



**REPUBLIC OF KENYA**



**WATER SECTOR TRUST FUND**



**GERMAN DEVELOPMENT BANK**



**COUNTY GOVERNMENT OF NYERI**



**NYERI WATER AND SANITATION  
COMPANY**

**CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS  
FOR COMMERCIAL FINANCING**

**VOLUME III: BOOK OF DRAWINGS**

**THE PROPOSED CONSTRUCTION OF SEWER PUMPING STATION AND LAST MILE CONNECTIVITY FOR SEWER EXTENSION  
PROJECT IN KIAMWATHI-NGANGARITHI-RURINGU-SKUTA-MISHA AND THUNGUMA ESTATES,  
NYERI COUNTY  
LOT 2**

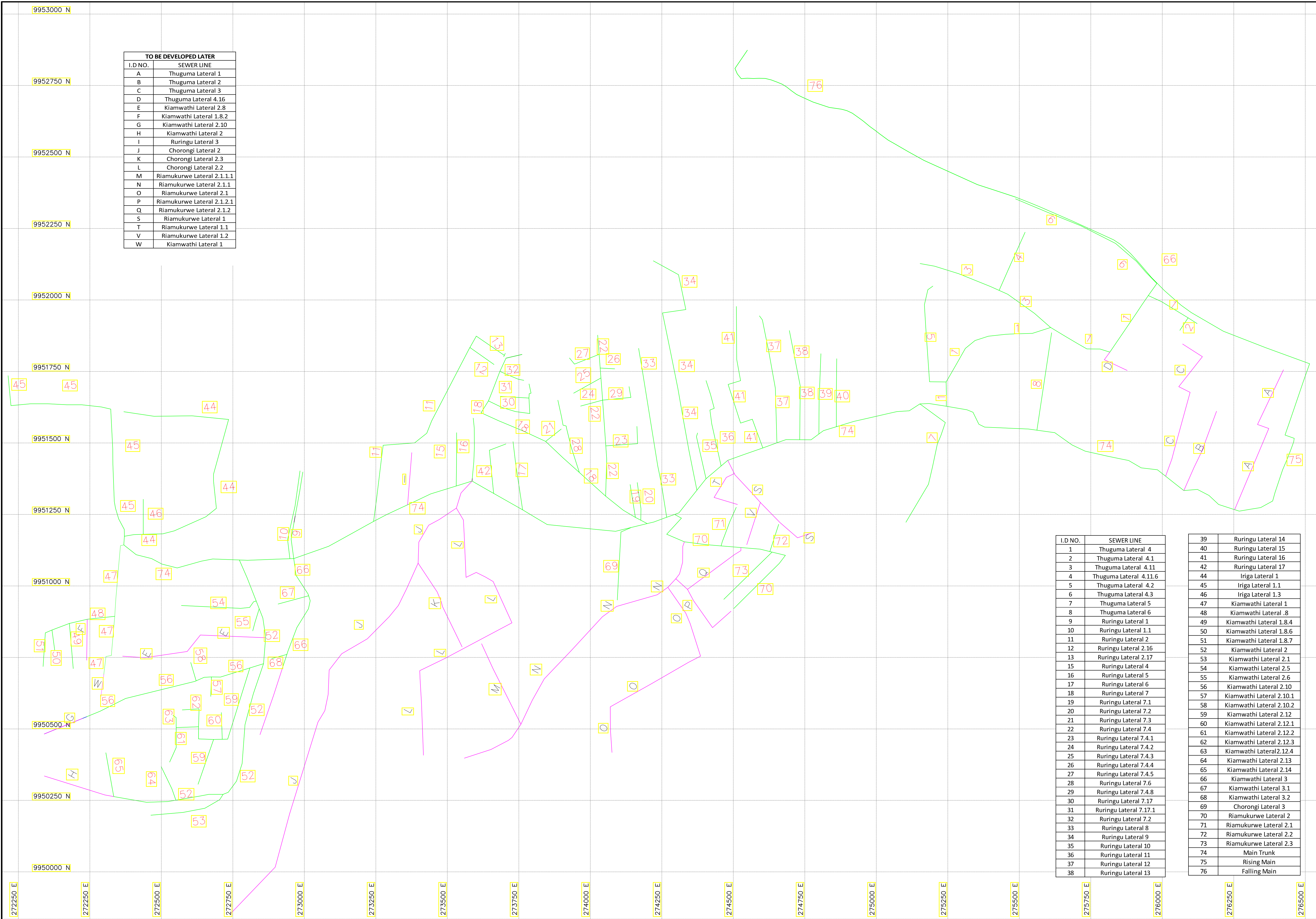


**CAS CONSULTANTS LTD**

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**NOVEMBER 2025**

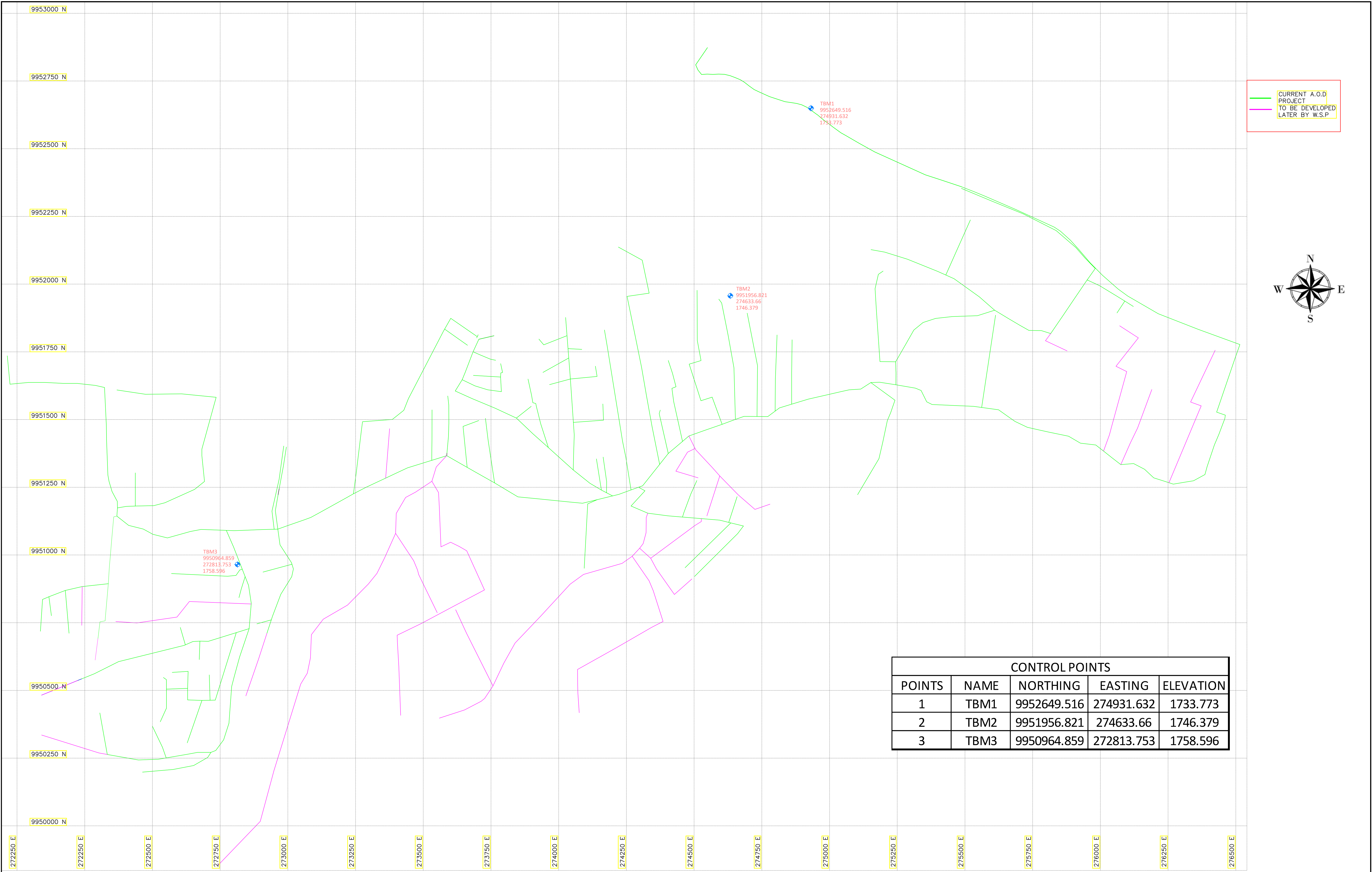
CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING BMZ ID: 2013 65 402 (WSTF – Phase III) BMZ ID: 2016 65 124 (WSTF – Phase IV) LOT 1-(NYEWASCO)					
SCHEDULE OF DRAWINGS					
S/No.	Description	Drawing No.	S/No.	Description	Drawing No.
1	Project Layout	WSTF/AoD/NYERI/LO/01	14	Nyeri sewage pumping station section profile	WSTF/AoD/NYERI/WW/LO/02
2	Control Points	WSTF/AoD/NYERI/CP/LO/01	15	Nyeri emergency holding lagoon 2200m³	WSTF/AoD/NYERI/EL/01
3	Section plan layout	WSTF/AoD/NYERI/06	16	Nyeri AoD wet well general arrangements	WSTF/AoD/NYERI/WW/01
4	Section plan layout	WSTF/AoD/NYERI/07	17	Nyeri AoD wet well section details	WSTF/AoD/NYERI/WW/02
5	Section plan layout	WSTF/AoD/NYERI/08	18	Nyeri AoD wet well pipework arrangement	WSTF/AoD/NYERI/WW/03
6	Rising main plan and profile	WSTF/AoD/NYERI/41	19	Nyeri AoD wet well inlet structure	WSTF/AoD/NYERI/WW/04
7	Rising main plan and profile	WSTF/AoD/NYERI/42	20	Nyeri AoD wet well general plan and section	WSTF/AoD/NYERI/WW/05
8	Falling main plan and profile	WSTF/AoD/NYERI/43	21	Guard house	WSTF/AoD/NYERI/LS/06
9	Road crossing details	WSTF/AoD/NYERI/44	22	Power house	WSTF/AoD/NYERI/LS/07
10	River crossings	WSTF/AoD/NYERI/45	23	River Crossings	WSTF/AoD/NYERI/045
11	River crossings	WSTF/AoD/NYERI/45A	24	River Crossings	WSTF/AoD/NYERI/045A
12	Fence and gate	WSTF/AoD/NYERI/46	25	Typical Manhole and Inspection Box Details	WSTF/AoD/NYERI/060
13	Nyeri sewage pumping station layout	WSTF/AoD/NYERI/WW/LO/01			







TO BE DEVELOPED LATER	
I.D NO.	SEWER LINE
A	Thuguma Lateral 1
B	Thuguma Lateral 2
C	Thuguma Lateral 3
D	Thuguma Lateral 4.16
E	Kiamwathi Lateral 2.8
F	Kiamwathi Lateral 1.8.2
G	Kiamwathi Lateral 2.10
H	Kiamwathi Lateral 2
I	Ruringu Lateral 3
J	Chorongi Lateral 2
K	Chorongi Lateral 2.3
L	Chorongi Lateral 2.2
M	Riamukurwe Lateral 2.1.1.1
N	Riamukurwe Lateral 2.1.1
O	Riamukurwe Lateral 2.1
P	Riamukurwe Lateral 2.1.2.1
Q	Riamukurwe Lateral 2.1.2
S	Riamukurwe Lateral 1
T	Riamukurwe Lateral 1.1
V	Riamukurwe Lateral 1.2
W	Kiamwathi Lateral 1

I.D NO.	SEWER LINE	39	Ruringu Lateral 14
1	Thuguma Lateral 4	40	Ruringu Lateral 15
2	Thuguma Lateral 4.1	41	Ruringu Lateral 16
3	Thuguma Lateral 4.11	42	Ruringu Lateral 17
4	Thuguma Lateral 4.11.6	44	Iriga Lateral 1
5	Thuguma Lateral 4.2	45	Iriga Lateral 1.1
6	Thuguma Lateral 4.3	46	Iriga Lateral 1.3
7	Thuguma Lateral 5	47	Kiamwathi Lateral 1
8	Thuguma Lateral 6	48	Kiamwathi Lateral .8
9	Ruringu Lateral 1	49	Kiamwathi Lateral 1.8.4
10	Ruringu Lateral 1.1	50	Kiamwathi Lateral 1.8.6
11	Ruringu Lateral 2	51	Kiamwathi Lateral 1.8.7
12	Ruringu Lateral 2.16	52	Kiamwathi Lateral 2
13	Ruringu Lateral 2.17	53	Kiamwathi Lateral 2.1
15	Ruringu Lateral 4	54	Kiamwathi Lateral 2.5
16	Ruringu Lateral 5	55	Kiamwathi Lateral 2.6
17	Ruringu Lateral 6	56	Kiamwathi Lateral 2.10
18	Ruringu Lateral 7	57	Kiamwathi Lateral 2.10.1
19	Ruringu Lateral 7.1	58	Kiamwathi Lateral 2.10.2
20	Ruringu Lateral 7.2	59	Kiamwathi Lateral 2.12
21	Ruringu Lateral 7.3	60	Kiamwathi Lateral 2.12.1
22	Ruringu Lateral 7.4	61	Kiamwathi Lateral 2.12.2
23	Ruringu Lateral 7.4.1	62	Kiamwathi Lateral 2.12.3
24	Ruringu Lateral 7.4.2	63	Kiamwathi Lateral 2.12.4
25	Ruringu Lateral 7.4.3	64	Kiamwathi Lateral 2.13
26	Ruringu Lateral 7.4.4	65	Kiamwathi Lateral 2.14
27	Ruringu Lateral 7.4.5	66	Kiamwathi Lateral 3
28	Ruringu Lateral 7.6	67	Kiamwathi Lateral 3.1
29	Ruringu Lateral 7.4.8	68	Kiamwathi Lateral 3.2
30	Ruringu Lateral 7.17	69	Chorongi Lateral 3
31	Ruringu Lateral 7.17.1	70	Riamukurwe Lateral 2
32	Ruringu Lateral 7.2	71	Riamukurwe Lateral 2.1
33	Ruringu Lateral 8	72	Riamukurwe Lateral 2.2
34	Ruringu Lateral 9	73	Riamukurwe Lateral 2.3
35	Ruringu Lateral 10	74	Main Trunk
36	Ruringu Lateral 11	75	Rising Main
37	Ruringu Lateral 12	76	Falling Main
38	Ruringu Lateral 13		









CONTROL POINTS				
POINTS	NAME	NORTHING	EASTING	ELEVATION
1	TBM1	9952649.516	274931.632	1733.773
2	TBM2	9951956.821	274633.66	1746.379
3	TBM3	9950964.859	272813.753	1758.596

No	Revisions	Checked By	Approved By	Date	<b>CLIENT:</b>  Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA	<b>EXECUTING AGENCY:</b>  NYERI WATER & SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke	 REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION	<b>PROJECT:</b> CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING	<b>Designed By:</b>  <b>CAS CONSULTANTS LIMITED</b> LE' MAC BUILDING, 1 <sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke	<b>Drawing Title:</b>  <b>CONTROL POINTS</b>	Designed By : M.O.O	
	1.											Drawn By : W.M
	2.											Checked By : W.O.K
	3.											Approved By : S.M.M
	4.											Client Approval :
Date : OCT 2024												
Drawing No : WSTF/AoD/NYERI/CP/LO/01												









PLAN

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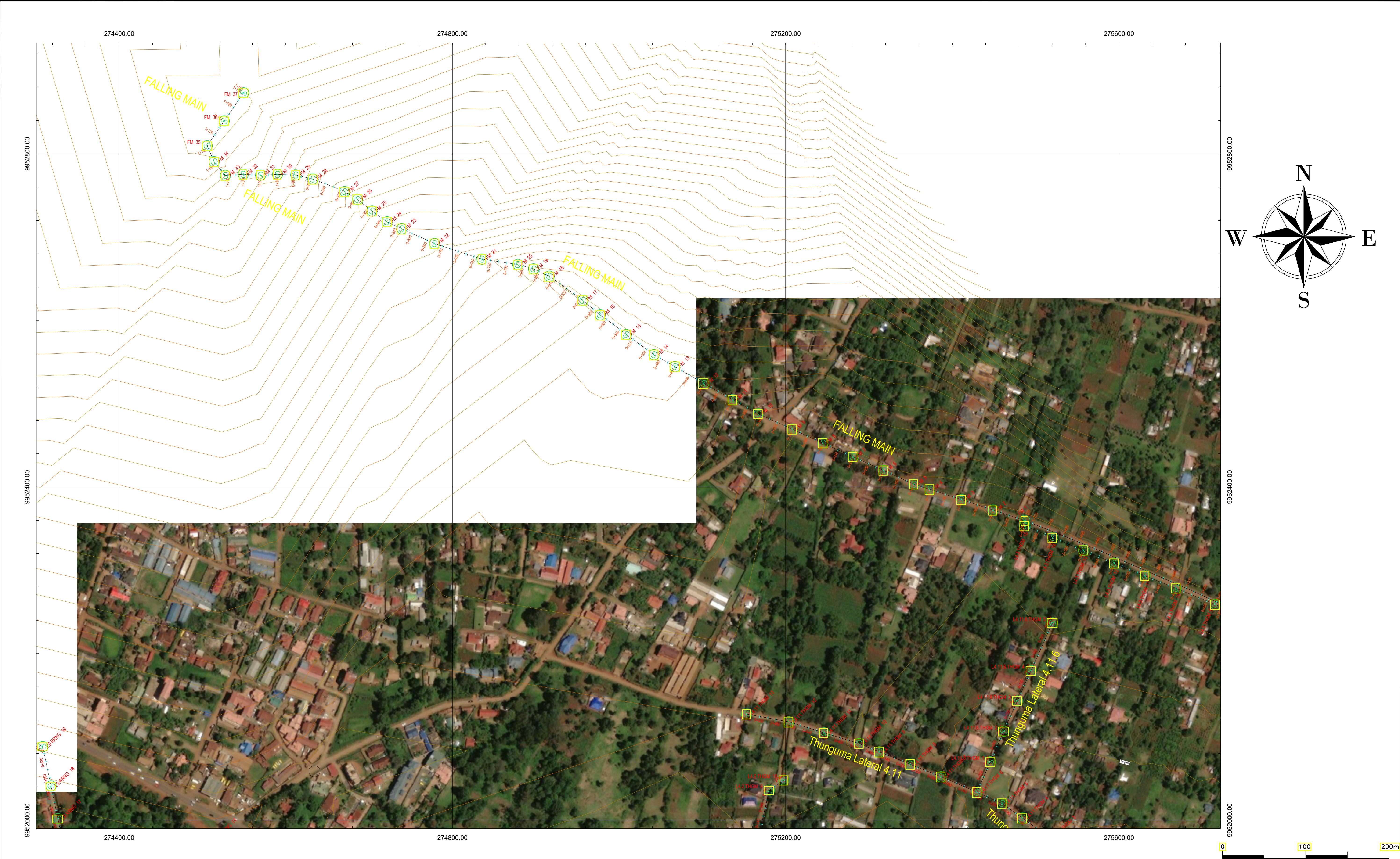








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2.										Checked By : W.K	
3.										Approved By : S.M.M	
4.										Client Approval : Date : OCT 2024 Drawing No :WSTF/AoD/NYERI/07	

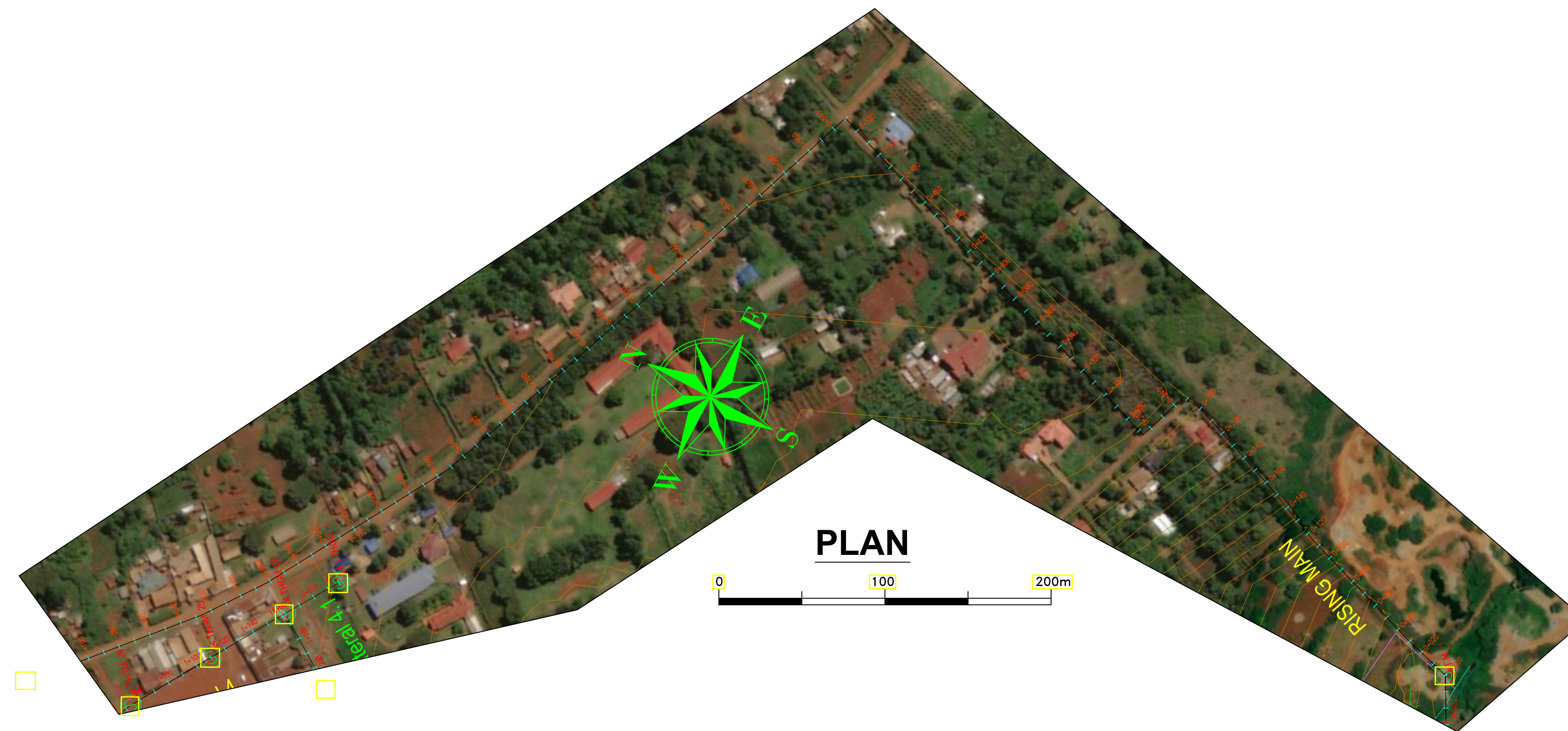




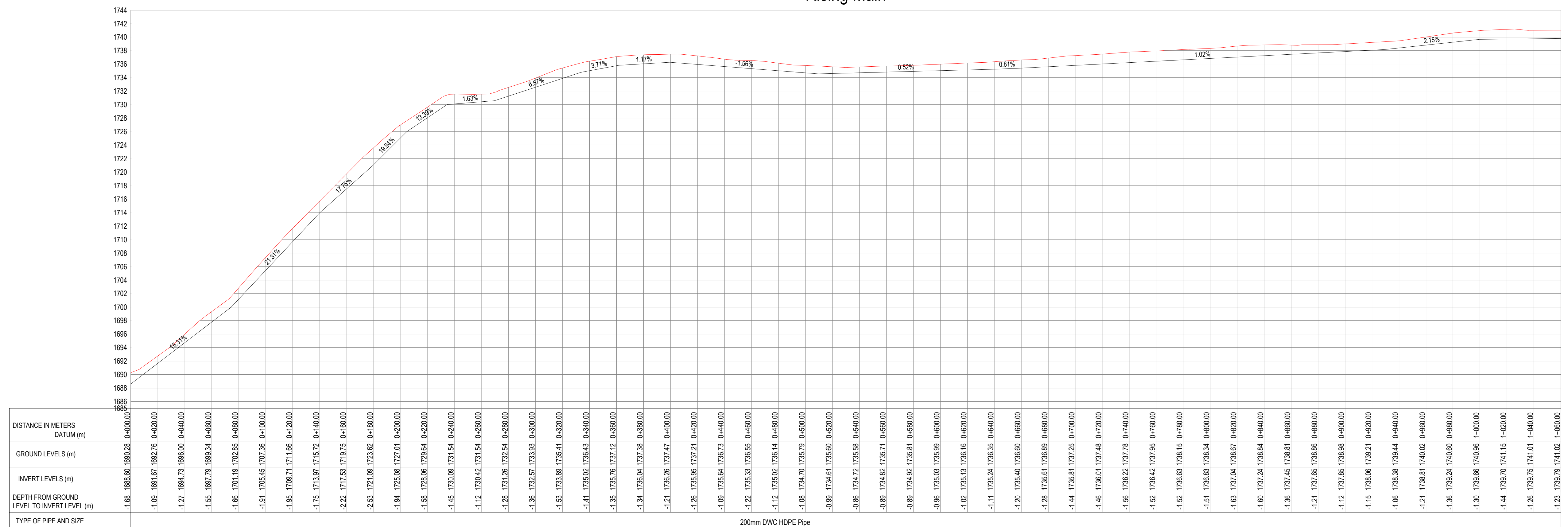
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2.				Drawn By : E.I								
3.				Checked By : W.K								
4.				Approved By : S.M.M								
											Client Approval :	
											Date :	OCT 2024
											Drawing No :	WSTF/AoD/NYERI/08





## Rising Main

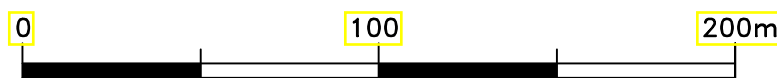


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2.											
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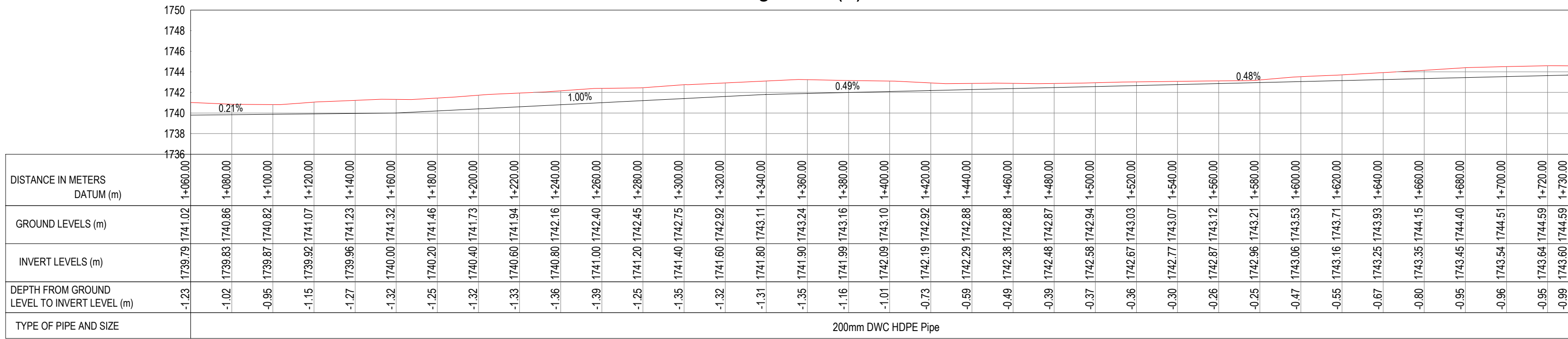








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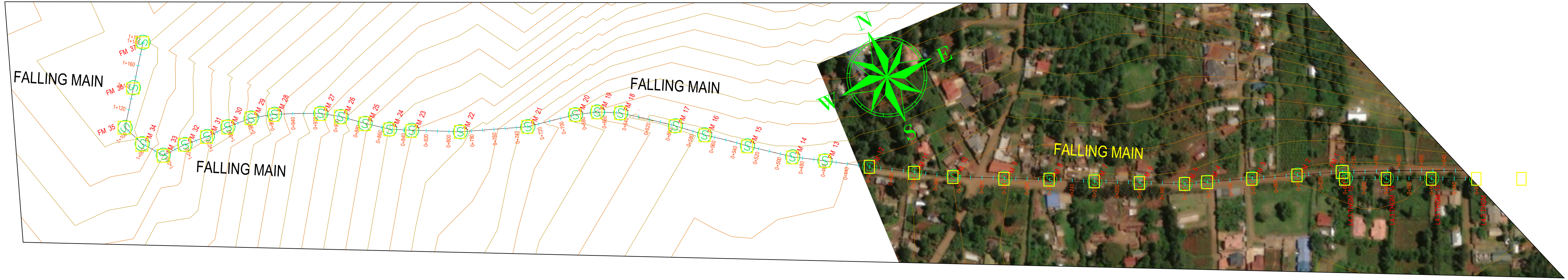


Rising Main (1)



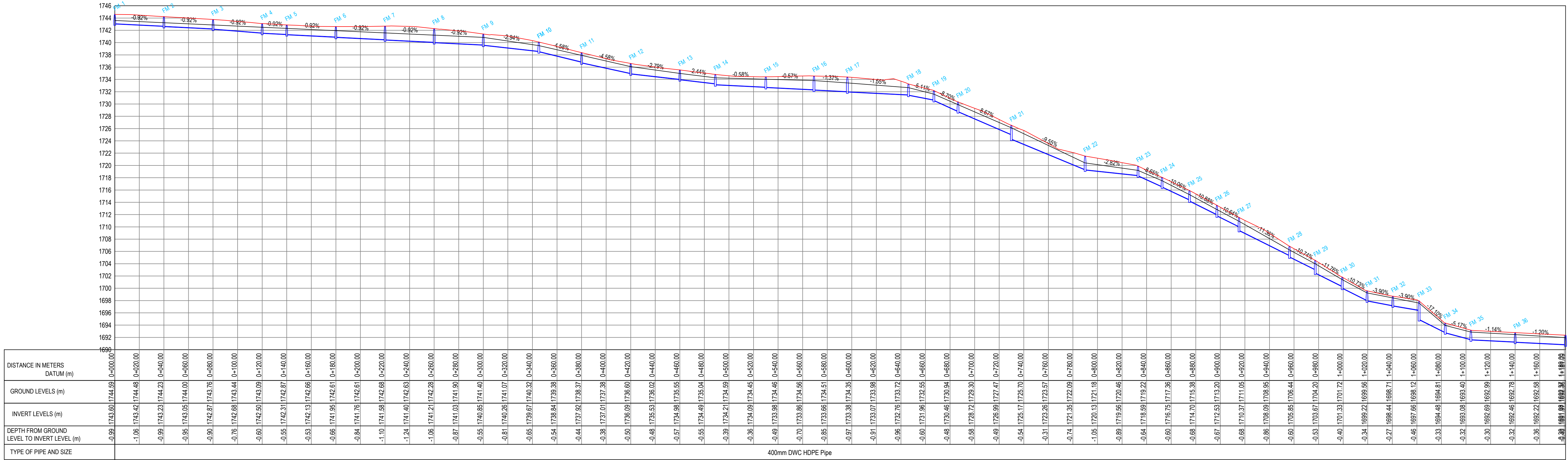
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2.										Checked By : W.K
3.										Approved By : S.M.M
4.										Client Approval : Date : OCT 2024 Drawing No : WSTF/AoD/NYERI/42










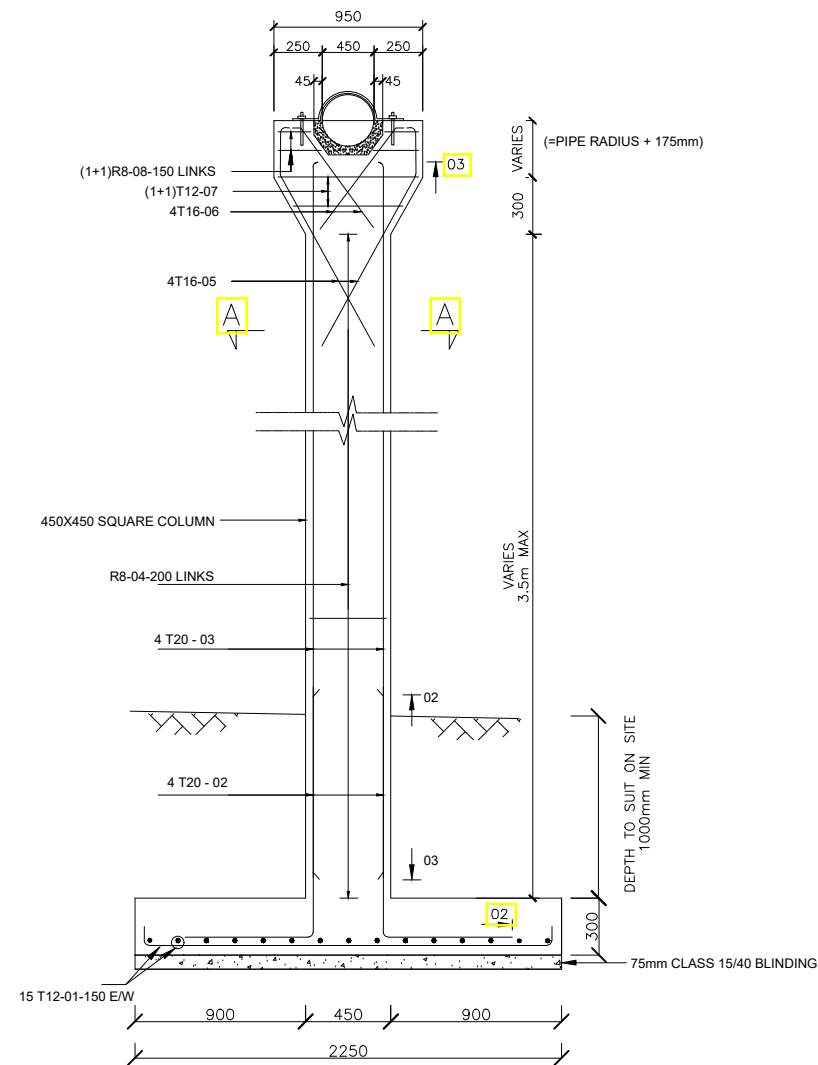
PLAN

Falling Main

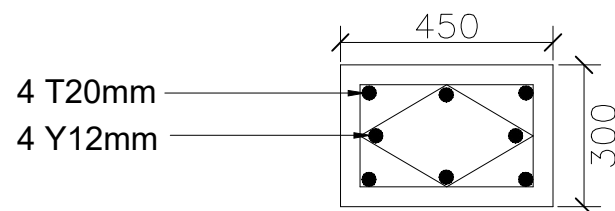


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2.				Checked By : W.K							
3.				Approved By : S.M.M							
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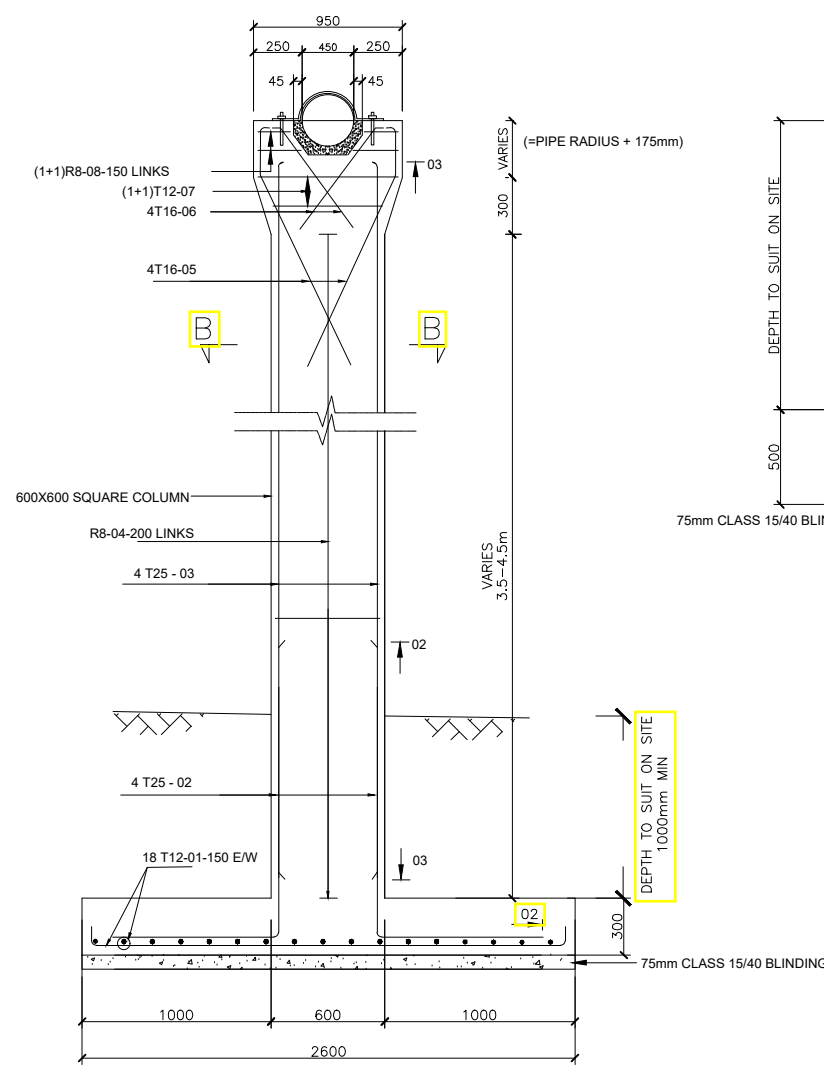




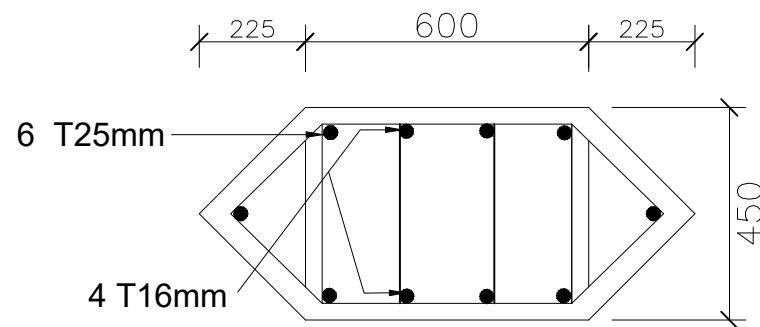
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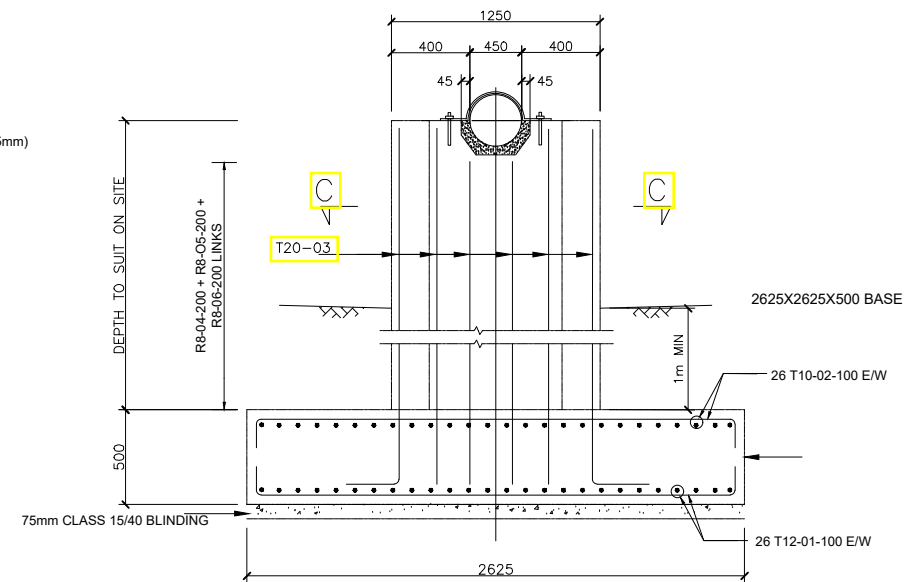
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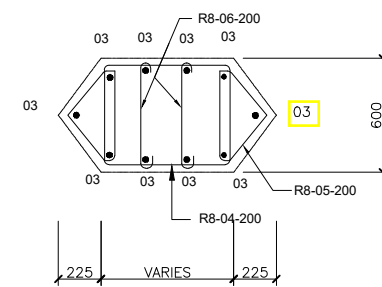
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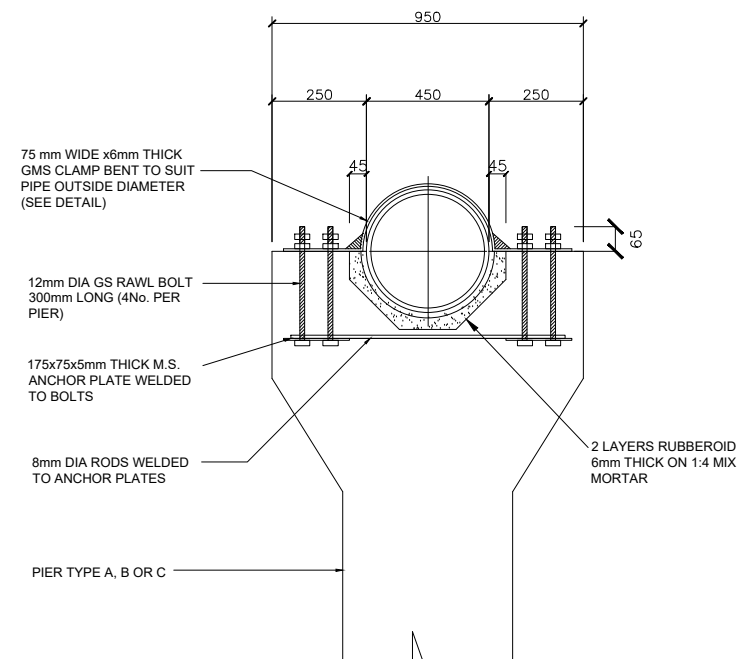
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**PIER TYPE 'C' (4.5m - 6.0M)**  
SCALE 1:40



**SECTION C - C**  
SCALE 1:40

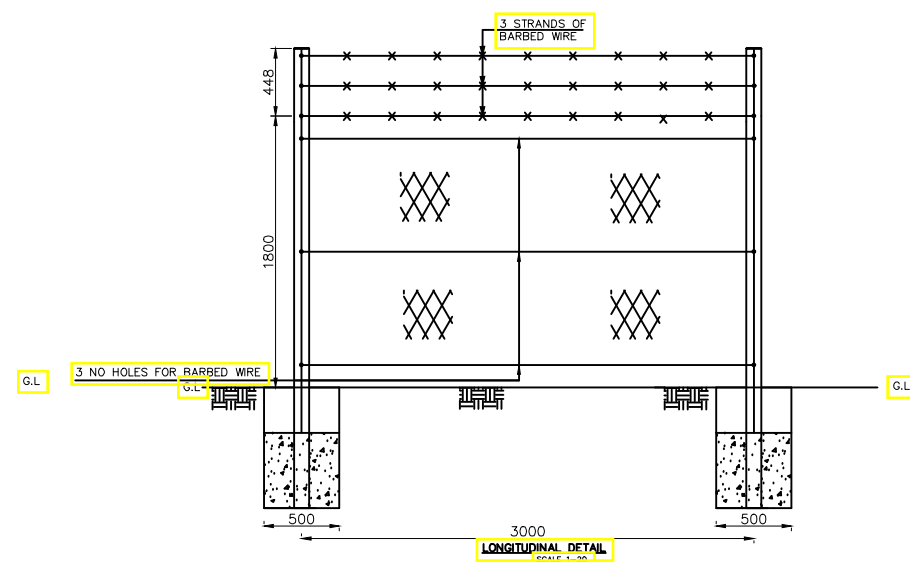
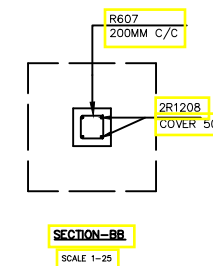
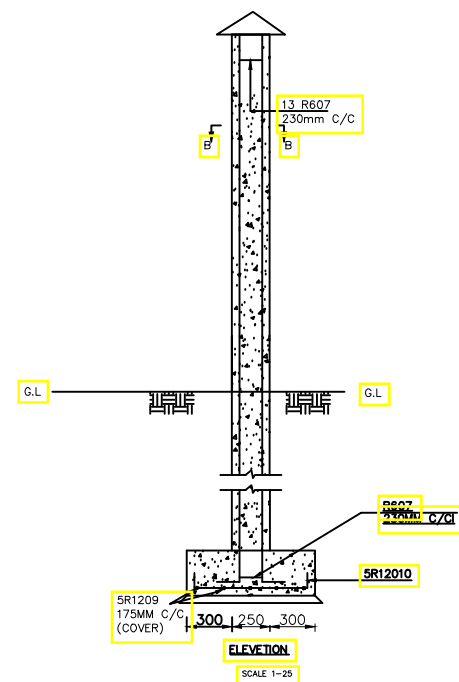






**TYPICAL PIPE FIXING  
DETAIL ON COLUMN HEAD**  
SCALE 1:20

NOTE: SAME COLUMN / FOUNDATION COULD BE USED FOR  
ANY SIZE OF PIPELINE VARYING FROM DN 225 TO DN 450

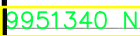
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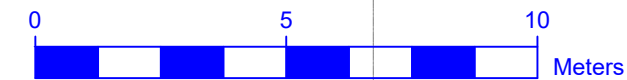
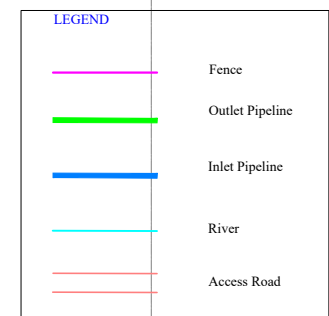
NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	<p>CLIENT:</p>  <p><b>WaterFund</b> WATER &amp; SANITATION TRUST FUND</p> <p>Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA</p>	<p>EXECUTING AGENCY:</p>  <p>NYERI WATER &amp; SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke</p>	 <p>REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION</p>	<p>PROJECT:</p> <p>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING BMZ NO.: 2013 65 402 (WSTF-PHASE III)</p>	<p>DESIGNED BY:</p>  <p><b>CAS CONSULTANTS LIMITED</b> LE' MAC BUILDING, 1<sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke</p>	<p>DRAWING TITLE:</p> <p><b>FENCE AND GATE</b></p>	Designed By : M.O.O
1											Drawn By : K.K.R
2											Checked By : W.K
3											Approved By : S.M.M
4											Client approval : Date : OCT 2024 Drawing No: WSTF/AoD/NYERI/46





9951320 N

9951300 N







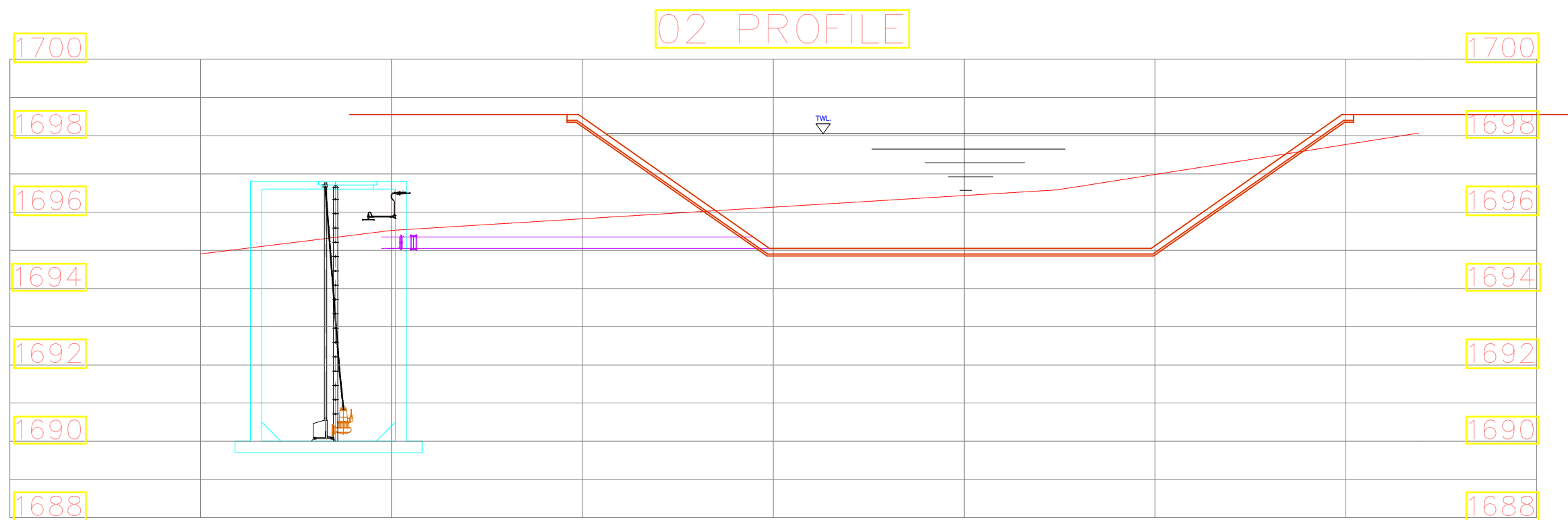
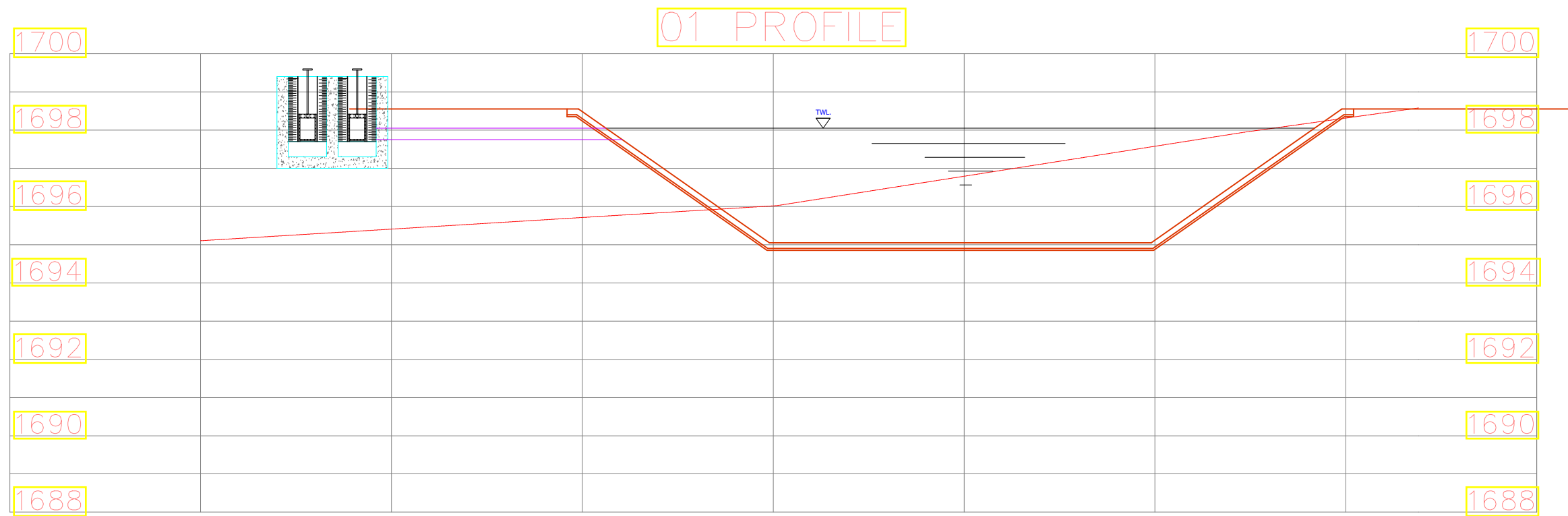
## PLAN

276360 E





276380 E

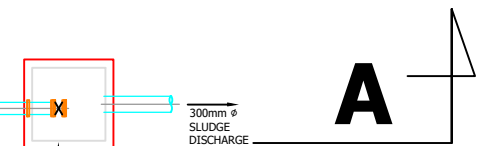
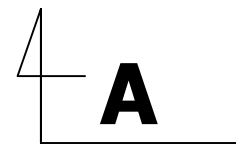
276400 F





No	Revisions	Checked By	Approved By	Date	<div>CLIENT:</div> <div></div> <div>Water Sector Trust Fund, CIC Plaza, 1st Floor. Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA</div>	<div>EXECUTING AGENCY:</div> <div></div> <div>NYERI WATER &amp; SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri. Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke</div>	<div></div> <div>REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION</div>	<div>PROJECT:</div> <div>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING</div>	<div>Designed By:</div> <div></div> <div>CAS CONSULTANTS LIMITED LE' MAC BUILDING, 1<sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke</div>	<div>Drawing Title:</div> <div>NYERI SEWAGE PUMPING STATION  LAYOUT</div>	Designed By : M.O.O
1.											Drawn By : K.K.R
2.											Checked By : W.O.K
3.											Approved By : S.M.M
4.											Client Approval : Date : OCT 2024 Drawing No :WSTF/AoD/NYERI/WW/LO/01



PLAN

No	Revisions	Checked By	Approved By	Date	<div>CLIENT:</div> <div></div> <div>Water Sector Trust Fund, CIC Plaza, 1st Floor. Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA</div>	<div>EXECUTING AGENCY:</div> <div></div> <div>NYERI WATER &amp; SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke</div>	<div></div> <div>REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION</div>	<div>PROJECT:</div> <div>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING</div>	<div>Designed By:</div> <div></div> <div>CAS CONSULTANTS LIMITED LE' MAC BUILDING, 1<sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke</div>	<div>Drawing Title:</div> <div>NYERI SEWAGE PUMPING STATION  SECTION PROFILE</div>	Designed By : M.O.O				
1.															Drawn By : K.K.R
2.															Checked By : W.O.K
3.															Approved By : S.M.M
4.															Client Approval :
										Date : OCT 2024					
										Drawing No :WSTF/AoD/NYERI/WW/LO/02					

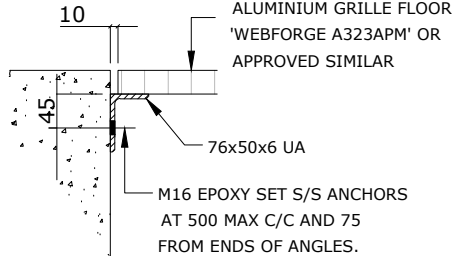


No	Revisions	Checked By	Approved By	Date	<p>CLIENT:</p>  <p>Water Sector Trust Fund, CIC Plaza, 1st Floor. Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA</p>	<p>EXECUTING AGENCY:</p>  <p>NYERI WATER &amp; SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri. Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke</p>	 <p>REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION</p>	<p>PROJECT:</p> <p>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING</p>	<p>Designed By:</p>  <p><b>CAS CONSULTANTS LIMITED</b> LE' MAC BUILDING, 1<sup>st</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke</p>	<p>Drawing Title:</p> <p>NYERI EMERGENCY HOLDING LAGOON 1650M<sup>3</sup></p>	<p>Designed By : M.O.O</p> <p>Drawn By : K.K.R</p> <p>Checked By : W.O.K</p> <p>Approved By : S.M.M</p> <p>Client Approval :</p> <p>Date : OCT 2024</p> <p>Drawing No : WSTF/AoD/NYERI/EL/01</p>
1.											
2.											
3.											
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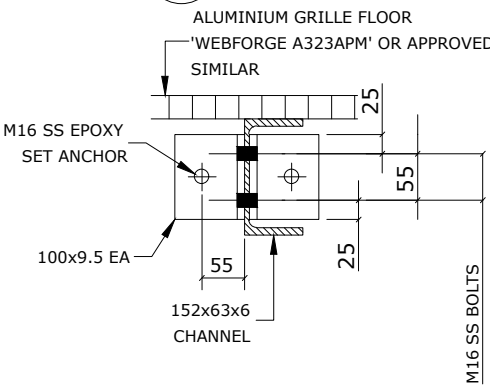
NOTES

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH SEQ-SP-1300-7 AND 1300-8.
2. DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
3. PUMP BASEPLATES AND GUIDE RAILS SHALL BE FIXED TO THE FLOOR AND TOP OF SLAB WITH GRADE 316 STAINLESS STEEL DROP FLUSH ANCHOR MASONRY FASTENERS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
4. PROVIDE STAINLESS STEEL RISER PIPE SUPPORT BRACKETS AT 2500 MAX. CENTRES FIXED TO WALL WITH GRADE 316 S/S MASONRY FASTENERS. REFER NOTE 6.
5. ALL INTERNAL VERTICAL, SOFFIT & COVER OPENING WET WELL SURFACES SHALL HAVE AN APPROVED POLYETHYLENE LINER (MIN 2.5mm THICK) MECHANICALLY BONDED TO WALL VIA ANCHORS CAST INTO CONCRETE IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. POLYETHYLENE LINING SHALL BE AS PER SEQ-SP ACCEPTED PRODUCTS AND MATERIALS LIST.  
BENCHING SHALL NOT BE PE LINED.
6. ALL ENTRIES THROUGH THE CONCRETE STRUCTURE AND ALL FITMENT HOLES THROUGH THE POLYETHYLENE LINER SHALL BE SEALED WITH AN APPROVED SEALANT IN ACCORDANCE WITH DWGS SEQ-SPS-1407-1 AND SEQ-SPS-1407-2.
7. FALL ARREST FLUSH MOUNT ANCHORAGE POINT. REFER SEQ-SP ACCEPTED PRODUCTS AND MATERIALS LIST.
8. MINIMUM CIRCULATION CLEARANCES TO RUNG TYPE LADDER AS PER AS1657 CLAUSE 5.1.
9. CoGC/LCC/RCC - NO WELL WASHER UNLESS SPECIFICALLY REQUESTED.
10. CoGC/LCC/RCC - NO LADDER UNLESS SPECIFICALLY REQUESTED.
11. CoGC/LCC - NO INLET VALVE UNLESS SPECIFICALLY REQUESTED.
12. CoGC/LCC/RCC - FLOWMETER NOT REQUIRED UNLESS SPECIFICALLY REQUESTED. IN THIS CASE A RESILIENT SEATED GATE VALVE SHALL BE INSTALLED IMMEDIATELY ADJACENT TO AND DOWNSTREAM OF THE SCOUR TEE.
13. CoGC - NO DAVIT BASE OR FALL ARREST ANCHORAGE POINT.
14. CoGC - PE100 PIPE BETWEEN INLET MAINTENANCE HOLE AND WET WELL, NO ROCKER PIPE ARRANGEMENT.
15. UW - PUMP NUMBER LABELS OPPOSITE HANDED.



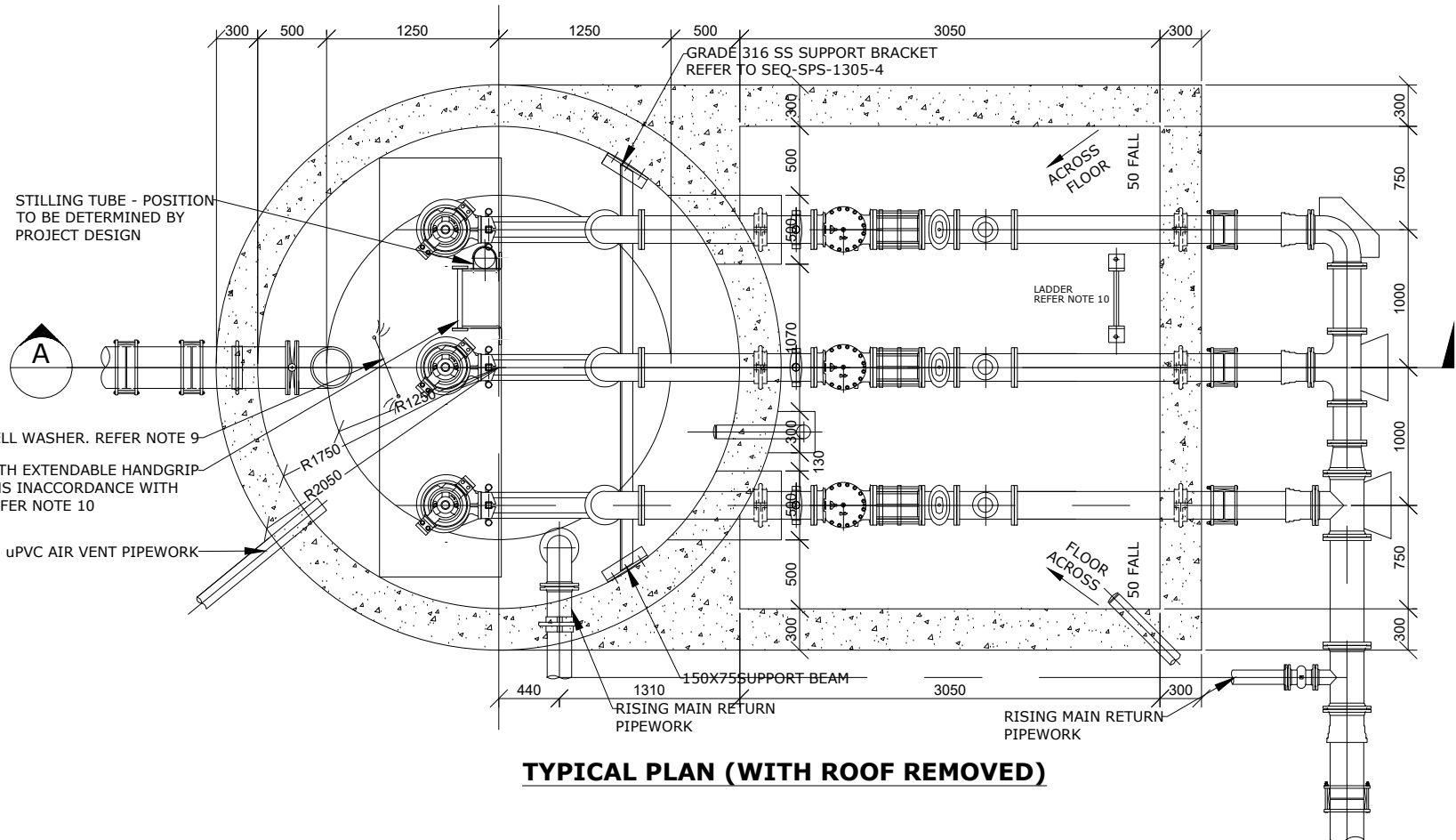
SUPPORT AT CONCRETE FACE

DETAIL 1  
SCALE

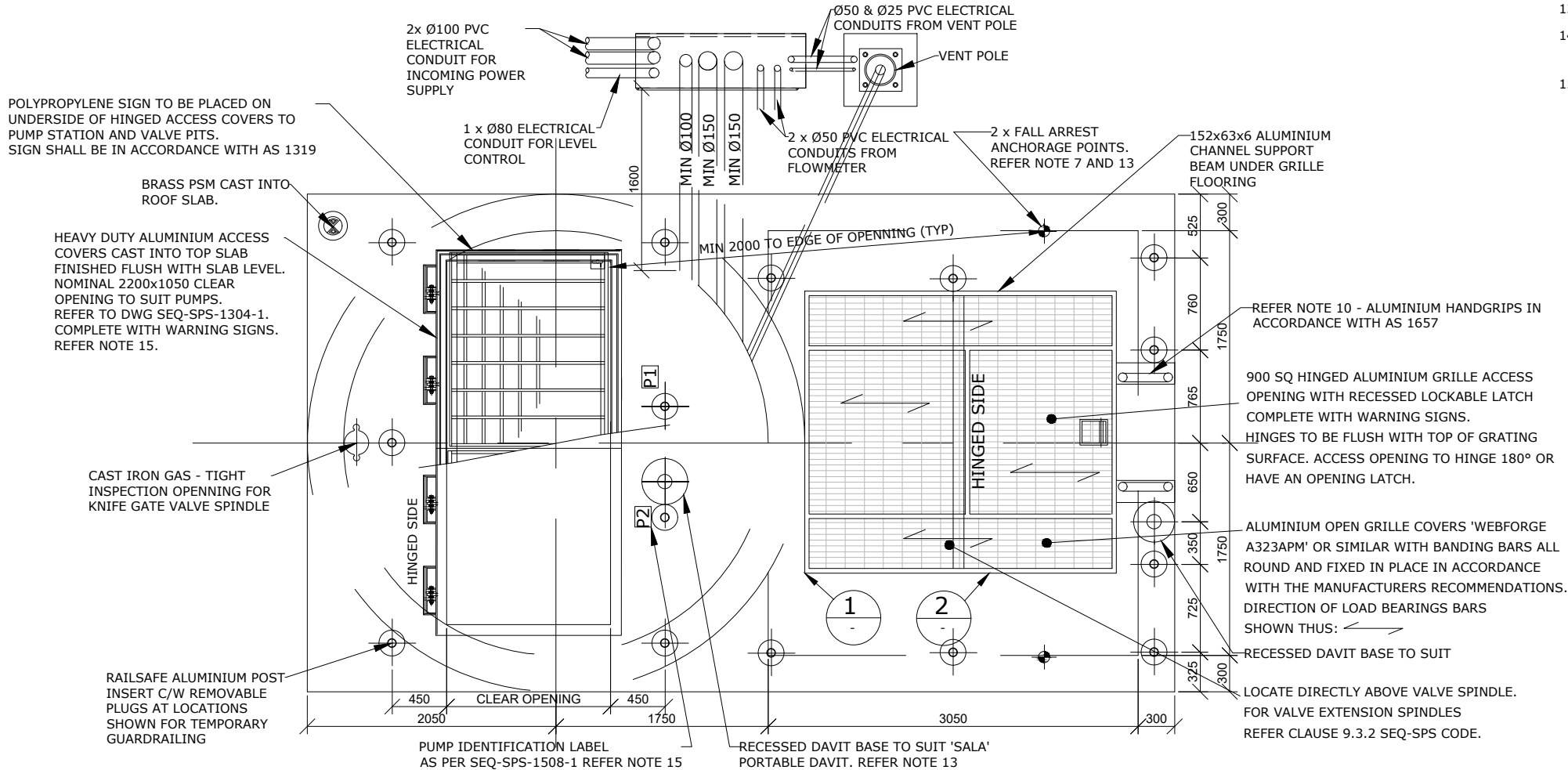


SUPPORT AT CONCRETE FACE




DETAIL 2  
SCALE

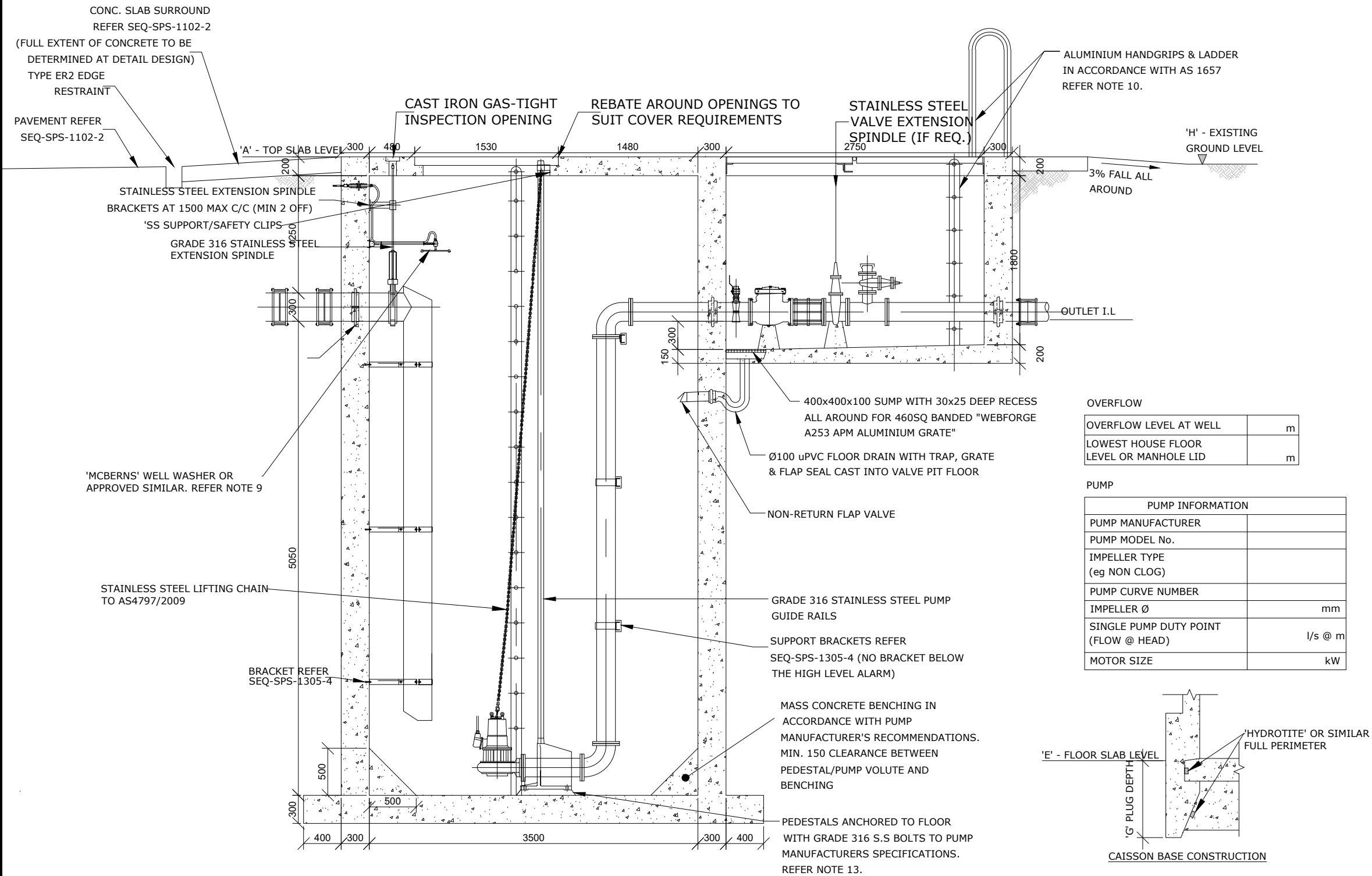


TYPICAL PLAN (WITH ROOF REMOVED)



TYPICAL PLAN (WITH ROOF SLAB)




NO.					REVISIONS	CHECKED BY	APPROVED BY	DATE	CLIENT:	BENEFICIARY:	PROJECT:	DESIGNED BY:	DRAWING TITLE:	Designed By : M.O					
1.									 Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O. Box 49699, 00100, NAIROBI, KENYA	Nyeri Water and Sanitation Services Co. LTD P.O Box 1520-101000 NYERI-KENYA info@nyewasco.co.ke	 REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION	CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING CONTRACT :	 CAS CONSULTANTS LIMITED E MAC BUILDING 1ST FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 FAX: 020 4440049 EMAIL: casconsult@africaonline.co.ke	NYERI AoD WET WELL GENERAL ARRANGEMENTS	Drawn By : K.K.R				
2.								Checked By : L.K											
3.								Approved By : W.O.K											
4.								Client approval :											
														Date : OCT 2024					
														Drawing No : WSTF/AoD/NYERI/WW/01					

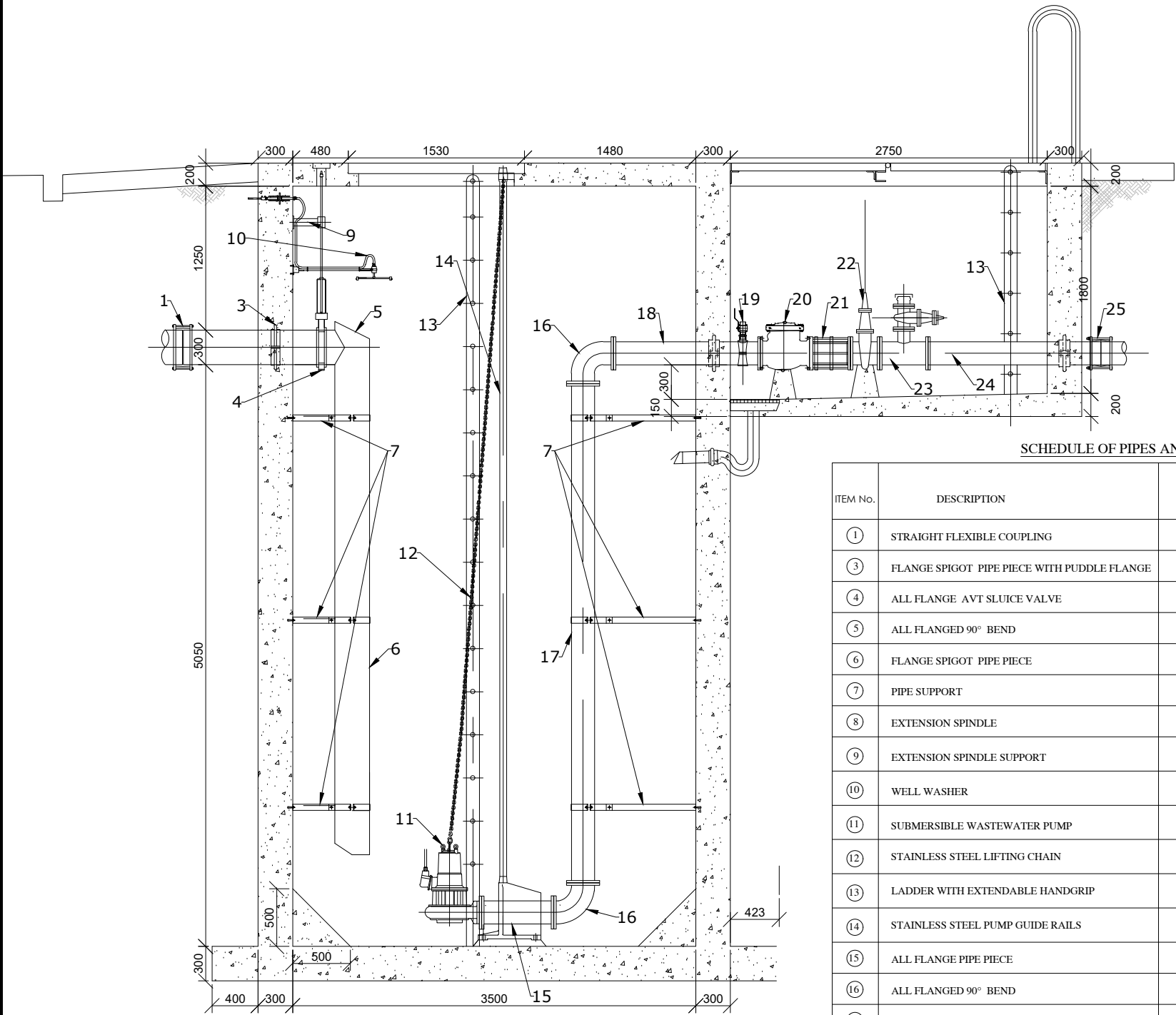


**TYPICAL SECTION A**

**NOTES:**

1. ALL CRITICAL LEVELS AND DIMENSIONS SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING CONSTRUCTION.
  2. PUMP STATION LID THICKNESS SHALL ALLOW FOR RECESSED DAVIT BASE - MIN 250.
  3. PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP ON INSIDE & OUTSIDE FACE OF ALL PUDDLE FLANGES.
  4. ALL WALL PENETRATIONS SHALL BE VIA CONCRETE BLOCKOUT WITH WATER PROOFING AS PER NOTE 3.
  5. WHERE CONSTRUCTION JOINTS ARE REQUIRED, PROVIDE 'HYDROTITE' OR SIMILAR APPROVED HYDROPHILIC WATERSTOP.
  6. SPACING BETWEEN PUMPS AND CLEARANCE BETWEEN PUMP & FINISHED FLOOR SHALL BE IN ACCORDANCE WITH PUMP MANUFACTURER'S RECOMMENDATIONS.
  7. BENCHING SHALL BE CLEAR OF PIPEWORK & BOLTS AS PER PUMP MANUFACTURER RECOMMENDATIONS.
  8. FOR DETAILS OF LEVEL SENSORS AND OTHER ELECTRICAL EQUIPMENT, REFER TO APPROPRIATE SEQ-SP ELECTRICAL SPECIFICATIONS.
  9. CoGC/LCC/RCC - NO WELL WASHER UNLESS SPECIFICALLY REQUESTED.
  10. CoGC/LCC/RCC - NO LADDER UNLESS SPECIFICALLY REQUESTED
  11. CoGC/LCC - NO INLET VALVE UNLESS SPECIFICALLY REQUESTED
  12. CoGC - PE100 PIPE BETWEEN INLET MAINTENANCE HOLE AND WET WELL, NO ROCKER PIPE ARRANGEMENT.
  13. PUMP PEDESTAL SHALL COMPLY WITH WSA 101 SPECIFICATION. UNITYWATER REQUIRES "FORRERS" TYPE PEDESTAL AND "FORRERS" LOCKING PLATE FITTED TO PUMP. WHERE THE PUMP OPERATING HEAD IS MORE THAN 45 m AND/OR THE PUMP DISCHARGE SIZE IS LESS THAN THE LOCKING PLATE SIZE, THEN THE PUMP VENDOR'S STANDARD PEDESTAL/ LOCKING PLATE MAY BE USED.
  14. DI (DUCTILE IRON) COATING SHALL BE TBP (THERMAL BONDED POLYMERIC) IN ACCORDANCE WITH AS 4158. TPB COATINGS INCLUDE FBE (FUSION BONDED EPOXY) (THERMOSETTING COATING) AND POLYAMIDE (THERMOPLASTIC) COATINGS.
- PUMP STATION CONTROL LEVELS**

NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	CLIENT:	BENEFICIARY:	PROJECT:	DESIGNED BY:	DRAWING TITLE:	Designed By : M.O
1.					  Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O. Box 49699, 00100, NAIROBI, KENYA	Nyeri Water and Sanitation Services Co. LTD P.O Box 1520-101000 NYERI-KENYA info@nyewasco.co.ke	  REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION	 CAS CONSULTANTS LIMITED E MAC BUILDING 1ST FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 FAX: 020 4440049 EMAIL: casconsult@africaonline.co.ke	NYERI AoD WET WELL SECTION DETAILS	Drawn By : K.K.R
2.				Checked By : L.K						
3.				Approved By : W.O.K						
4.				Client approval :						
										Date : OCT 2024
										Drawing No : WSTF/AoD/NYERI/WW/02

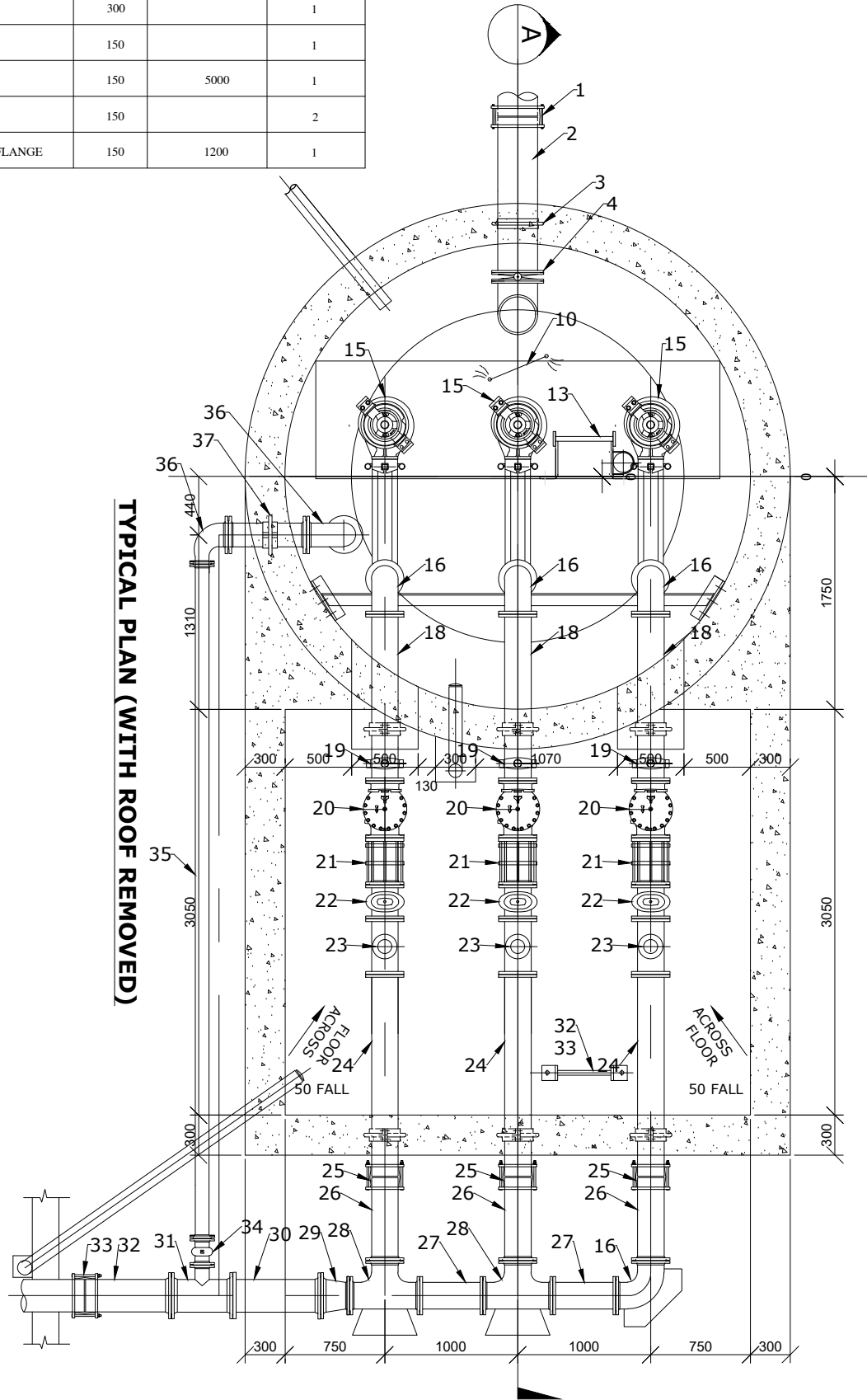


TYPICAL SECTION A

SCHEDULE OF PIPES AND FITTINGS

ITEM No.	DESCRIPTION	DIA. (mm)	LENGTH (mm)	QUANTITY (No.)
①	STRAIGHT FLEXIBLE COUPLING	300		1
③	FLANGE SPIGOT PIPE PIECE WITH PUDDLE FLANGE	300	1200	1
④	ALL FLANGE AVT SLUICE VALVE	300		1
⑤	ALL FLANGED 90° BEND	300		1
⑥	FLANGE SPIGOT PIPE PIECE	300	4300	1
⑦	PIPE SUPPORT			6
⑧	EXTENSION SPINDLE		1400	1
⑨	EXTENSION SPINDLE SUPPORT			1
⑩	WELL WASHER			1
⑪	SUBMERSIBLE WASTEWATER PUMP			3
⑫	STAINLESS STEEL LIFTING CHAIN			3
⑬	LADDER WITH EXTENDABLE HANDGRIP			2
⑭	STAINLESS STEEL PUMP GUIDE RAILS			3
⑮	ALL FLANGE PIPE PIECE	300	650	3
⑯	ALL FLANGED 90° BEND	300		7
⑰	ALL FLANGE PIPE PIECE	300	4350	3
⑱	FLANGE SPIGOT PIPE PIECE WITH PUDDLE FLANGE	300	1200	3
⑲	TAPPING BAND WITH BALL VALVE FOR AIR RELEASE GAUGE	300		3
⑳	SWING CHECK VALVE	300		3
㉑	DISMANTLING JOINT	300		3
㉒	RESILIENT SEATED GATE VALVE	300		3
㉓	TEE WITH RESILIENT SEATED GATE VALVE	300		3
㉔	FLANGE SPIGOT PIPE PIECE	300	4300	3
㉕	STRAIGHT FLEXIBLE COUPLING	300		3
㉖	FLANGE SPIGOT PIPE PIECE	300	650	3
㉗	ALL FLANGE PIPE PIECE	300	475	2

⑳	ALL FLANGE EQUAL TEE	300		2
㉑	CONCENTRIC REDUCER	300 TO 400		1
㉒	ALL FLANGE PIPE PIECE	300	650	1
㉓	ALL FLANGE 400 TO 150 TEE	400X400X150		1
㉔	FLANGE SPIGOT PIPE PIECE	300	650	1
㉕	STRAIGHT FLEXIBLE COUPLING	300		1
㉖	ALL FLANGE AVT SLUICE VALVE	150		1
㉗	ALL FLANGE PIPE PIECE	150	5000	1
㉘	ALL FLANGED 90° BEND	150		2
㉙	ALL FLANGE PIPE PIECE WITH PUDDLE FLANGE	150	1200	1



NO.	REVISIONS	CHECKED BY	APPROVED BY	DATE
1.				
2.				
3.				
4.				

CLIENT:

**WaterFund**  
Water Sector Trust Fund,  
CIC Plaza, 1st Floor, Mara Road, Upper Hill,  
P.O. Box 49699, 00100,  
NAIROBI, KENYA

BENEFICIARY:

Nyeri Water and Sanitation Services Co. LTD  
P.O Box 1520-101000  
NYERI-KENYA  
info@nyewasco.co.ke

  
REPUBLIC OF KENYA  
MINISTRY OF WATER AND SANITATION

PROJECT:

CONSULTING SERVICES TO DEVELOP  
BANKABLE WATER AND SEWERAGE  
PROPOSALS FOR WATER SERVICE PROVIDERS  
FOR COMMERCIAL FINANCING  
CONTRACT :

DESIGNED BY:

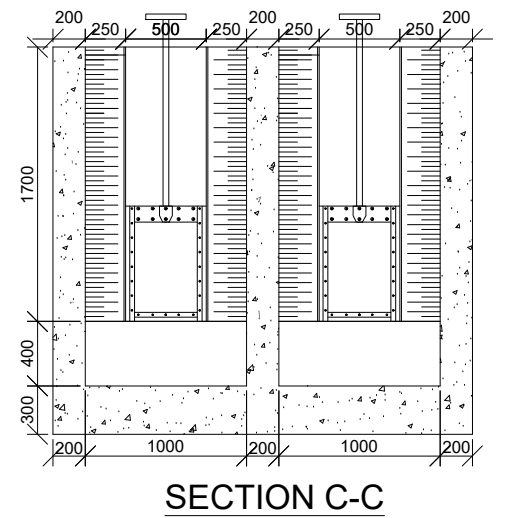
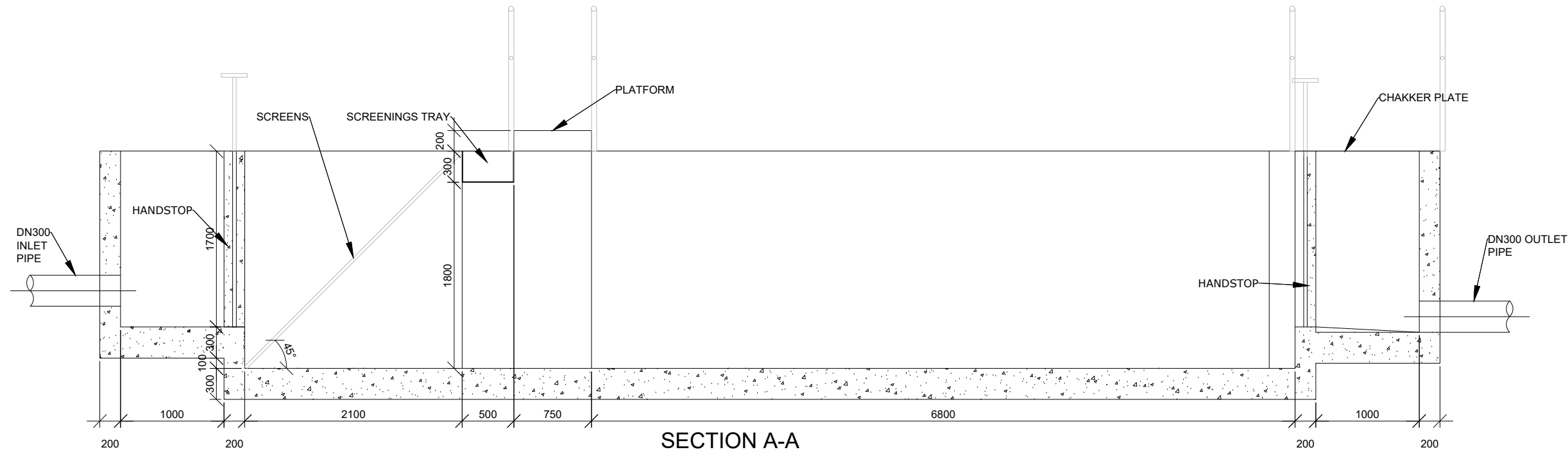
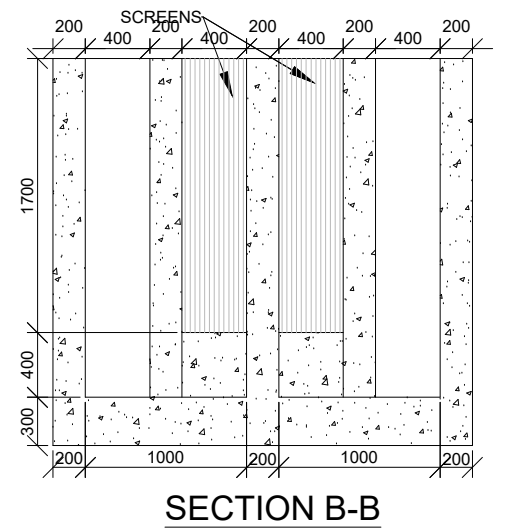
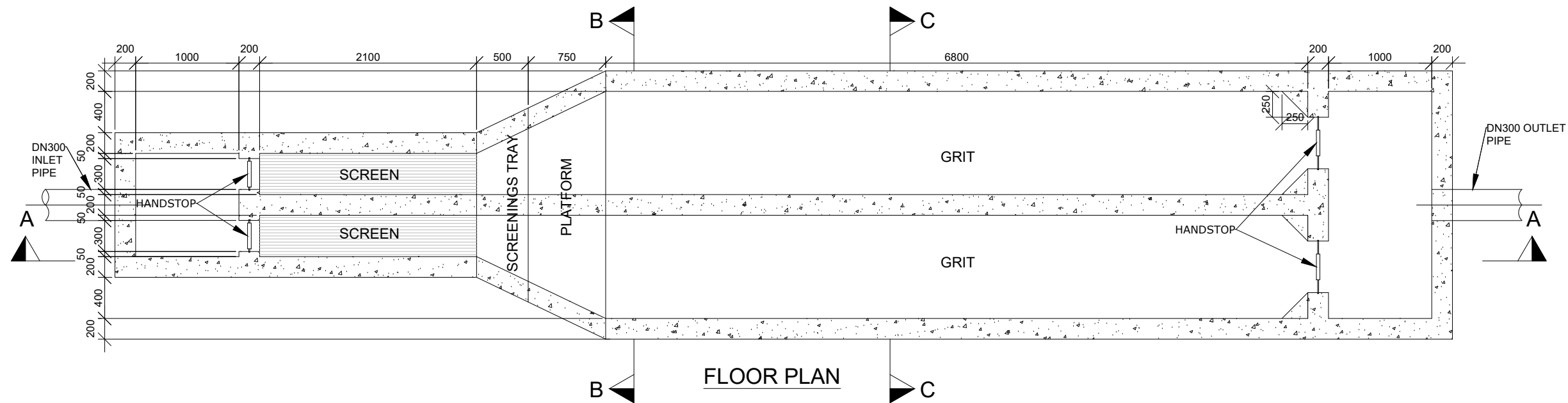
  
CAS CONSULTANTS LIMITED  
E MAC BUILDING 1ST FLOOR, OFF CHURCH ROAD,  
WESTLANDS  
P.O BOX 67693 - 00200 - NAIROBI, KENYA  
TEL: 020 4445265 FAX: 020 4440049  
EMAIL: casconsult@africaonline.co.ke




DRAWING TITLE:

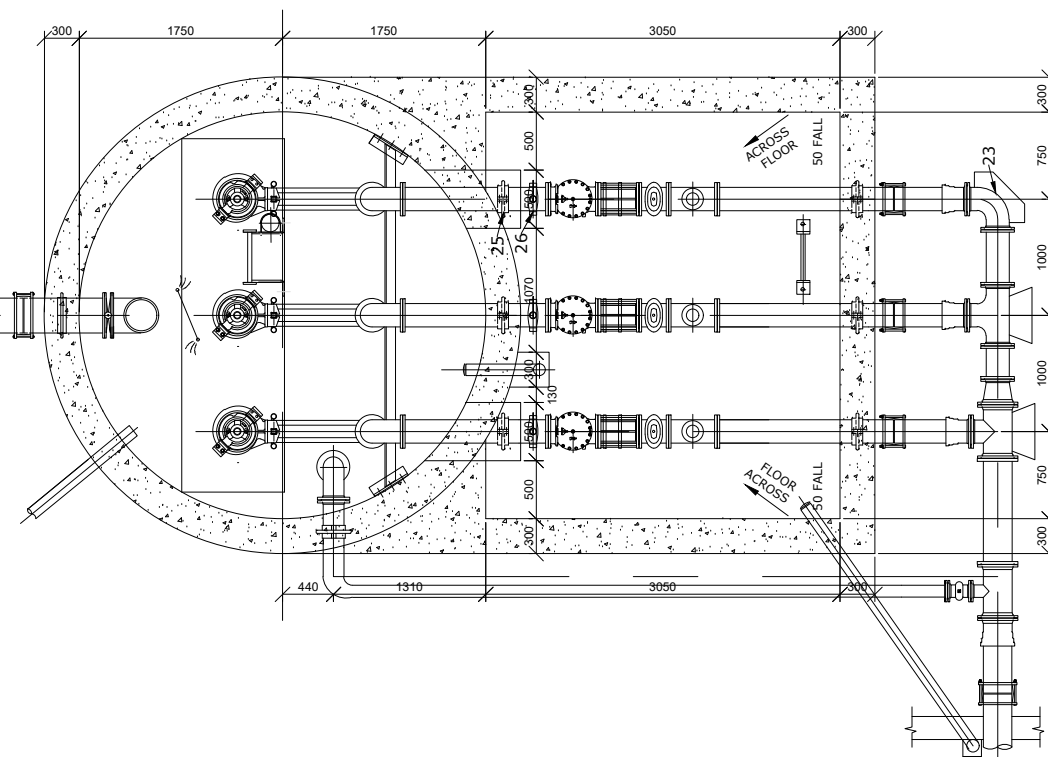
NYERI AoD  
WET WELL  
PIPEWORK ARRANGEMENT

Designed By : M.O  
Drawn By : K.K.R  
Checked By : L.K  
Approved By : W.O.K  
Client approval :  
Date : OCT 2024  
Drawing No : WSTF/AoD/NYERI/WW/03








NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	CLIENT: <div><p>Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O. Box 49699, 00100, NAIROBI, KENYA</p></div>	BENEFICIARY: <div><p>Nyeri Water and Sanitation Services Co. LTD P.O Box 1520-101000 NYERI-KENYA info@nyewasco.co.ke</p></div>	<div><p>REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION</p></div>	PROJECT: <div><p>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING</p><p>CONTRACT :</p></div>	DESIGNED BY: <div><div></div><div><p>CAS CONSULTANTS LIMITED E MAC BUILDING 1ST FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 FAX: 020 4440049 EMAIL: casconsult@africaonline.co.ke</p></div></div>	DRAWING TITLE: <div><p>NYERI AoD WET WELL INLET STRUCTURE</p></div>	Designed By : M.O
1.								Drawn By : K.K.R			
2.								Checked By : L.K			
3.								Approved By : W.O.K			
4.								Client approval :			
					Date : OCT 2024						
					Drawing No : WSTF/AoD/NYERI/WW/04						

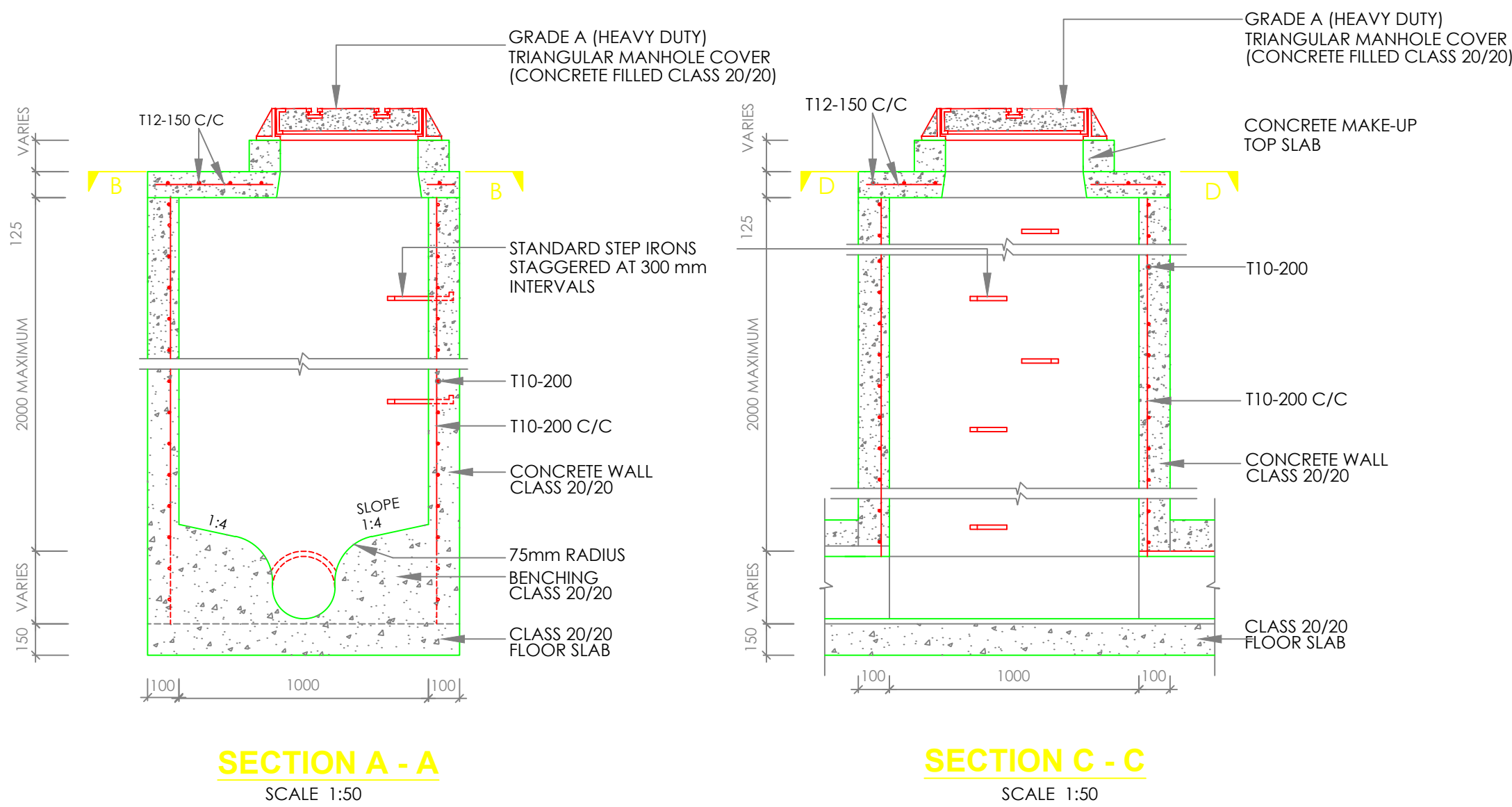
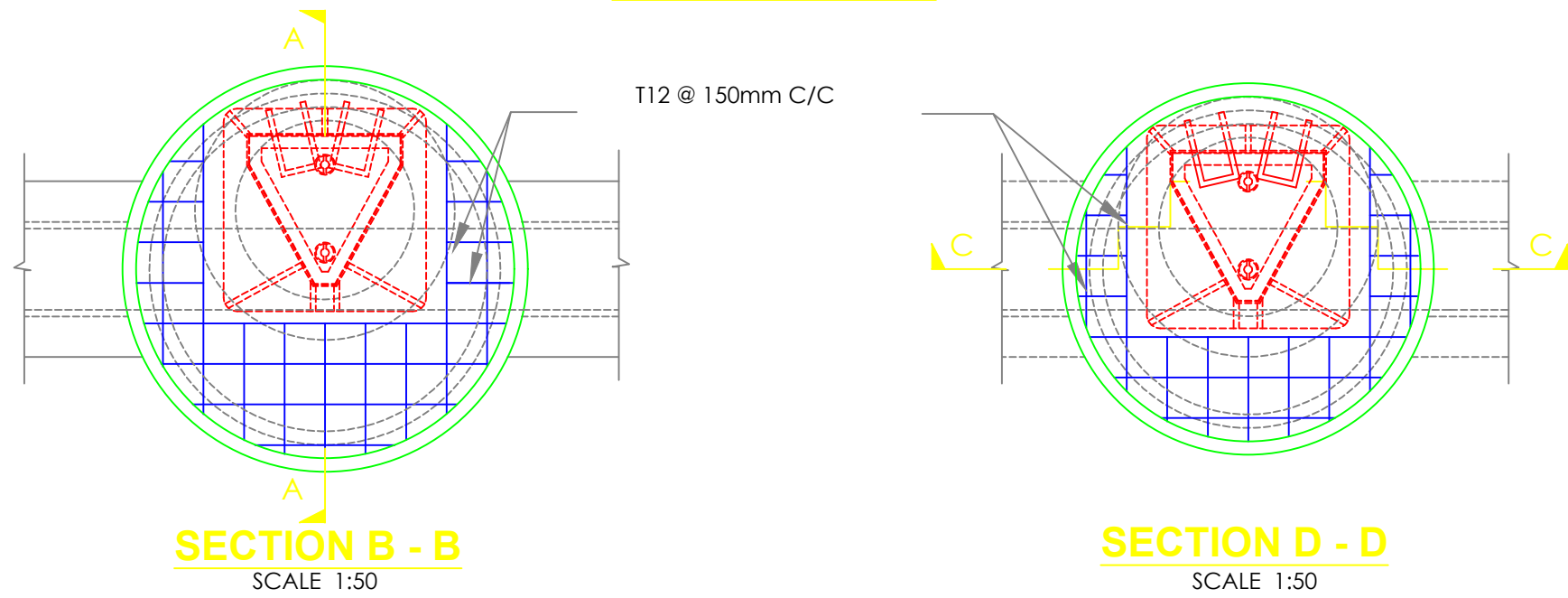


SECTION A-A

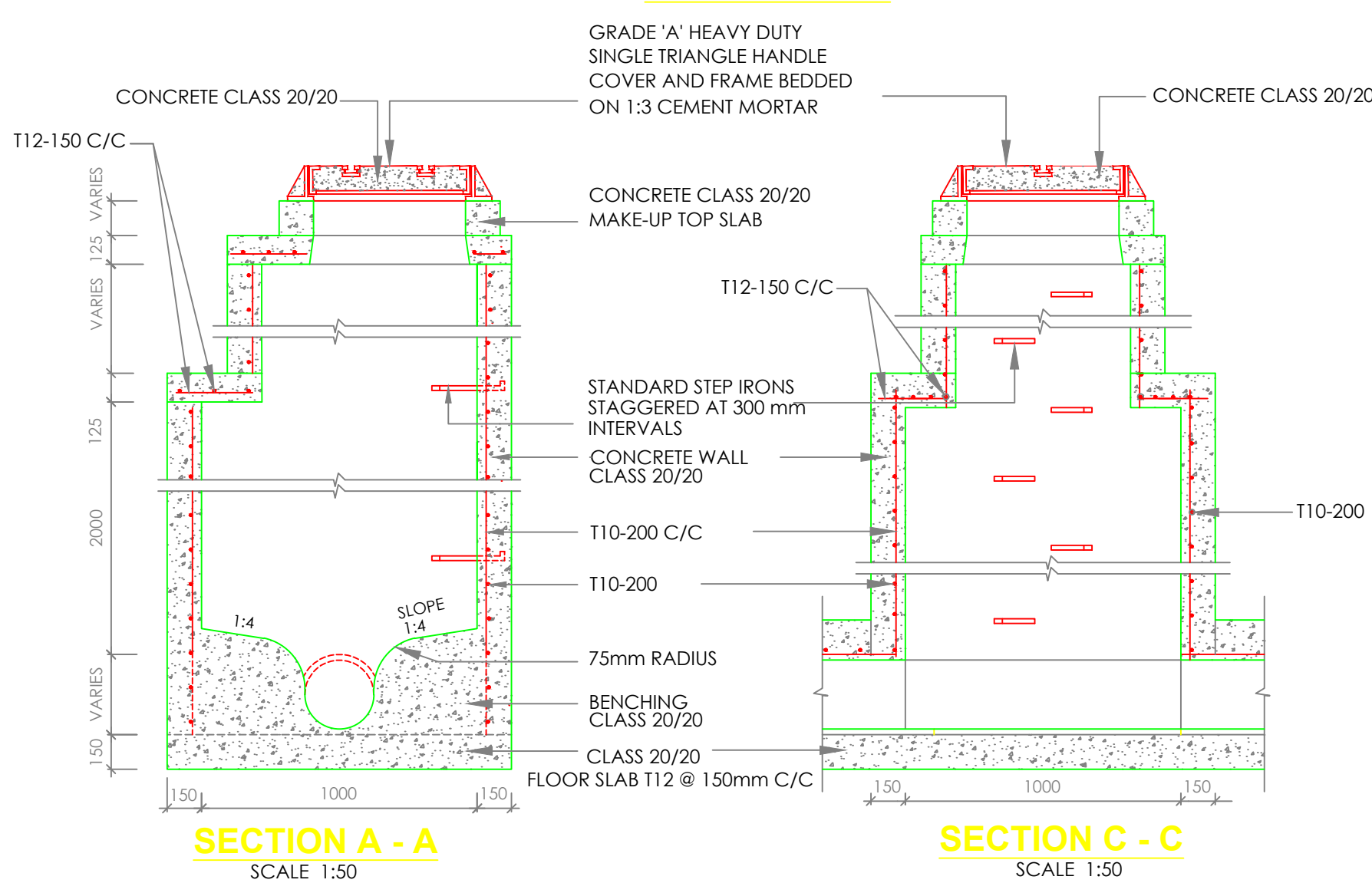
Technical drawing of a mechanical system, likely a pump or motor assembly, showing a side elevation view. The drawing includes dimensions in millimeters (mm) and shows various components like pipes, valves, and structural supports. Key dimensions include a total width of 3500 mm, a total height of 5050 mm, and a base width of 3000 mm. The drawing is labeled 'Fig. 1' and 'Fig. 2'.

NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	CLIENT:	BENEFICIARY:	PROJECT:	DESIGNED BY:	DRAWING TITLE:	Designed By : M.O	
1.					 <b>WaterFund</b> <small>improving water services</small> <small>WATER SECTOR TRUST FUND</small>  Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O. Box 49699, 00100, NAIROBI, KENYA	Nyeri Water and Sanitation Services Co. LTD P.O Box <b>1520-101000</b> <b>NYERI-KENYA</b> <i>info@nyewasco.co.ke</i>	 REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION	<b>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING</b> CONTRACT :	 <div>CAS CONSULTANTS LIMITED E MAC BUILDING 1ST FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 FAX: 020 4440049 EMAIL: casconsult@africaonline.co.ke</div>	NYERI AoD WET WELL GENERAL PLAN AND SECTION	Drawn By : K.K.R
2.				Checked By : L.K							
3.				Approved By : W.O.K							
4.				Client approval :							
										Date : OCT 2024	
										Drawing No : WSTF/AoD/NYERI/WW/05	

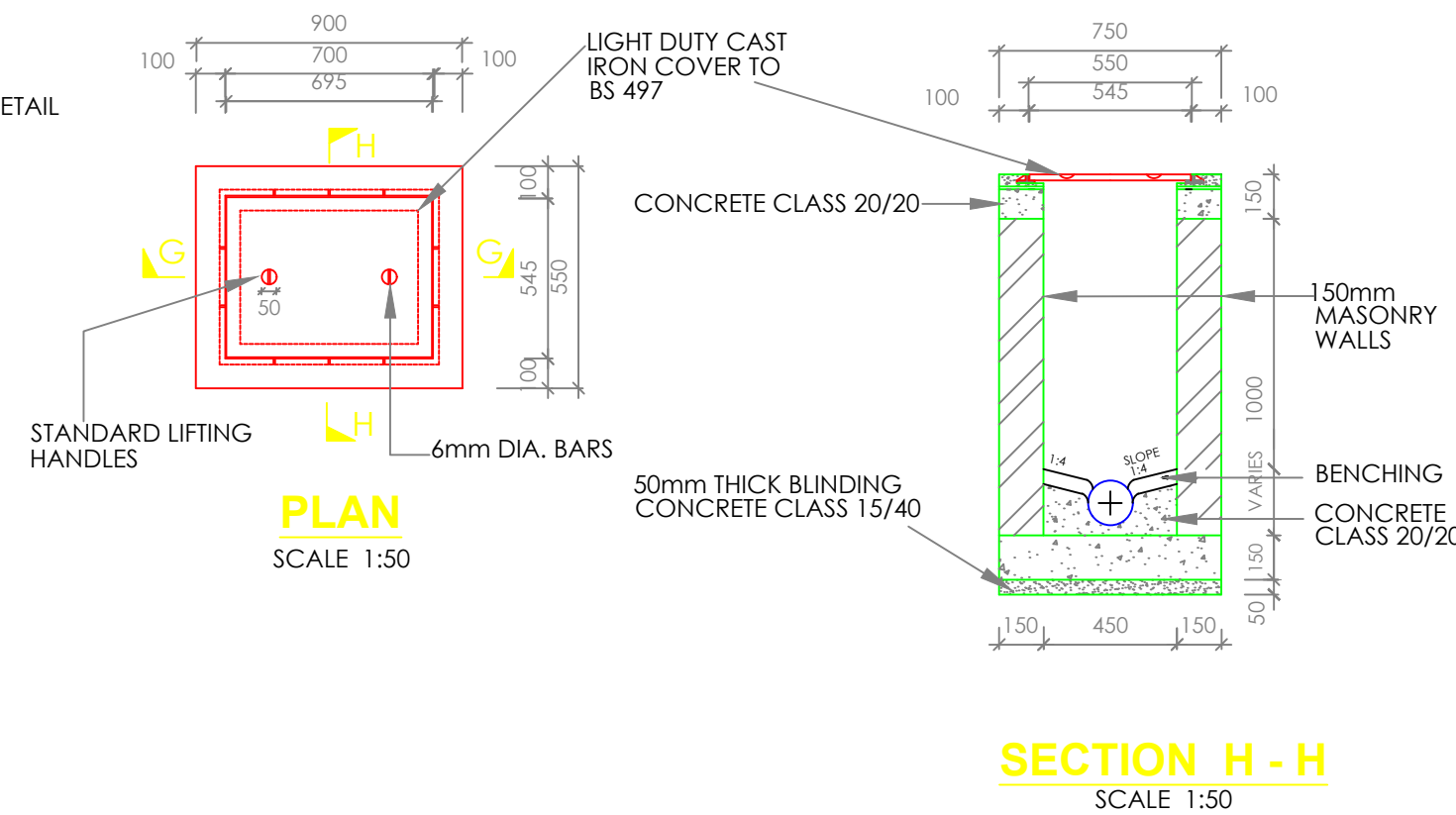
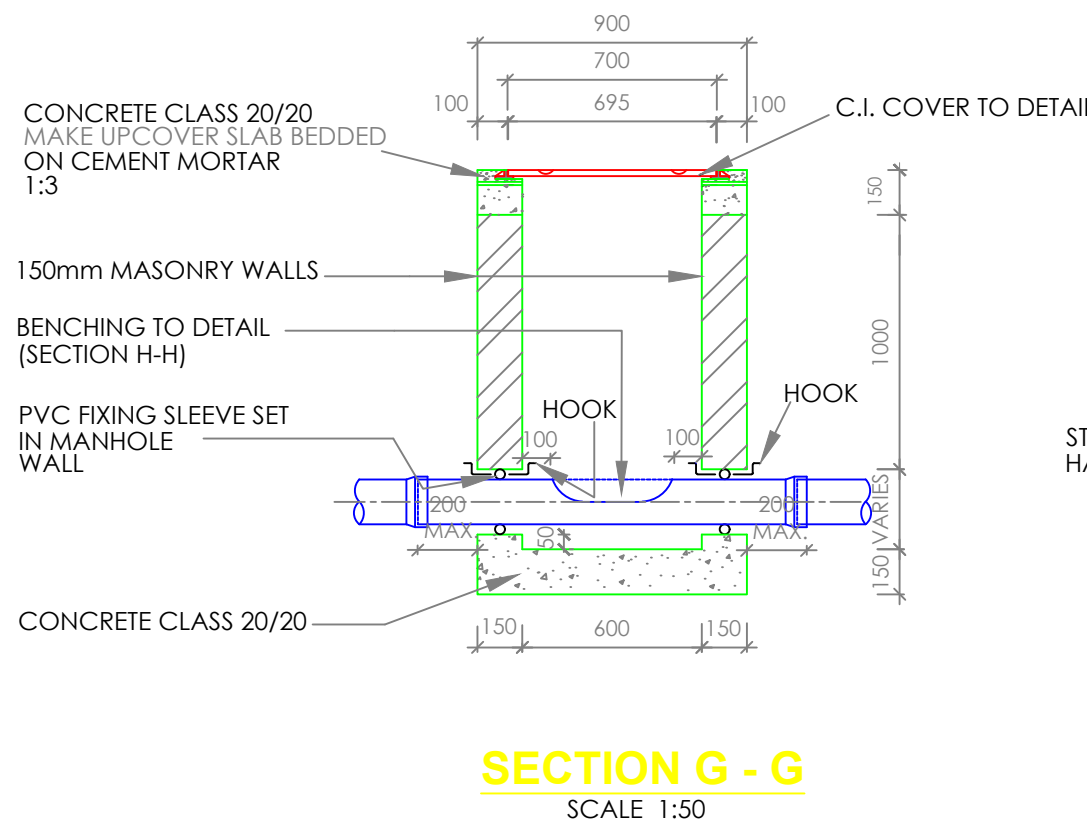
REINFORCED CONCRETE CIRCULAR MANHOLE & COVER  
DEPTH n.e. 2.0m



REINFORCED CONCRETE MANHOLE & COVER  
DEPTH > 2.0m



INSPECTION CHAMBER DETAILS



NOTES





1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED
2. ALL CONCRETE TO BE CLASS 20/20
3. ALL PRECAST CONCRETE UNITS TO BS 556
4. CONCRETE FILLING CLASS 25/20 VIBRATED AND CURED IN ACCORDANCE WITH THE APPROPRIATE SPECIFICATION CLAUSES.
5. TOLERANCE ON OVERALL SIZE 3mm
6. ALL HAUNCHES ARE CLASS 15/40 CONCRETE AS INDICATED ON THE SPECIFICATION OVER EXCAVATION TO BE MADE GOOD IN CONCRETE CLASS 15/40.

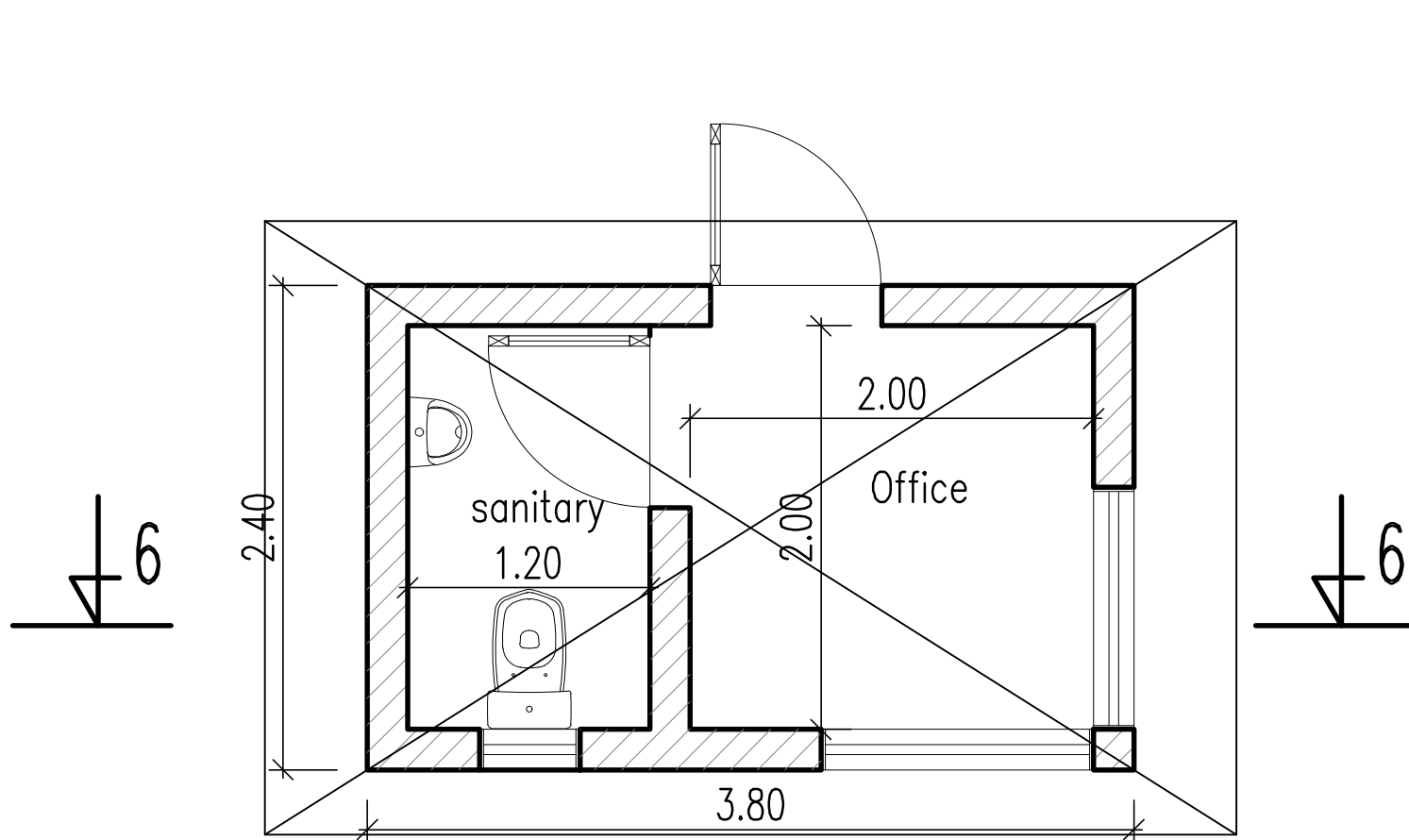
ABBREVIATIONS

- 1.n.e. - NOT EXCEEDING
2. c/c - CENTRE TO CENTRE
3. MIN - MINIMUM
4. G.L. - GROUND LEVEL
5. mm - MILLIMETER
6. m - METRE
7. EXT. DIA. - EXTERNAL DIAMETER
8. OD - OUTSIDE DIAMETER
9. ND - NOMINAL DIAMETER
10. RC - REINFORCED CONCRETE
11. T10 - TWISTED BAR 10mm SIZE
12. NTS - NOT TO SCALE
13. CU.M PER LIN. METER - CUBIC METER PER LINEAR METER
14. CI - CAST IRON

NOTES:

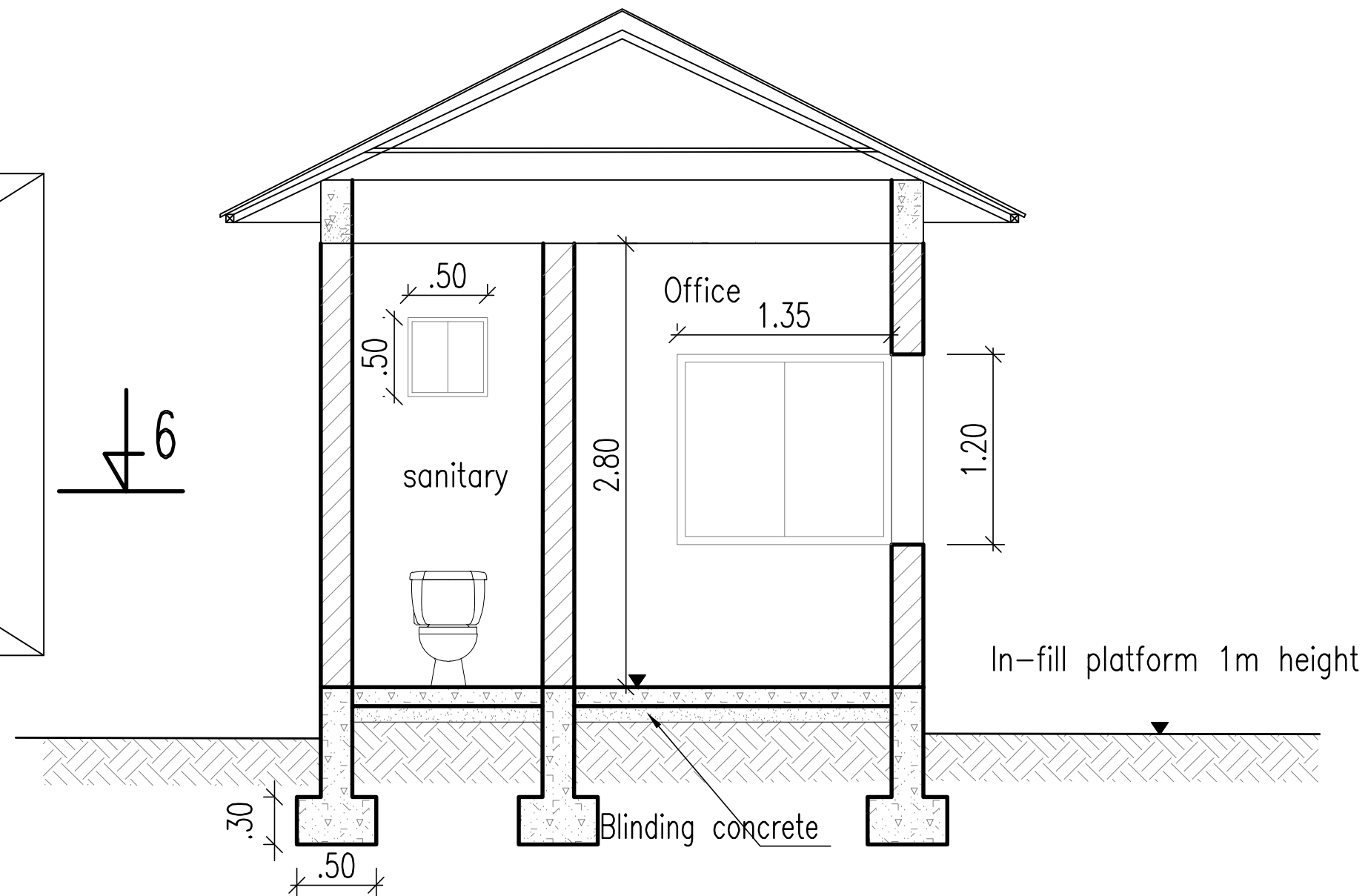
1. INSPECTION CHAMBER SHOULD BE SIZE 600x450mm UPTO DEPTH OF 1000mm
2. FOR INSPECTION CHAMBER EXCEEDING DEPTH 1000mm SIZE SHOULD BE 850x1200mm
3. WALLS OF INSPECTION CHAMBER TO BE OF MASONRY

NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	<div>CLIENT:</div> <div> Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA</div>	<div>EXECUTING AGENCY:</div> <div> NYERI WATER &amp; SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke</div>	<div> REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION</div>	<div>PROJECT:</div> <div>CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING BMZ NO.: 2013 65 402 (WSTF-PHASE III)</div>	<div>DESIGNED BY:</div> <div> <b>CAS CONSULTANTS LIMITED</b> LE MAC BUILDING, 1<sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67893 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke</div>	<div>DRAWING TITLE:</div> <div>Typical Manhole and Inspection Boxes Details</div>	Designed By	: M.O.O
1.											Drawn By	: E.I.
2.											Checked By	: W.K
3.											Approved By	: S.M.M
4.											Client approval	:
					Date	: OCT 2024						
					Drawing No:	WSTF/AoD/NYERI/060						



## LAYOUT

Scale:1/50



## SECTION 6-6

Scale:1/50

NO	REVISIONS	CHECKED BY	APPROVED BY	DATE
1.				
2.				
3.				
4.				

CLIENT:

Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA

EXECUTING AGENCY:

NYERI WATER & SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke


REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION

PROJECT:
CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING

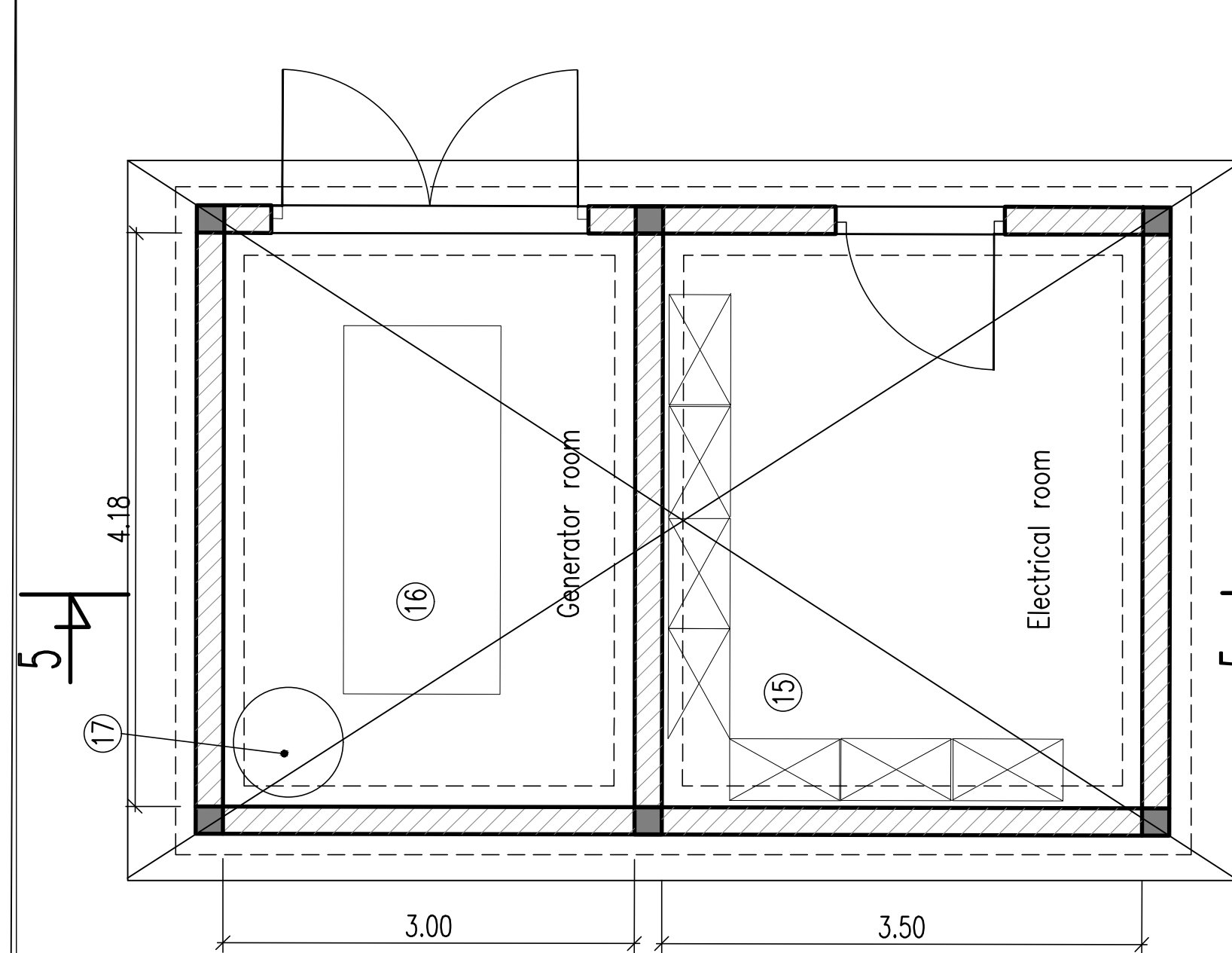
DESIGNED BY:

CAS CONSULTANTS LIMITED LE' MAC BUILDING, 1 <sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke

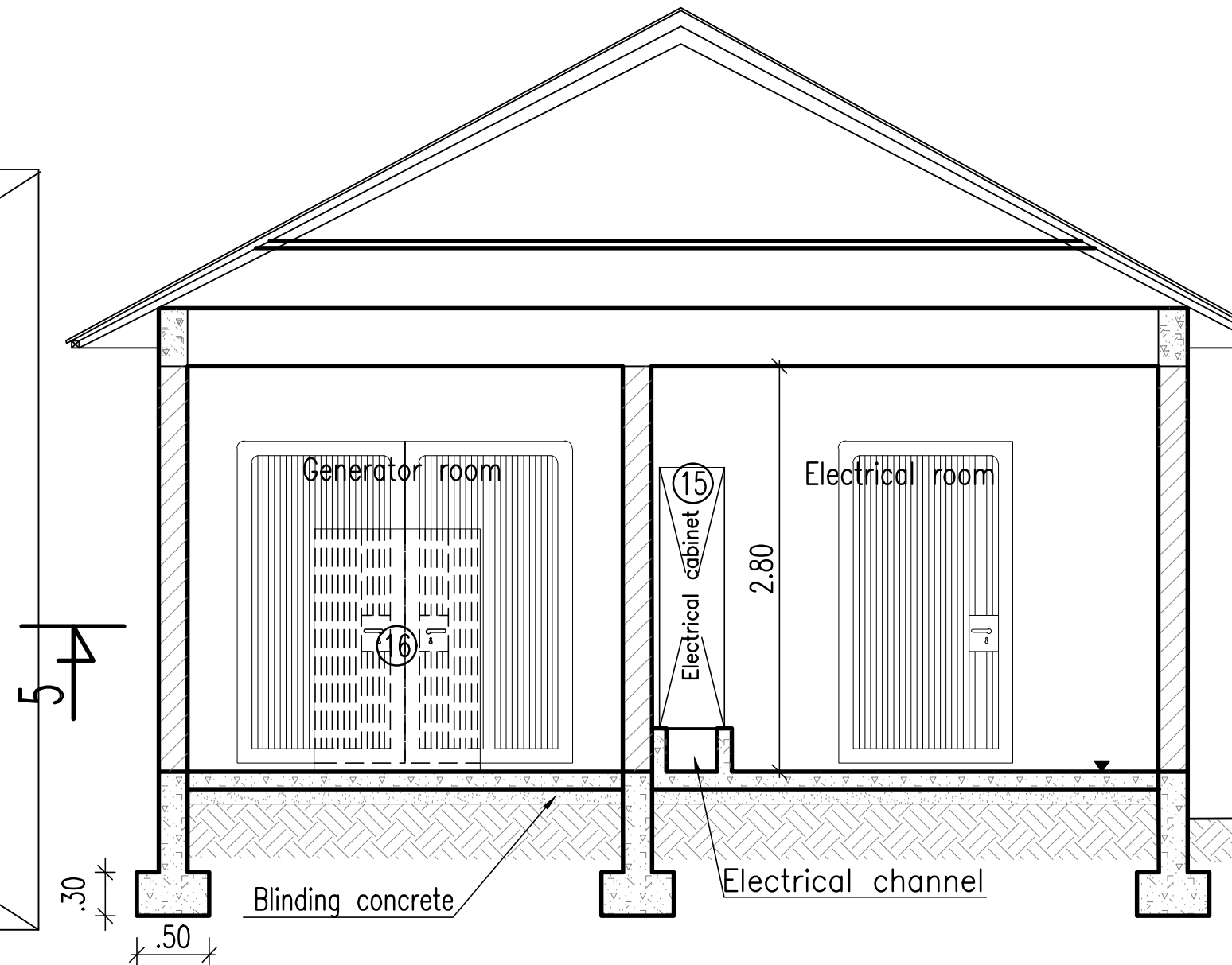
DRAWING TITLE:
GUARD HOUSE

Designed By : M.O.O
Drawn By : K.R.R
Checked By : L.K
Approved By : W.O.K
Client approval :
Date : OCT 2024
Drawing No : WSTF/AoD/NYER/LS/06





LAYOUT PLAN



SECTION 5-5

NO	REVISIONS	CHECKED BY	APPROVED BY	DATE
1.				
2.				
3.				
4.				

CLIENT:
 Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA

EXECUTING AGENCY:
 NYERI WATER & SANITATION COMPANY Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke

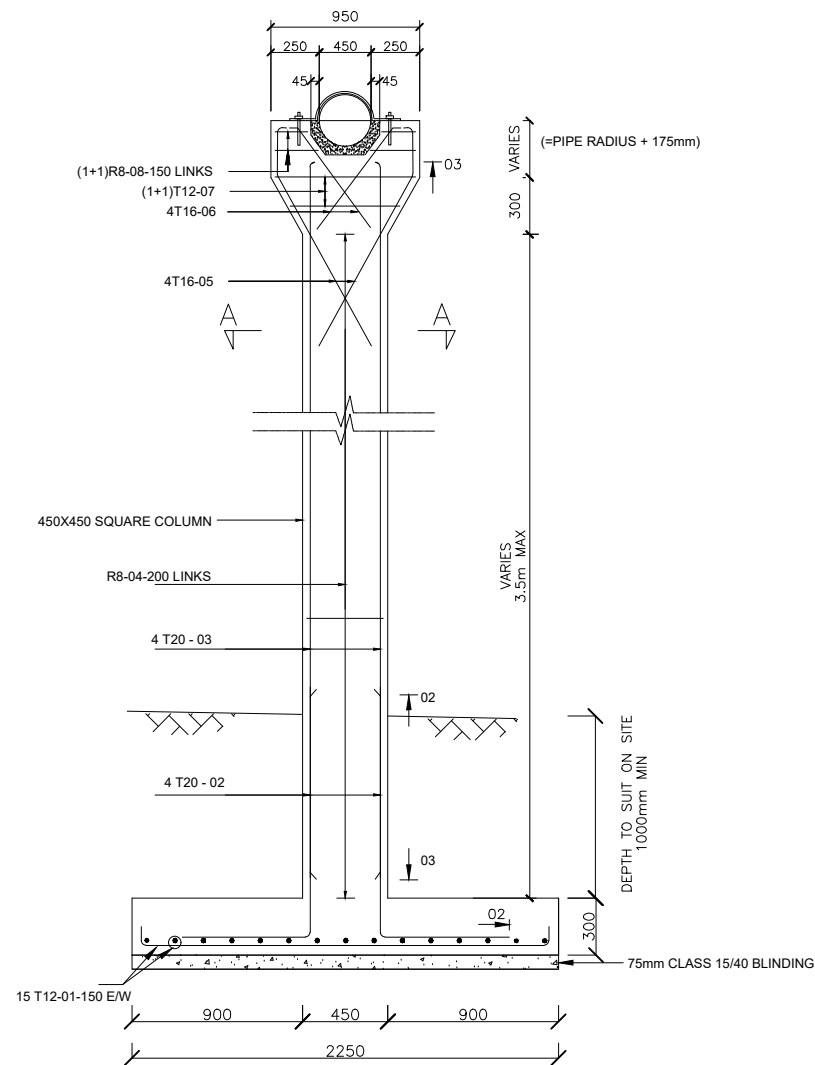
 REPUBLIC OF KENYA MINISTRY OF WATER AND SANITATION
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PROJECT:
CONSULTING SERVICES TO DEVELOP BANKABLE WATER AND SEWERAGE PROPOSALS FOR WATER SERVICE PROVIDERS FOR COMMERCIAL FINANCING

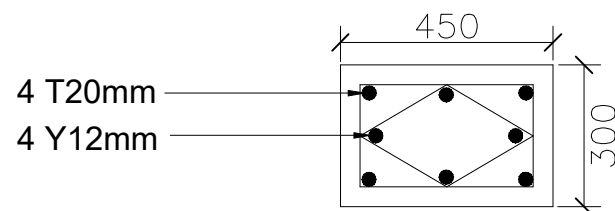
DESIGNED BY:
 <b>CAS CONSULTANTS LIMITED</b> LE' MAC BUILDING, 1 <sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke

DRAWING TITLE:
POWER HOUSE

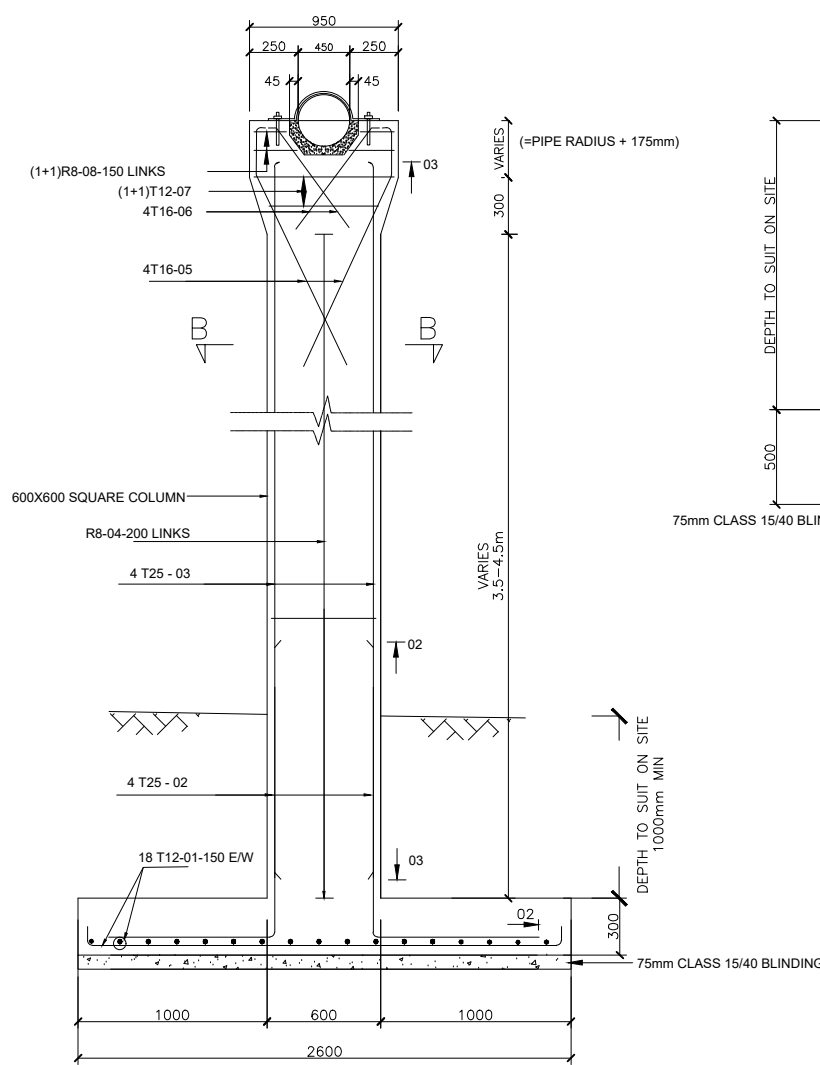
Designed By : M.O.O
Drawn By : K.R.R
Checked By : L.K
Approved By : W.O.K
Client approval :
Date : OCT 2024
Drawing No : WSTF/AoD/NYERI/LS/07



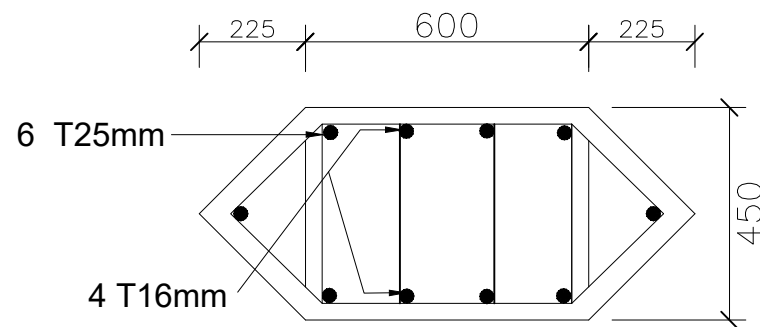
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(HEIGHT UPTO 3.5m)  
SCALE 1:40



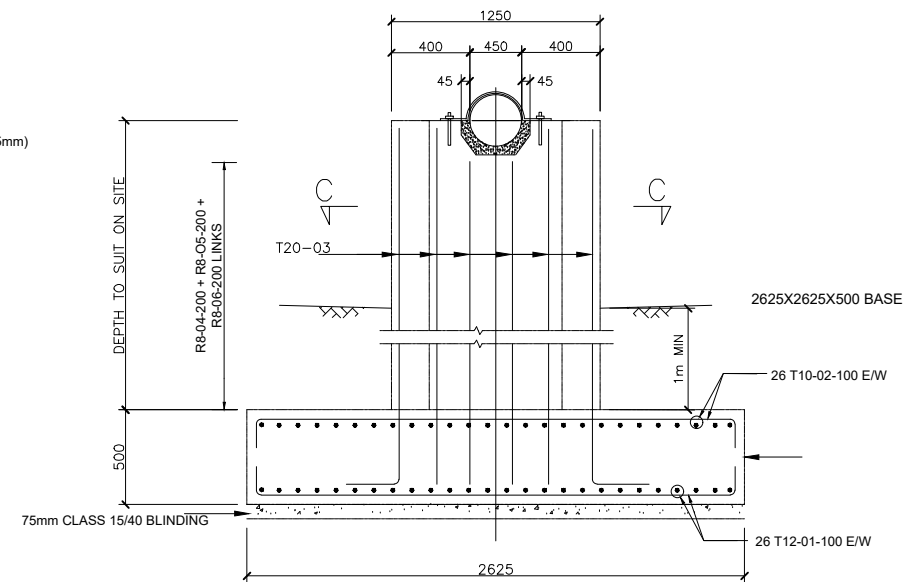
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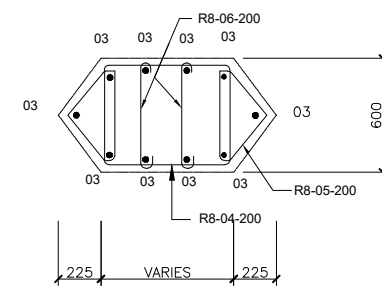
**PIER TYPE 'B'**  
(HEIGHT 3.5 - 4.5m)  
SCALE 1:40



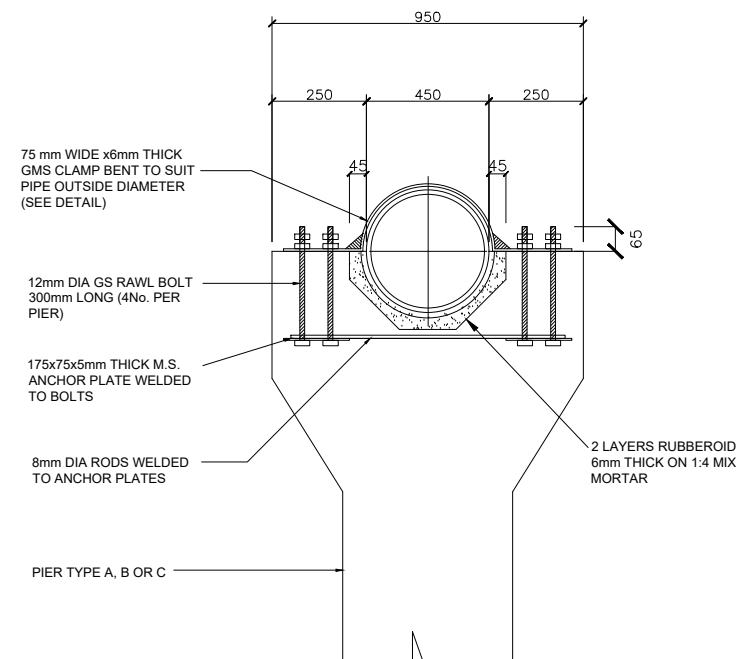
**SECTION B - B**  
SCALE 1:8



**PIER TYPE 'C' (4.5m - 6.0M)**  
SCALE 1:40



**SECTION C - C**  
SCALE 1:40







**TYPICAL PIPE FIXING  
DETAIL ON COLUMN HEAD**  
SCALE 1:20

**NOTE: SAME COLUMN / FOUNDATION COULD BE USED FOR  
ANY SIZE OF PIPELINE VARYING FROM DN 225 TO DN 450**

NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	CLIENT:	EXECUTING AGENCY:	PROJECT:	DESIGNED BY:	DRAWING TITLE:	Designed By	Drawn By	Checked By	Approved By	Date	Drawing No:
1.					<b>WaterFund</b> <small>Water Sector Trust Fund</small> Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA	<b>NYERI WATER &amp; SANITATION COMPANY</b> <small>NYERIFUND</small> Opposite Nyeri Town Health Center, Nyeri, Kenya Tel: 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke	<b>REPUBLIC OF KENYA</b> <small>MINISTRY OF WATER AND SANITATION</small>	<b>CAS CONSULTANTS LIMITED</b> <small>LE MAC BUILDING, 1ST FLOOR, OFF CHURCH ROAD, WESTLANDS</small> P.O BOX 67693 - 00200 - NAIROBI, KENYA TEL: 020 4445265 E-MAIL: casconsult@afriaconline.co.ke WEBSITE: www.casconsultants.co.ke	<b>RIVER CROSSINGS</b>	M.O.O	E.I.	W.K	S.M.M	OCT 2024	WSTF/AoD/NYERI/45
2.															
3.															
4.															





NO	REVISIONS	CHECKED BY	APPROVED BY	DATE	CLIENT:	EXECUTING AGENCY:	PROJECT:	DESIGNED BY:	DRAWING TITLE:	Designed By : M.O.O
1.					 <b>WaterFund</b> Partnership for Water WATER SECTOR TRUST FUND  Water Sector Trust Fund, CIC Plaza, 1st Floor, Mara Road, Upper Hill, P.O Box 49699, 00100, NAIROBI, KENYA	 <b>NYERI WATER &amp; SANITATION COMPANY</b> Opposite Nyeri Town Health Center, Nyeri. Kenya Tel. 061-2034622/23 or 061-2034617/4548 Email: info@nyewasco.co.ke	 <b>REPUBLIC OF KENYA</b> MINISTRY OF WATER AND SANITATION	 <b>CAS CONSULTANTS LIMITED</b> LE MAC BUILDING, 1 <sup>ST</sup> FLOOR, OFF CHURCH ROAD, WESTLANDS P.O BOX 87693 - 00200 - NAIROBI, KENYA TEL: 020 4445285 E-MAIL: casconsult@africaonline.co.ke WEBSITE: www.casconsultants.co.ke	<b>Typical Manhole and Inspection Boxes Details</b>	Drawn By : E.I.
2.				Checked By : W.K						
3.				Approved By : S.M.M						
4.				Client approval : Date : OCT 2024 Drawing No: WSTF/AoD/NYERI/060						