563.070
200	91116.190	2883247.760	1563.070
201	91111.154	2883248.201	1563.070
202	91106.271	2883249.509	1563.070
203	91101.690	2883251.646	1563.070
204	91097.549	2883254.545	1563.070
205	91093.975	2883258.119	1563.070
206	91091.075	2883262.260	1563.070
207	91088.939	2883266.842	1563.070
208	91087.631	2883271.725	1563.070
209	91087.190	2883276.760	1563.070
210	91087.631	2883281.796	1563.070
211	91088.939	2883286.679	1563.070
212	91091.075	2883291.260	1563.070
213	91093.975	2883295.401	1563.070
214	91097.549	2883298.976	1563.070
215	91101.690	2883301.875	1563.070
216	91106.271	2883304.011	1563.070

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JW14289R : CONSTRUCTION OF 22 ML WOODMEAD RESERVOIR

BULK EARTHWORK SETTING OUT POINTS

SCALE	REV:	AMENDMENTS	APPROVED DATE:
1:1000	T	ISSUE FOR TENDER	20/08/2024

DRAWING No: JW14289R-603

JW14289R PROJECT No. | 603 DRAWING No. | T REV.

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