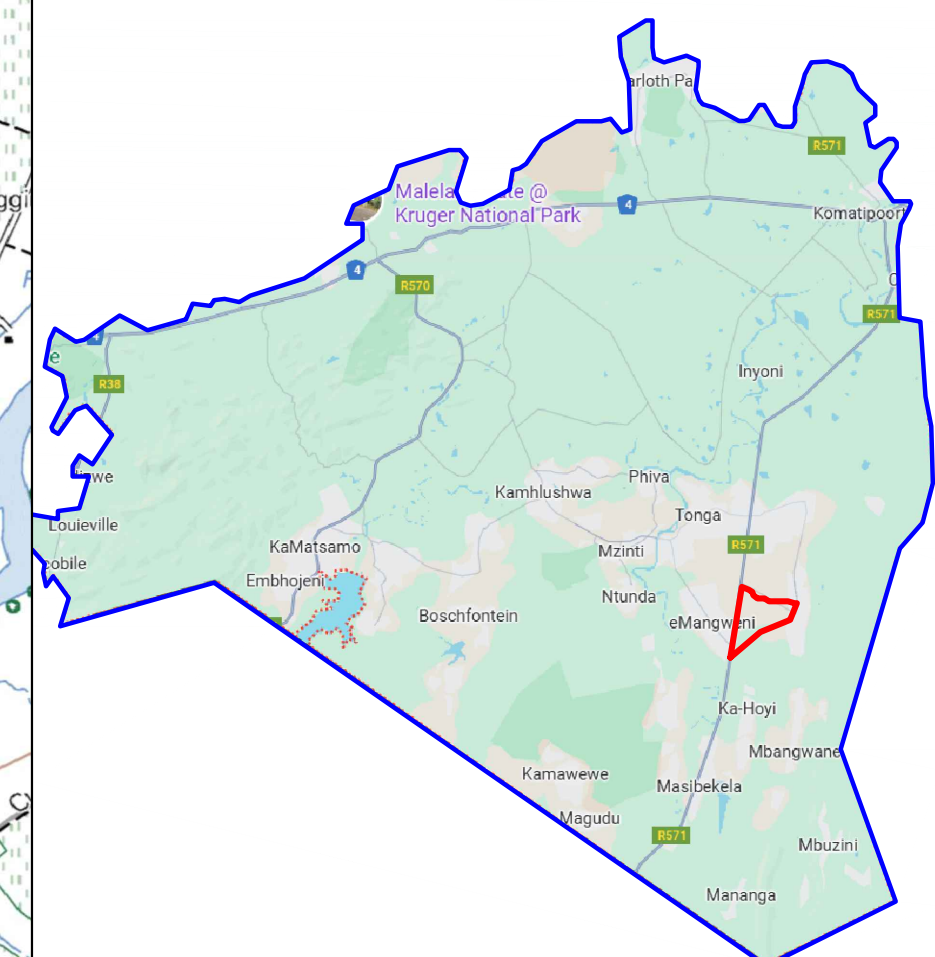


[illegible]

	A	30-05-25	AJM	JTZ	ISSUED FOR TENDER
22	REV	DATE	DRAWN	CHECKED	DESCRIPTION

[illegible]

JTMI CONSULTING ENGINEERS
Reg. No. 2016/048023/07
18 Hospital street
Tzaneen
0850

Tel: 27 87 093 2039
Fax: 27 86 608 4989

e-mail: info@jtmi.co.za

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE

DRAWING

PROJECT LOCALITY MAP

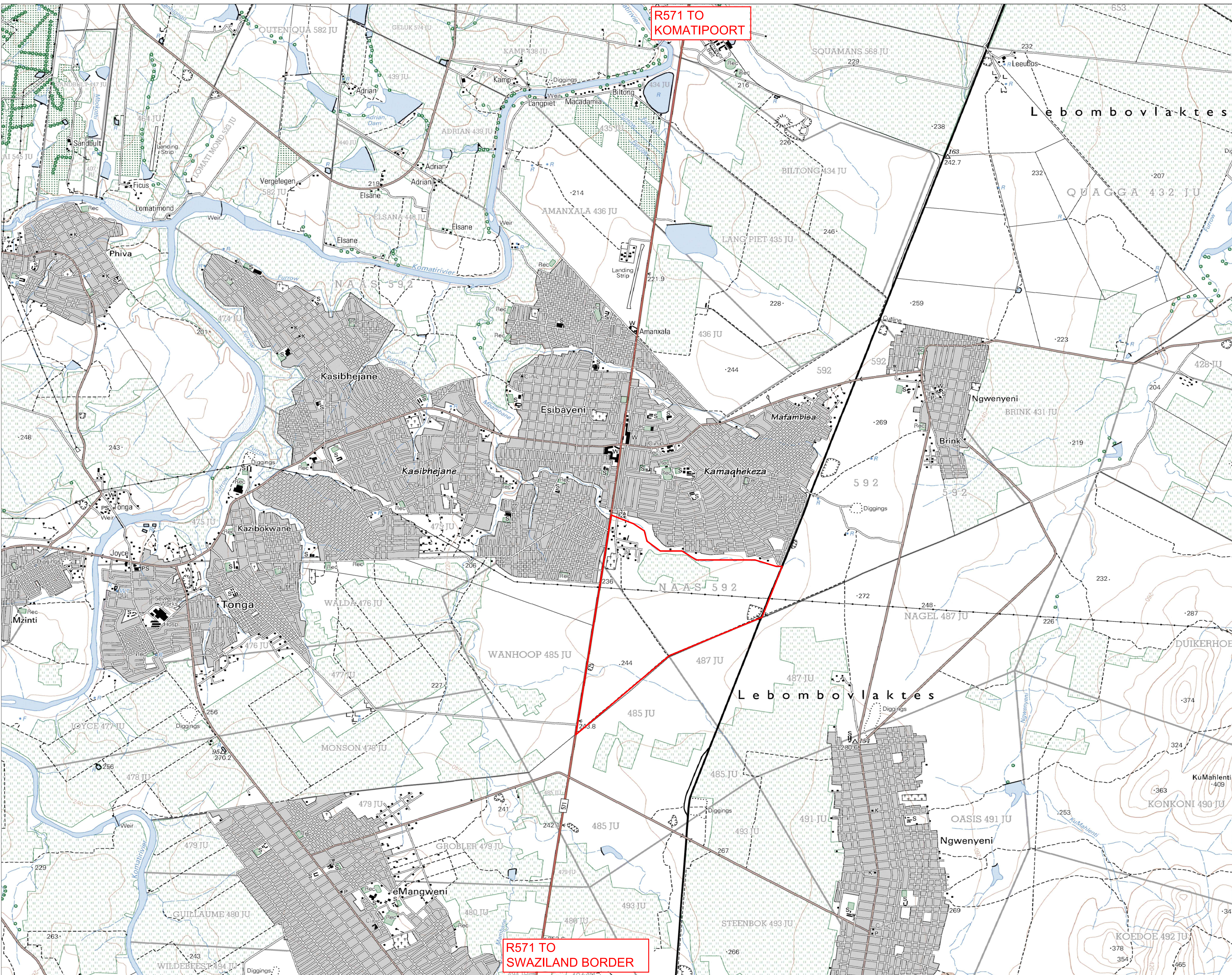
TENDER

	SIGNATURE	DATE
DESIGNED	AJM	30-09-2025
DRAWN	AJM	30-09-2025
CHECKED	IM	30-09-2025
APPROVED	JTZ	30-09-2025
SCALE	SCALE 1: 5000	
REVISION	A	

PROJECT No.	
-------------	--

2501-JTMI-XX-25-DR-C-101

COPYRIGHT RESERVED



"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

LEGEND	
250mm dia Pipe	
200mm dia Pipe	
160mm dia Pipe	
110mm dia Pipe	
75mm dia Pipe	
Isolation Valve	
scour Valve	
Firehydrant	
5.0Ml Concrete reservoir	
1.0Ml Elevated Storage	
Pump Station	

A	15-05-26	AJM	LM	TENDER
REV	DATE	DRAWN	CHECKED	DESCRIPTION
EMPLOYERS AGENT				JTMI CONSULTING ENGINEERS Reg. No. 2016/048023/07 18 Hospital street Tzaneen 0850
				Tel: 27 87 093 2039 Fax: 27 86 608 4989 e-mail: info@jtimi.co.za

CLIENT	 NKOMAZI LOCAL MUNICIPALITY
--------	--

PROJECT	CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE
---------	---

DRAWING	GRETANE WATER RETICULATION
---------	-------------------------------

TENDER		
	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026
SCALE	SCALE 1: 9000	
REVISION	A	
PROJECT No.		

2501-JTMI-XX-25-DR-C-102
COPYRIGHT RESERVED



NOTES:

1. ALL FOUNDATIONS MUST BE INSPECTED AND APPROVED BY THE ENGINEER BEFORE ANY CONCRETE IS CAST.
2. ALL CONCRETE TO BE IN ACCORDANCE WITH SABS 1200 G.
3. ALL CONCRETE TO BE STRENGTH CONCRETE.
4. GRADES OF CONCRETE:
BLINDING LAYER 15MPa/19
IN FOUNDATIONS 25MPa/19
IN COLUMNS 25MPa/19
IN WALLS 25MPa/19
IN BEAMS AND SLABS 25MPa/19
5. IF REQUIRED ALL COLUMN AND WALL KICKERS SHALL BE CAREFULLY FORMED WITH THE SAME GRADE OF CONCRETE AS THE CORRESPONDING COLUMNS OR WALLS ABOVE.
6. WIRE CONNECTORS THROUGH CONCRETE SHALL NOT BE ALLOWED. ALL FERRULES OR OTHER FASTENING DEVICES SHALL PRESENT A NEAT AND UNIFORM PATTERN.

A	15-05-26	AJM	LM	ISSUED FOR TENDER
REV	DATE	DRAWN	CHECKED	DESCRIPTION

JTMI CONSULTING ENGINEERS
Reg. No. 2016/048023/07
18 Hospital street
Tzaneen
0850

Tel: 27 87 093 2039
Fax: 27 86 608 4989

e-mail: info@jtmi.co.za

NKOMAZI
LOCAL MUNICIPALITY

CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE

TYPICAL DETIALS FOR 1 ML ELEVATED STEEL TANK

TENDER

SCALE	SCALE 1: NTS
REVISION	A

PROJECT No. _____

2501-JTMI-XX-25-DR-C-103

COPYRIGHT RESERVED



(VERTICAL)

SCALE 1:25



SCALE 1:20



NOTES:

CLIENT

 **NKOMAZI**
LOCAL MUNICIPALITY

CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE

5ML RESERVOIR FLOOR PLAN

TENDER

2501-JTMI-XX-25-DR-C-104

COPYRIGHT RESERVED

"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

REV	DATE	DRAWN	CHECKED	DESCRIPTION
EMPLOYERS AGENT				JTMI CONSULTING ENGINEERS Reg. No. 2016/048023/07 18 Hospital street Tzaneen 0850
				Tel: 27 87 093 2039 Fax: 27 86 608 4989 e-mail: info@jtmi.co.za

CLIENT	 NKOMAZI LOCAL MUNICIPALITY
--------	---

PROJECT	CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE
---------	--

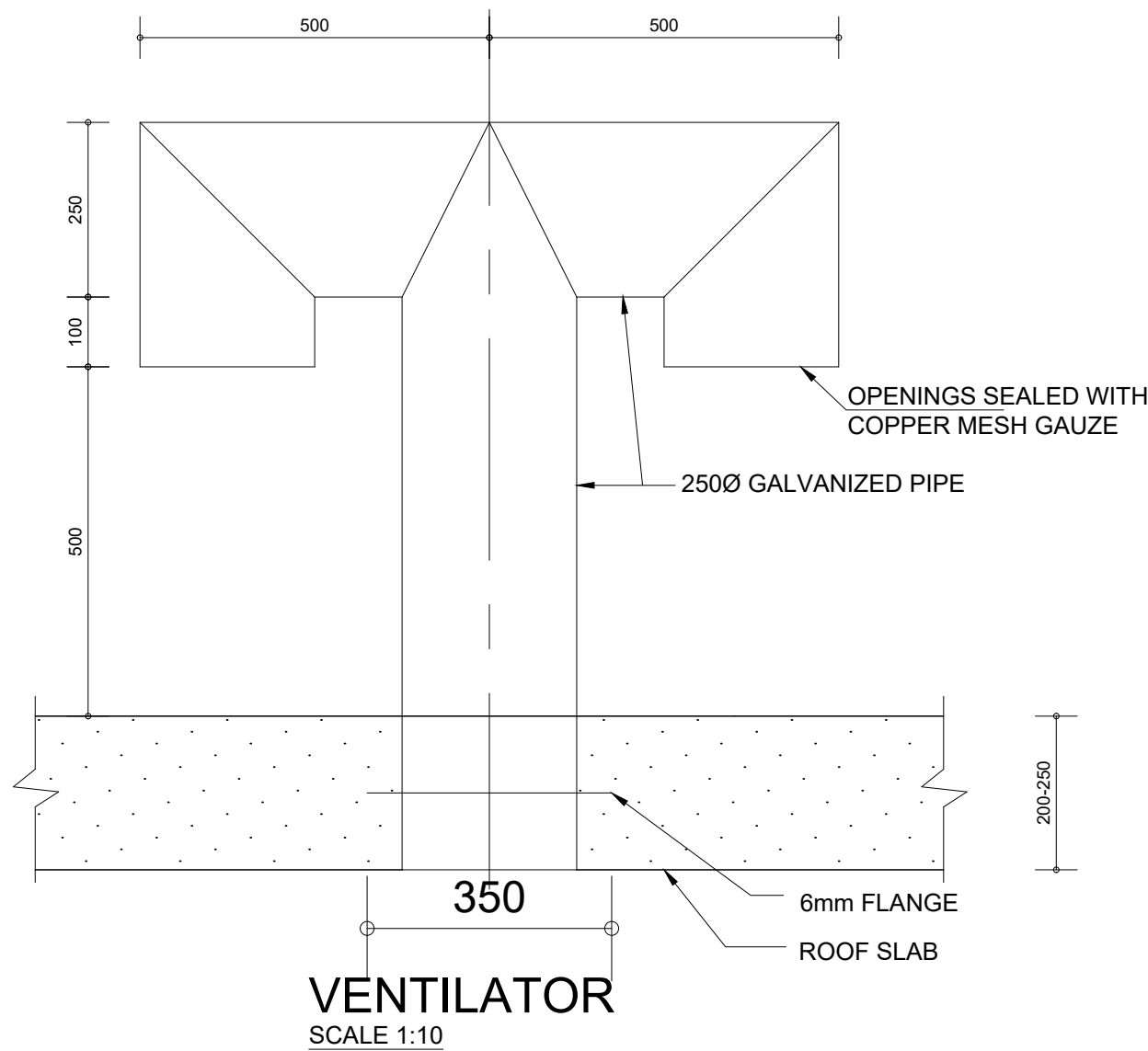
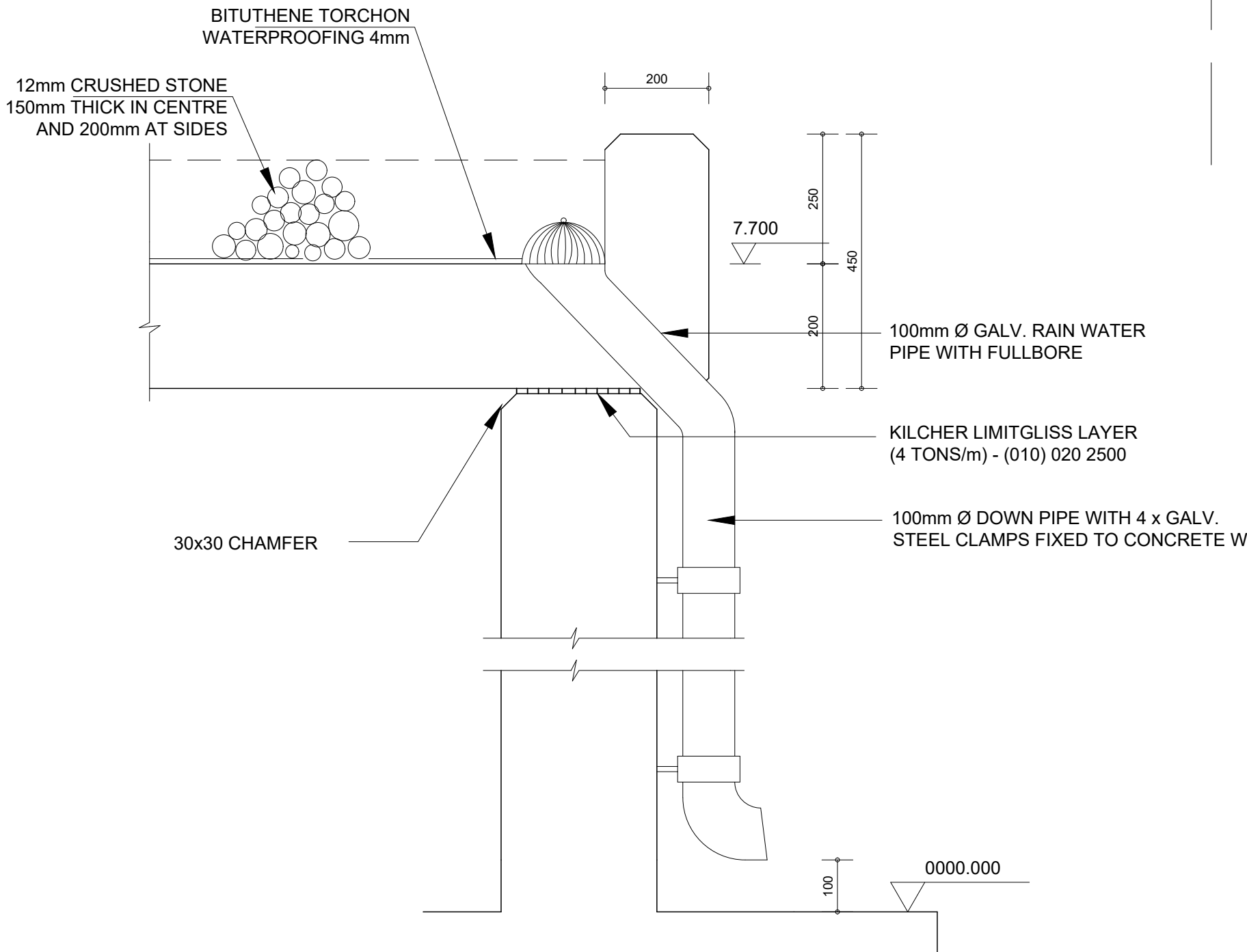
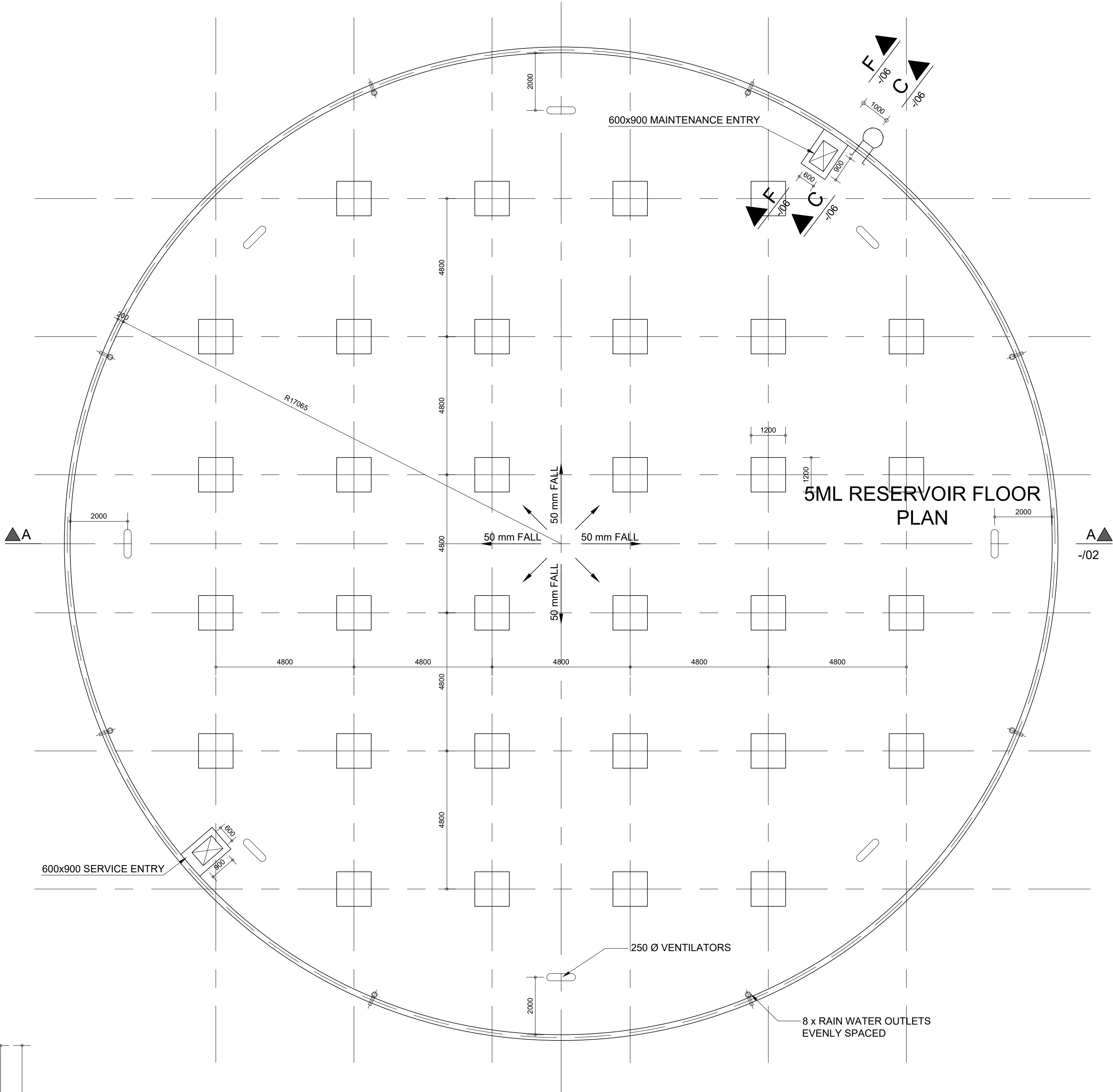
DRAWING	5ML RESERVOIR ROOF PLAN
---------	------------------------------------

TENDER

	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	JTZ	
SCALE	SCALE 1: 5000	
REVISION	A	

2501-JTMI-XX-25-DR-C-105

COPYRIGHT RESERVED



ROOF SLAB - RAIN WATER OUTLET
SCALE 1: 10

ROOF PLAN
SCALE 1:100

VENTILATOR
SCALE 1:10

"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

REV	DATE	DRAWN	CHECKED	DESCRIPTION
-----	------	-------	---------	-------------

EMPLOYERS AGENT



JTMI CONSULTING ENGINEERS
Reg. No. 2016/048023/07
18 Hospital street
Tzaneen
0850

Tel: 27 87 093 2039
Fax: 27 86 608 4989
e-mail: info@jtmi.co.za

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION
ELEVATED TANK AND BULK LINE
AT GRETANE

DRAWING

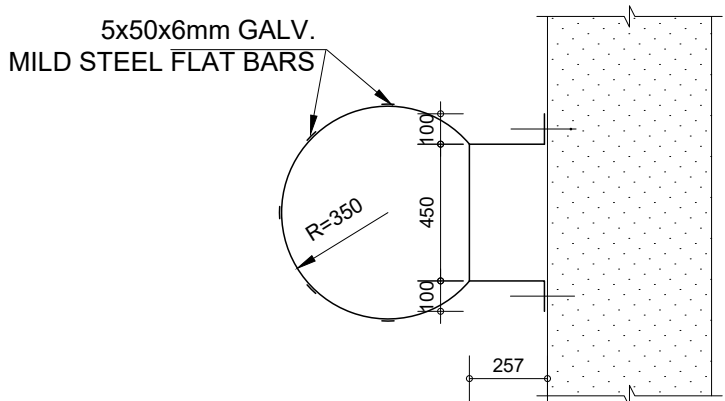
RESERVOIR LADDER DETAILS

TENDER		
	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	JTZ	
SCALE	SCALE 1: 5000	
REVISION	A	

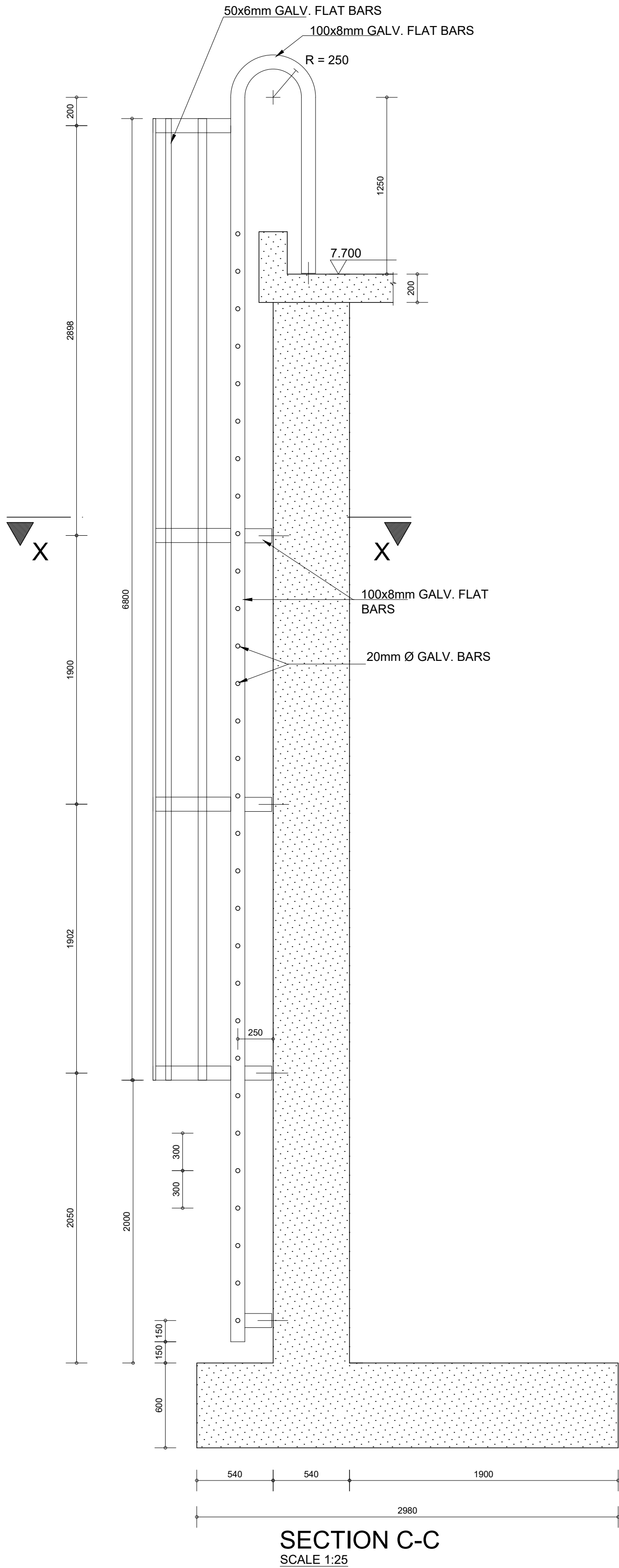
PROJECT No.

2501-JTMI-XX-25-DR-C-106

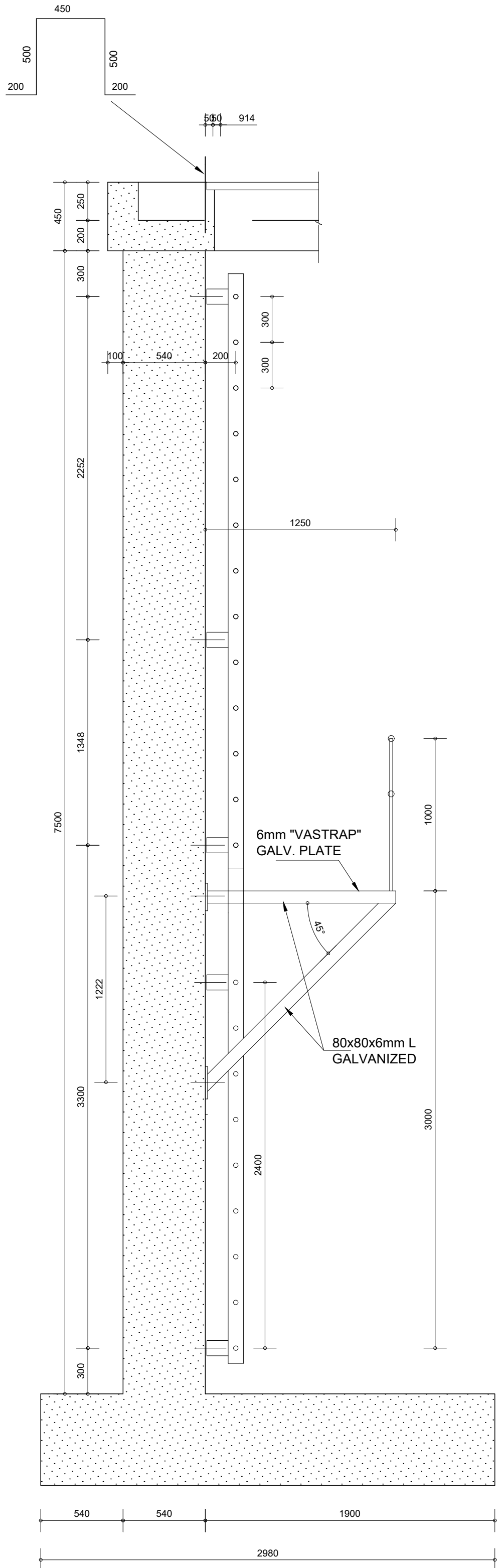
COPYRIGHT RESERVED



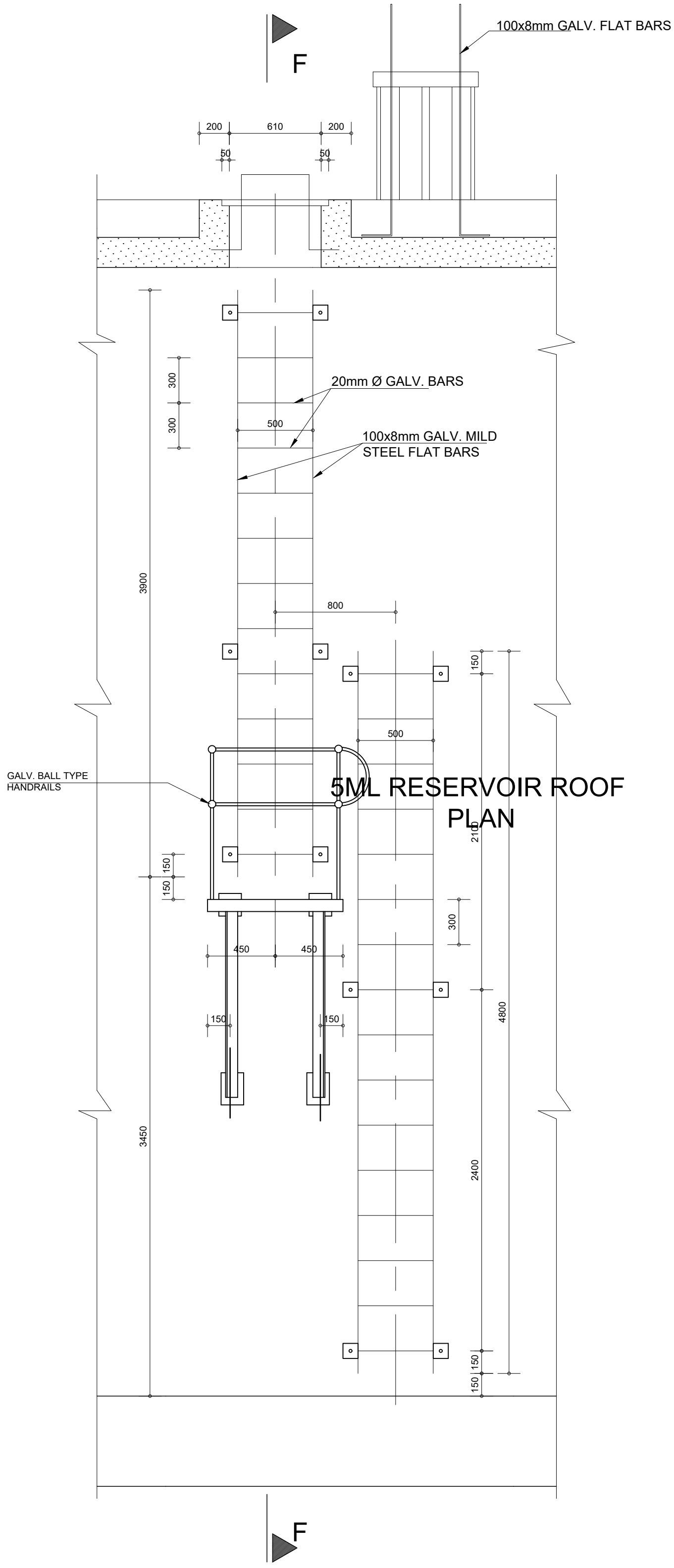
SECTION X-X
SCALE 1:25



SECTION C-C
SCALE 1:25



SECTION F-F (MAINTENANCE ENTRY)
SCALE 1:25



ELEVATION D-D (MAINTENANCE ENTRY)
SCALE 1:25

"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

REV	DATE	DRAWN	CHECKED	DESCRIPTION
-----	------	-------	---------	-------------

EMPLOYERS AGENT



JTMI CONSULTING ENGINEERS
Reg. No. 2016/048023/07
18 Hospital street
Tzaneen
0850

Tel: 27 87 093 2039
Fax: 27 86 608 4989
e-mail: info@jtmi.co.za

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION
ELEVATED TANK AND BULK LINE
AT GRETANE

DRAWING

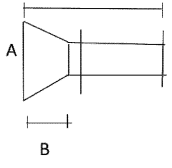
RESERVOIR SUPPLY
AND DELIVERY DETAILS

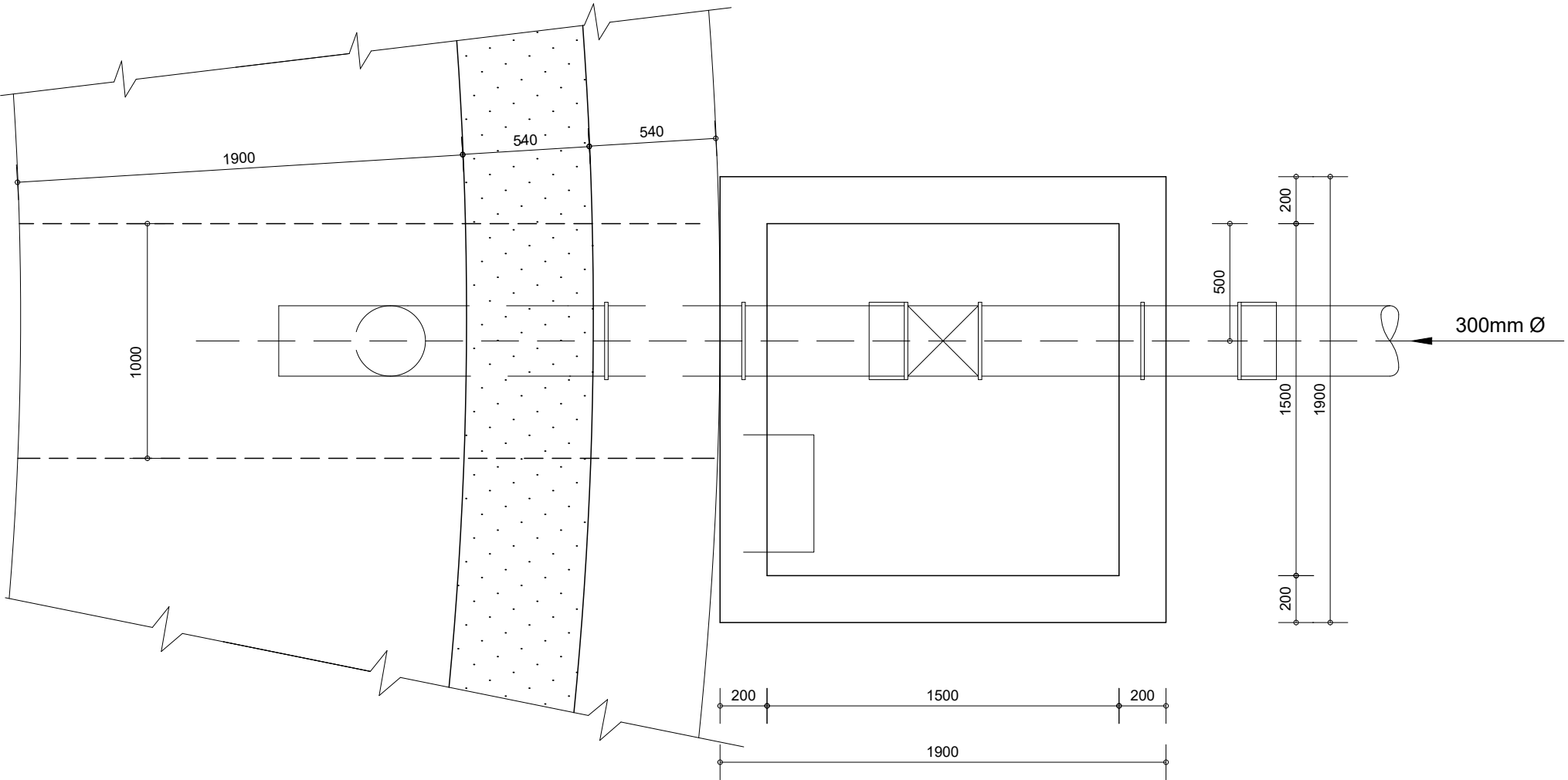
TENDER		
	SIGNATURE	DATE
DESIGNED	AJM	16-07-2026
DRAWN	AJM	16-07-2026
CHECKED	IM	16-07-2026
APPROVED	JTZ	15-05-2026
SCALE	SCALE 1: 5000	
REVISION	A	

PROJECT No.

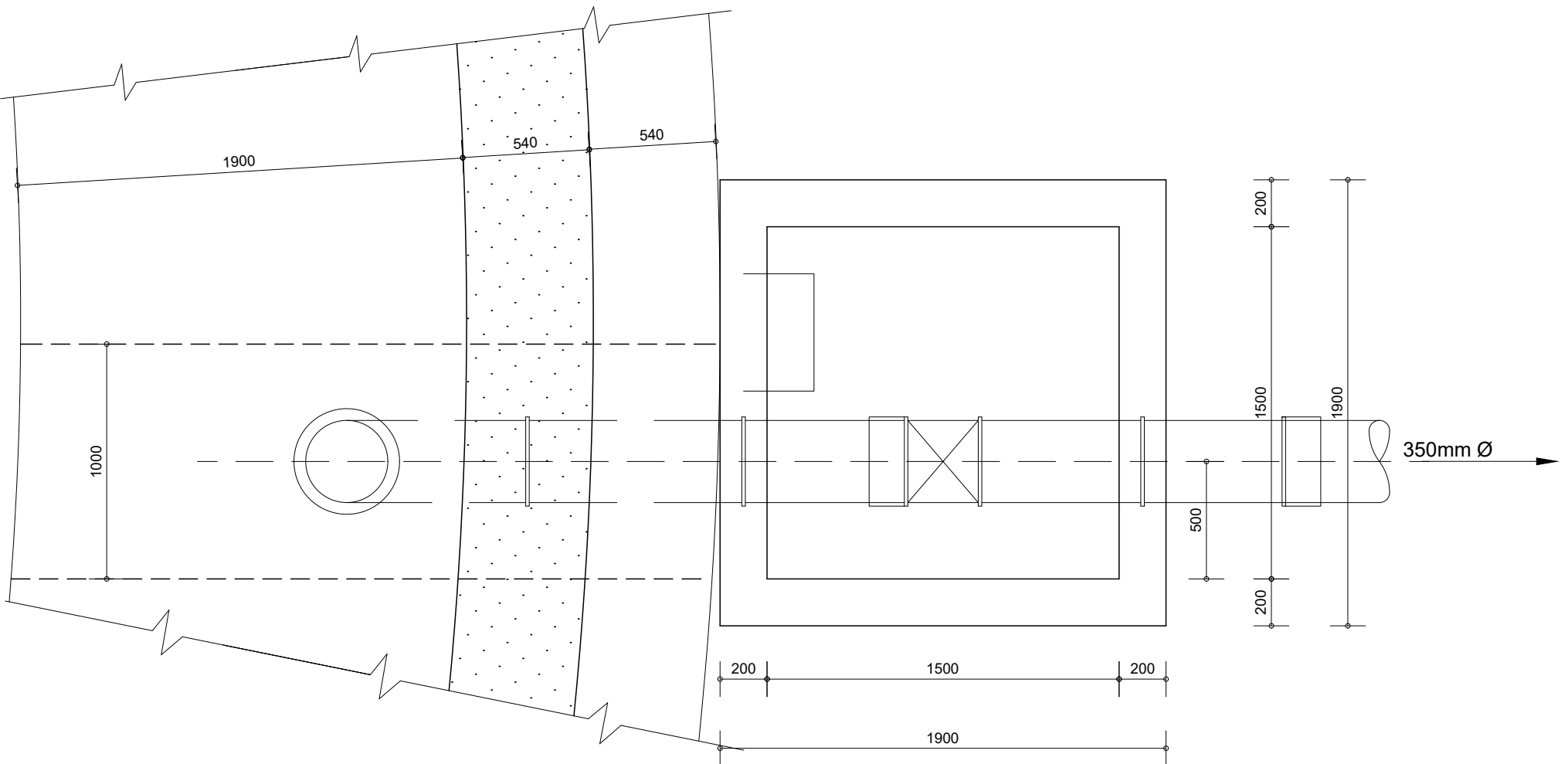
2501-JTMI-XX-25-DR-C-107

COPYRIGHT RESERVED

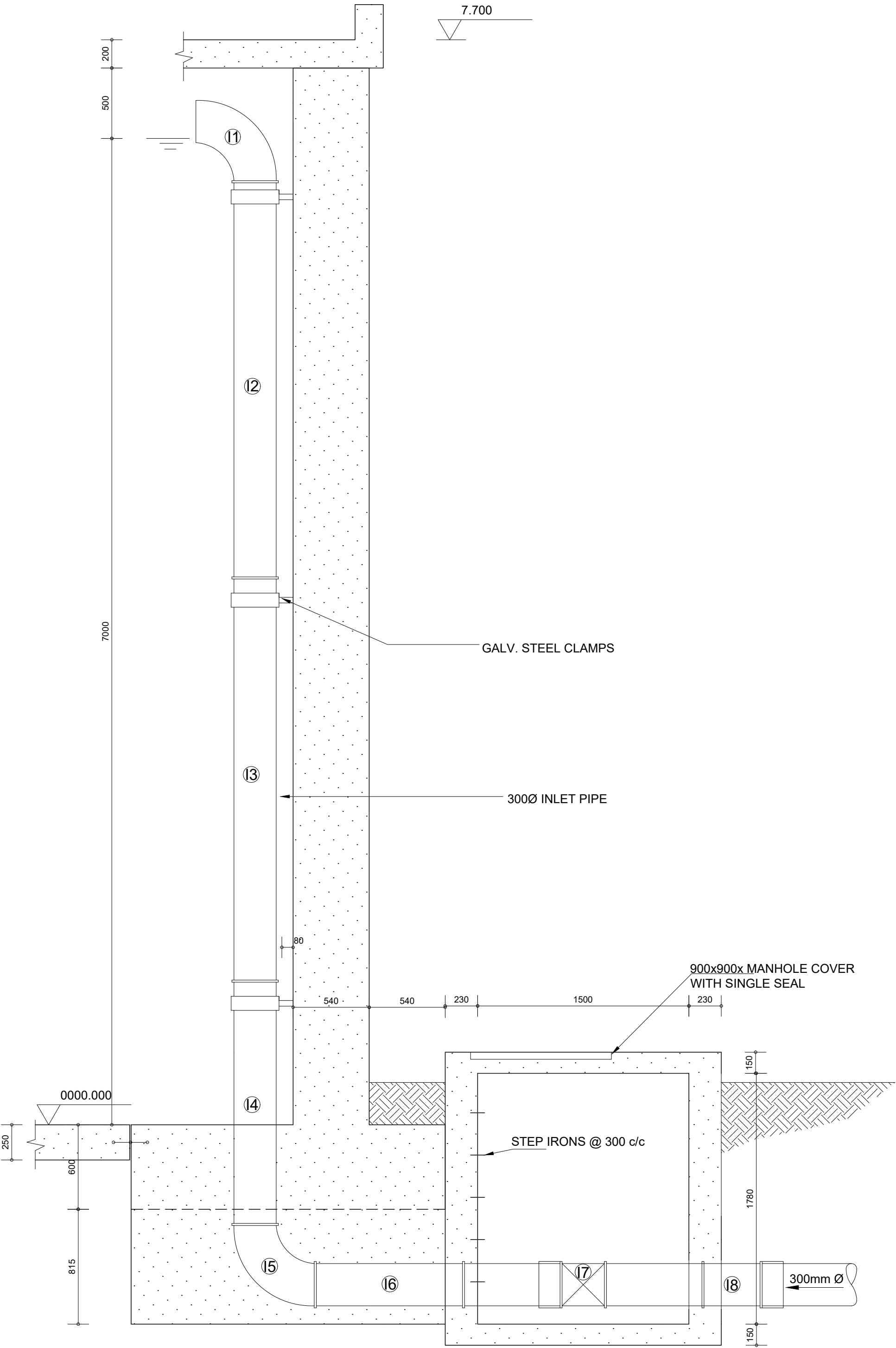
Item	Description	Qty	Dia	Class	Material	Dimensions	Coating	Notes	Sketch (only where required to indicate detail)
Inlet pipes									
I1	90 deg. Flanged bend- Short radius- flanged both sides	1	300	Grade 300WA, t=4.5mm	Steel		Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
I2	Flanged pipe piece	1	300	Grade 300WA, t=4.5mm	Steel	L=3000	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
I3	Flanged pipe piece	1	300	Grade 300WA, t=4.5mm	Steel	L=3345	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
I4	Flanged pipe piece	1	300	Grade 300WA, t=4.5mm	Steel	L=760	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
I5	90 deg. Flanged bend- Short radius- flanged both sides	1	300	Grade 300WA, t=4.5mm	Steel		Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
I6	pipe piece flanged one side with puddle flange 675mm from unflanged side- include 300mm dia Galv Flange adaptor	1	300	Grade 300WA, t=4.5mm	Steel	L=1815	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
I7	300mm isolating valve flanged	1	300				Epoxy coating (factory)		
I8	pipe piece flanged one side with puddle flange 485mm from unflanged side- include 300mm dia Galv Flange adaptor	1	300	Grade 300WA, t=4.5mm	Steel	L=1140	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
Outlet (delivery) pipes									
D1	Pipe piece flanged on one side with bellmouth on other side	1	350	Grade 300WA, t=4.5mm	steel	L= 550 A=535 B=180	Hot dipped galvanised	Flanges to SANS1123/1000-3	
D2	90 deg. Flanged bend- Short radius- flanged both sides	1	350	Grade 300WA, t=4.5mm	Steel		Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
D3	pipe piece flanged one side with puddle flange 630mm from unflanged side- include 350 mm dia. galv. Flange adaptor	1	350	Grade 300WA, t=4.5mm	Steel	L=1970	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
D4	pipe piece flanged one side with puddle flange 630mm from flanged side- include 350mm dia Galv Flange adaptor	1	350	Grade 300WA, t=4.5mm	Steel	L=1095	Hot dipped galvanised (heavy duty)	Flanges to SANS1123/1000-3	
D5	350mm isolating valve flanged	1	350				Epoxy coating (factory)		



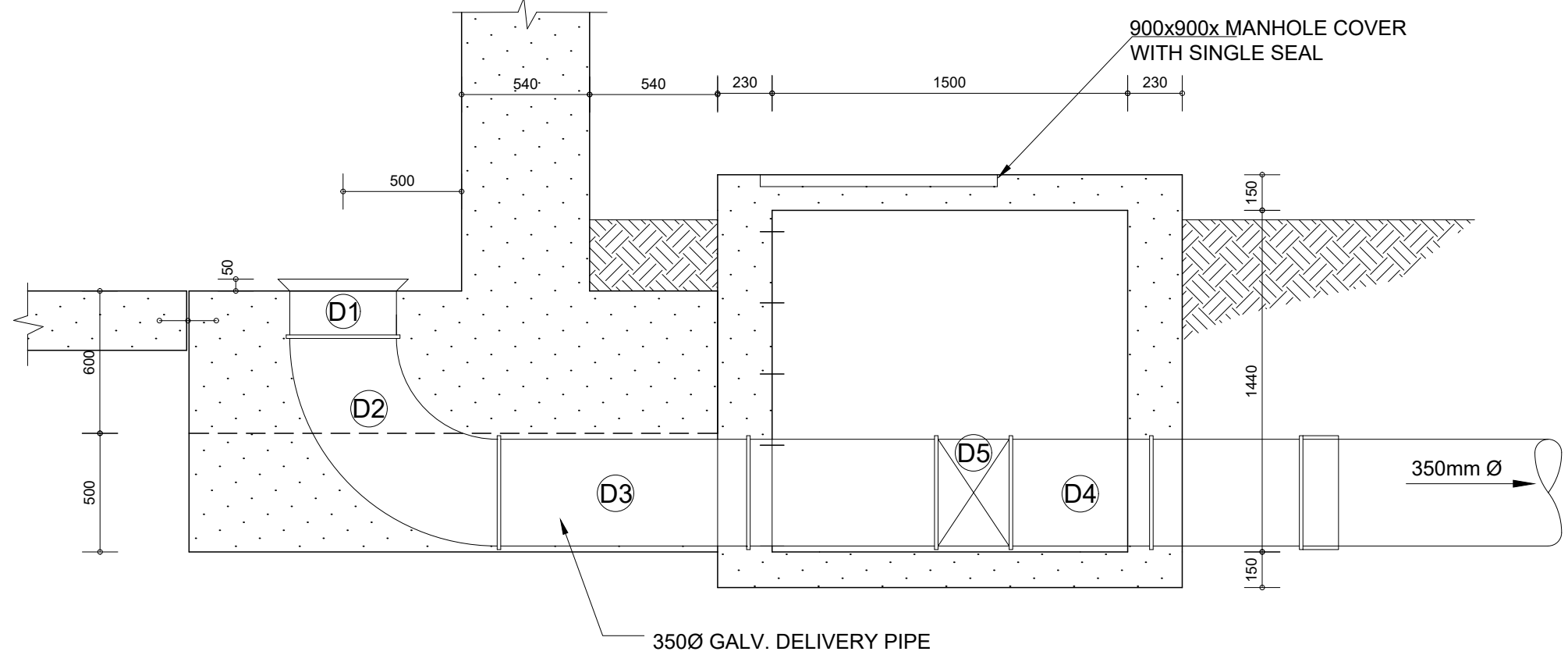
PLAN - SUPPLY PIPE
SCALE 1:25



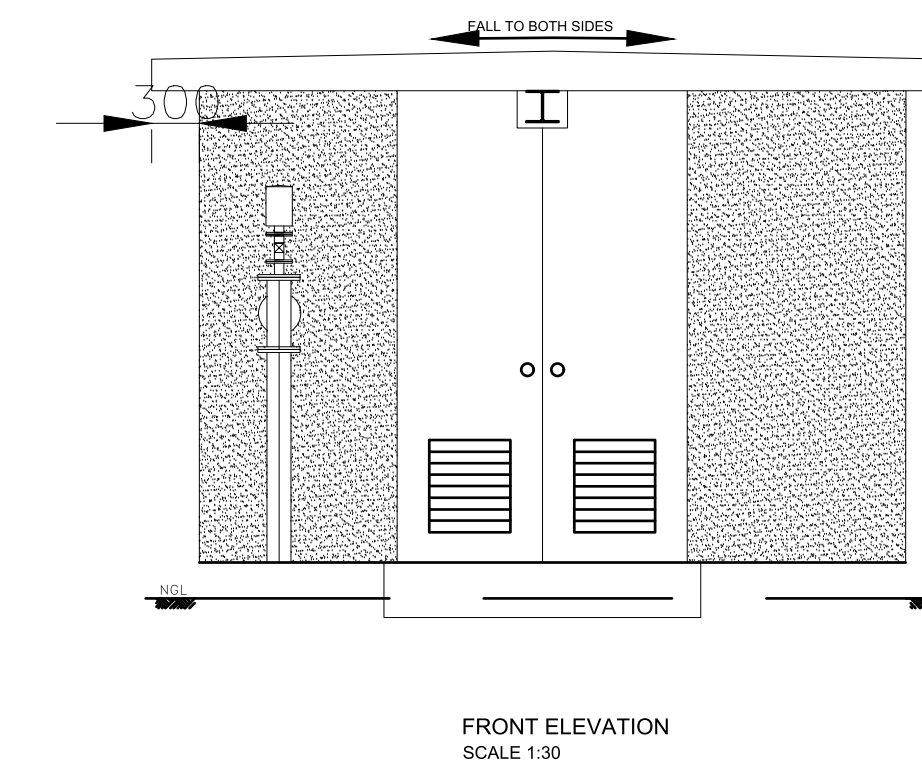
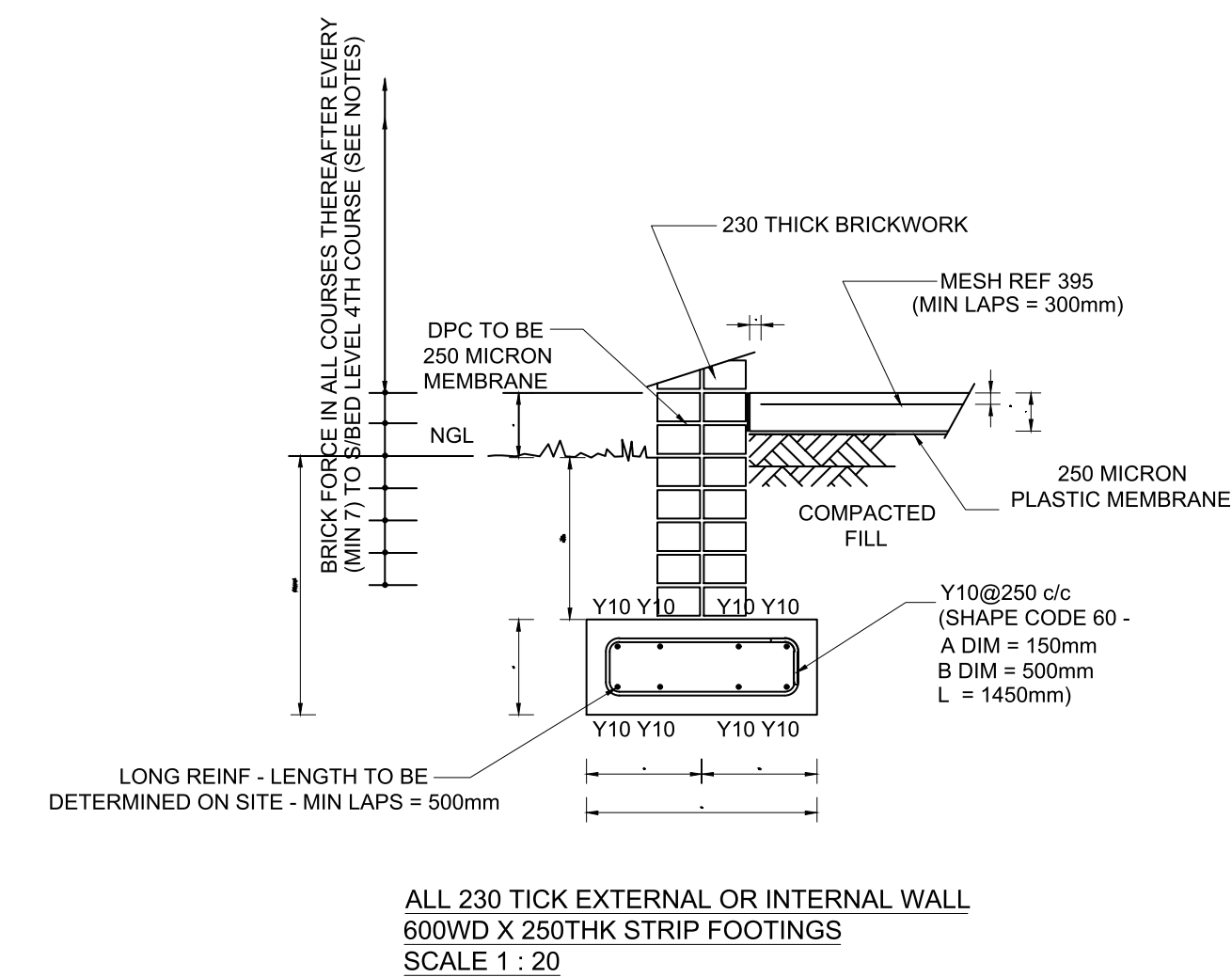
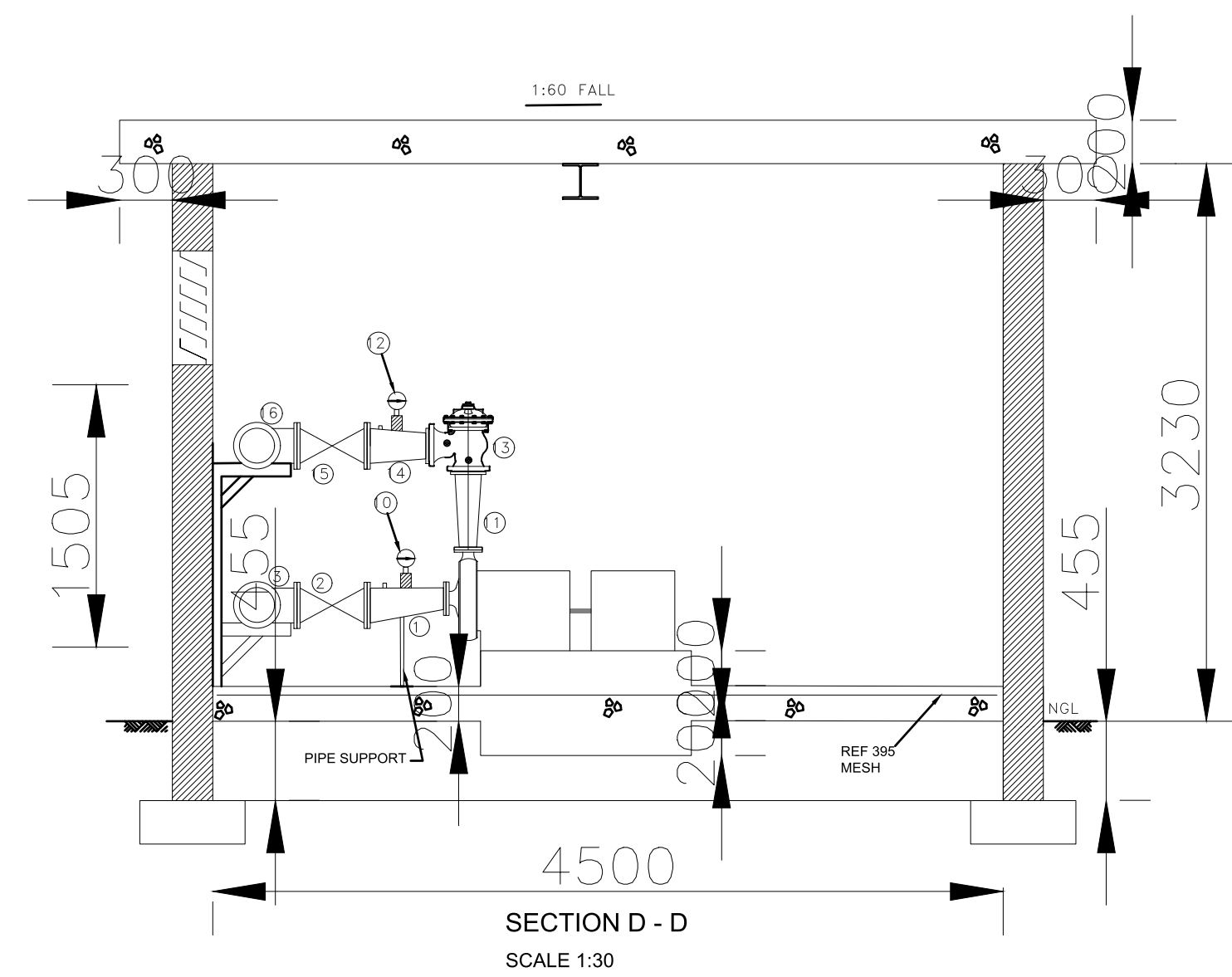
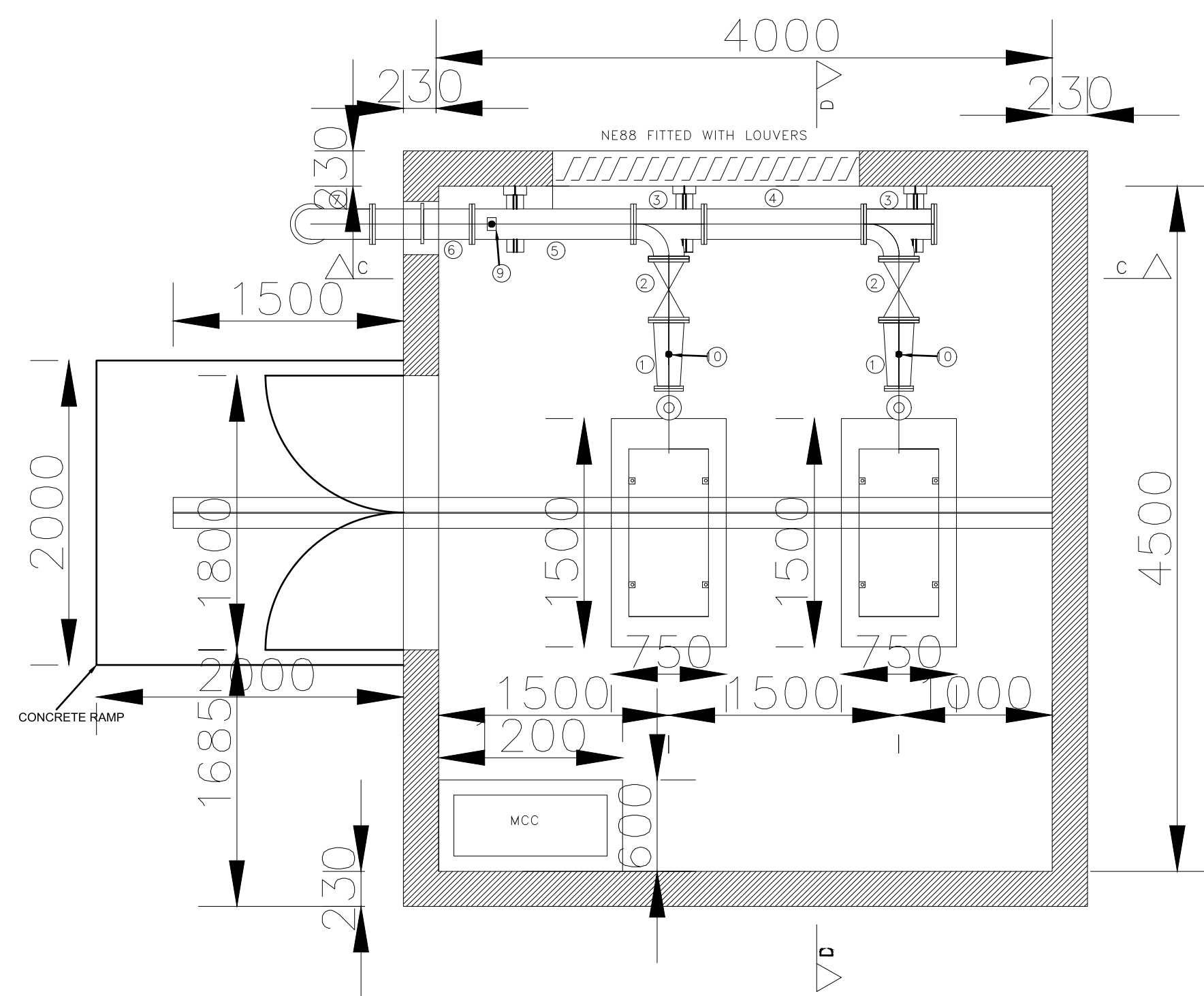
PLAN - DELIVERY PIPE
SCALE 1:25



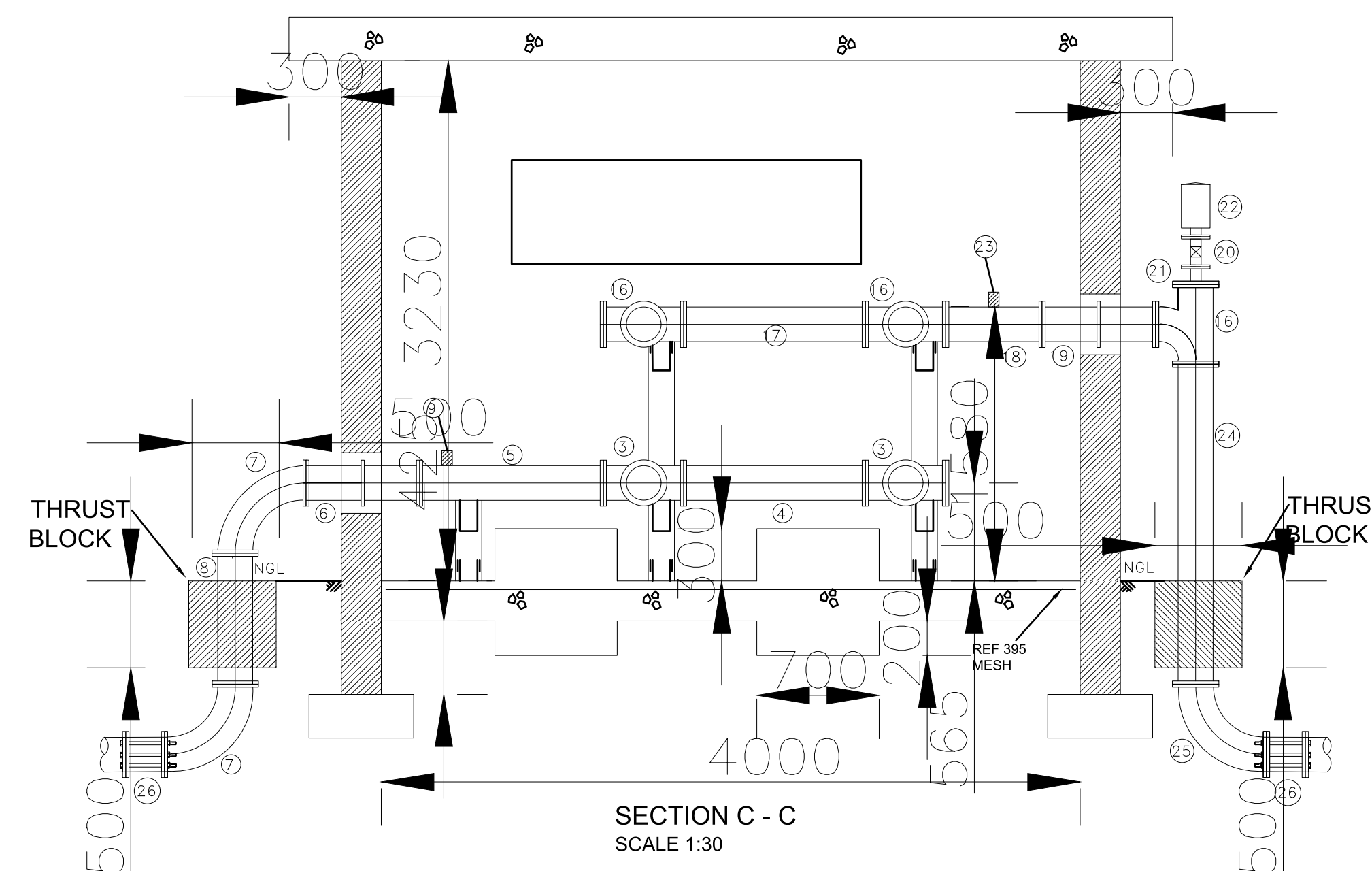
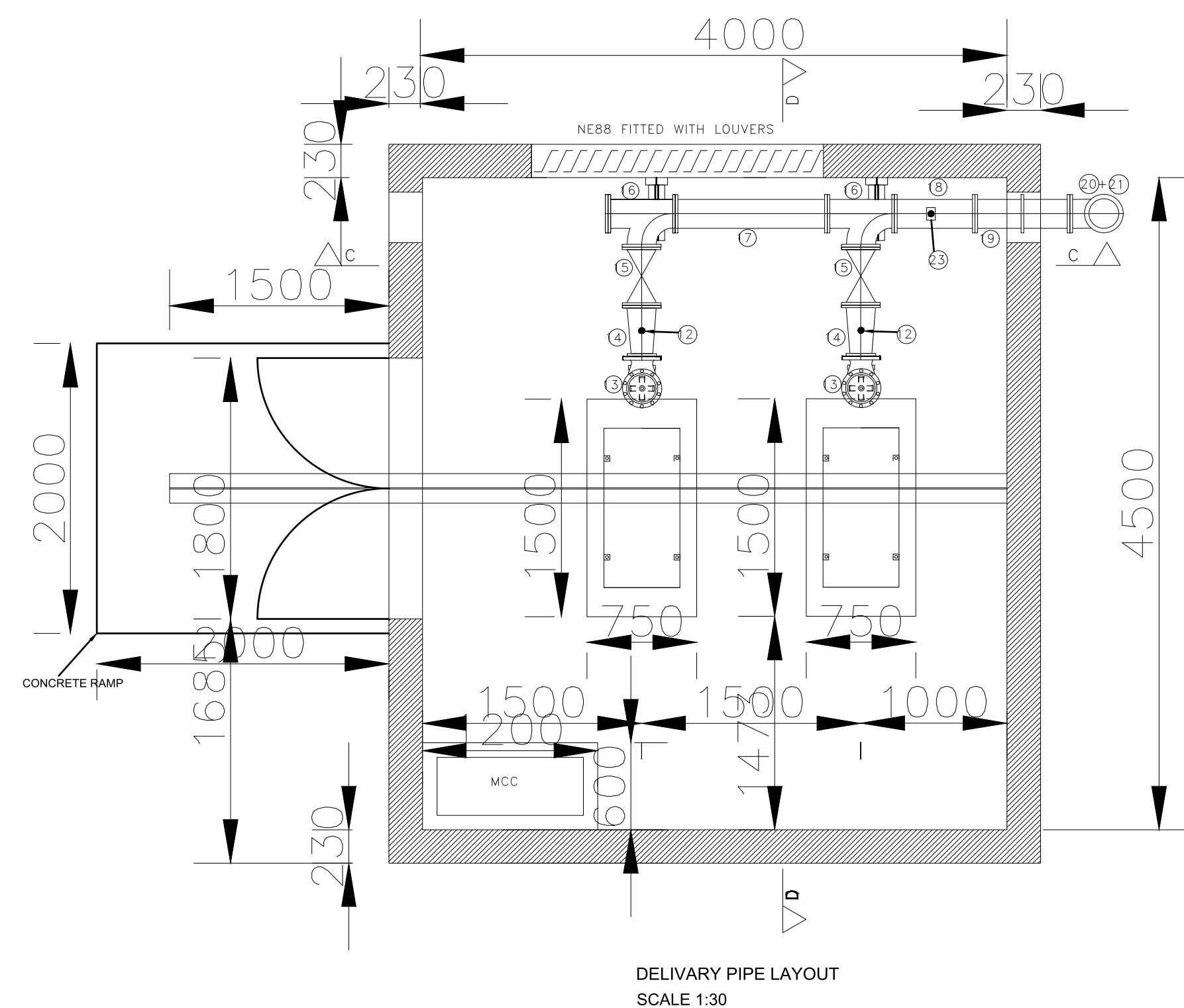
SECTION - SUPPLY PIPE
SCALE 1:25



SECTION - DELIVERY PIPE
SCALE 1:25



- NOTES:
- 1) TYPE DV TRANSFORMER DOOR 1829mm(w) x 3230mm(h). ALLOWANCE FOR CAUE BEAM TO BE MADE.
 - 2) 203x203x46kg/m H-BEAM TO BE USED AS CRAWL. ANCHORED INTO ROOF WITH 16mm CHEMICAL ANCHORS EVERY 300mm c/c.



"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

A	15-05-26	AJM	JTZ	ISSUED FOR TENDER
REV	DATE	DRAWN	CHECKED	DESCRIPTION

EMPLOYERS AGENT	
	JTM CONSULTING ENGINEERS Reg. No. 2016/048023/07 18 Hospital street Tzaneen 0850 Tel: 27 87 093 2039 Fax: 27 86 008 4989 e-mail: info@jtm.co.za

CLIENT



Nkomazi
Local Municipality

NKOMAZI
LOCAL MUNICIPALITY

PROJECT

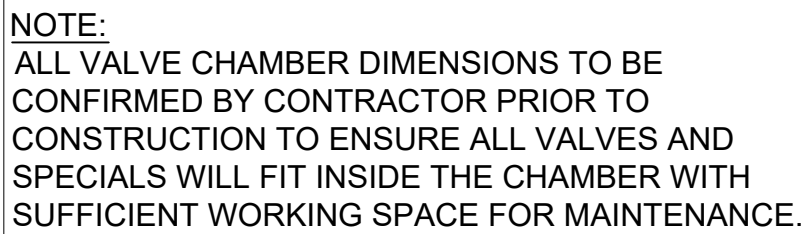
CONSTRUCTION OF RETICULATION
ELEVATED TANK AND BULK LINE
AT GRETANE

DRAWING

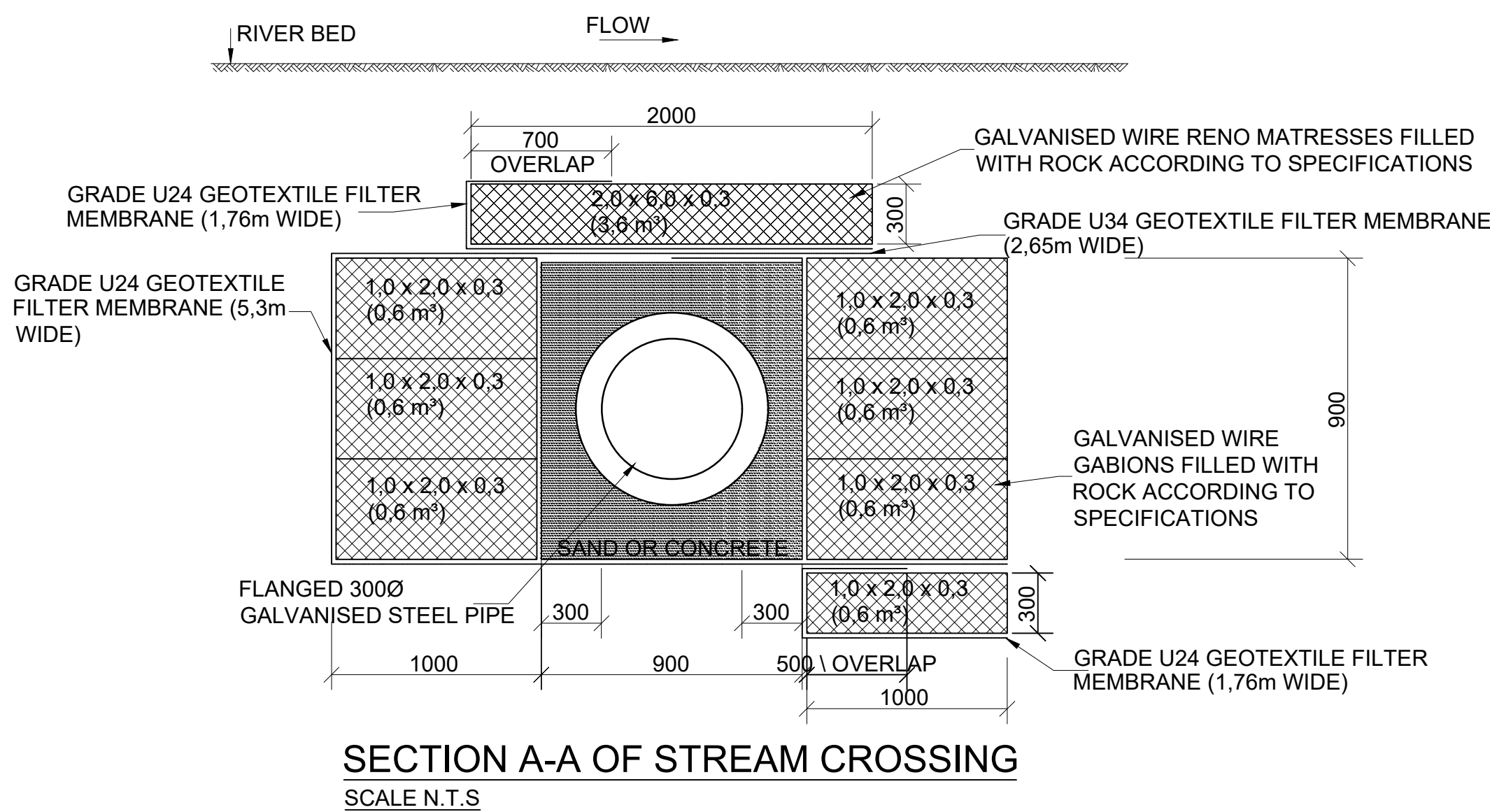
BOOSTER PUMP STATION
DETAILS

TENDER		
	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	
APPROVED	JTZ	
SCALE		
REVISION	A	

PROJECT No.
2501-JTMI-XX-02-DR-C-108
COPYRIGHT RESERVED



SCHEDULE OF FITTINGS							
REF	DN	DESCRIPTION	WALL THICKNESS t(mm)	FLANGE DRILLING	TREATMENT		QTY
					E = EPOXY RESIN PAINT B = BITUMEN G = GALVANISED M = MORTAR LINED	INTERNAL EXTERNAL	
LV A	300	1550mm LONG STEEL PIPE COMPLETE WITH ANCHOR FLANGE 975mm FROM 'OUTGOING' PLAIN END, RESTRAINING FLANGE (FOR ITEM 'B') 180mm FROM PLAIN END & PUDDLE FLANGE 575mm FROM 'OUTGOING' PLAIN END	4,5	BS 4504 16/3	G	G	1no
LV A1	300	'VIKING JOHNSON' RESTRAINED COUPLING TO SUIT SPECIFIED PIPE		BS 4504 16/3		E	2no
LV B	300	'VIKING JOHNSON' RESTRAINED FLANGE ADAPTOR		BS 4504 16/3		E	1no
LV C	300	'AINSWORTH' DOUBLE FLANGED, NON-RISING SPINDLE, CLOCK-WISE CLOSING WITH SPUR GEAR, BALL THRUST BEARING HAND-WHEEL AND INDICATOR, WATERWORKS PATTERN GATE VALVE. COMPLETE INSTALLA-TION TO BE IN ACCORDANCE WITH SANS 664		BS 4504 16/3	E	E	1no
LV D	300	1400mm LONG STEEL PIPE FLANGED ONE END ONLY COMPLETE WITH ANCHOR FLANGE 555mm FROM 'OUTGOING' PLAIN END & PUDDLE FLANGE 955mm FROM 'OUTGOING' PLAIN END	4,5	BS 4504 16/3	G	G	1no
		MISCELLANEOUS					
		1) SANS APPROVED STEP IRONS				G	8no
		2) GALVANISED FABRICATED STEEL VENTILATORS AS DETAILED ON DRG. No.110167-CW-104-T-A	4.5		G	G	2no
		3) MANHOLE LOCKING DEVICE AS DETAILED ON DRG. No.110167-CW-104-T-A				G	1no
		4) MANHOLE COVER AND FRAME AS SPECIFIED					1no
		5) MASS CONCRETE ANCHOR BLOCK : V=1.15m³					2no



"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

[illegible]

A	30-05-25	AJM	LM	ISSUED FOR DETAILED DESIGN
REV	DATE	DRAWN	CHECKED	DESCRIPTION

EMPLOYERS AGENT



JTMI CONSULTING ENGINEERS
Reg. No. 2016/048023/07
18 Hospital street
Tzaneen
0850

Tel: 27 87 093 2039
Fax: 27 86 608 4989

e-mail: info@jtmi.co.za

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE

DRAWING

ISOLATION VALVE CHAMBER

TENDER

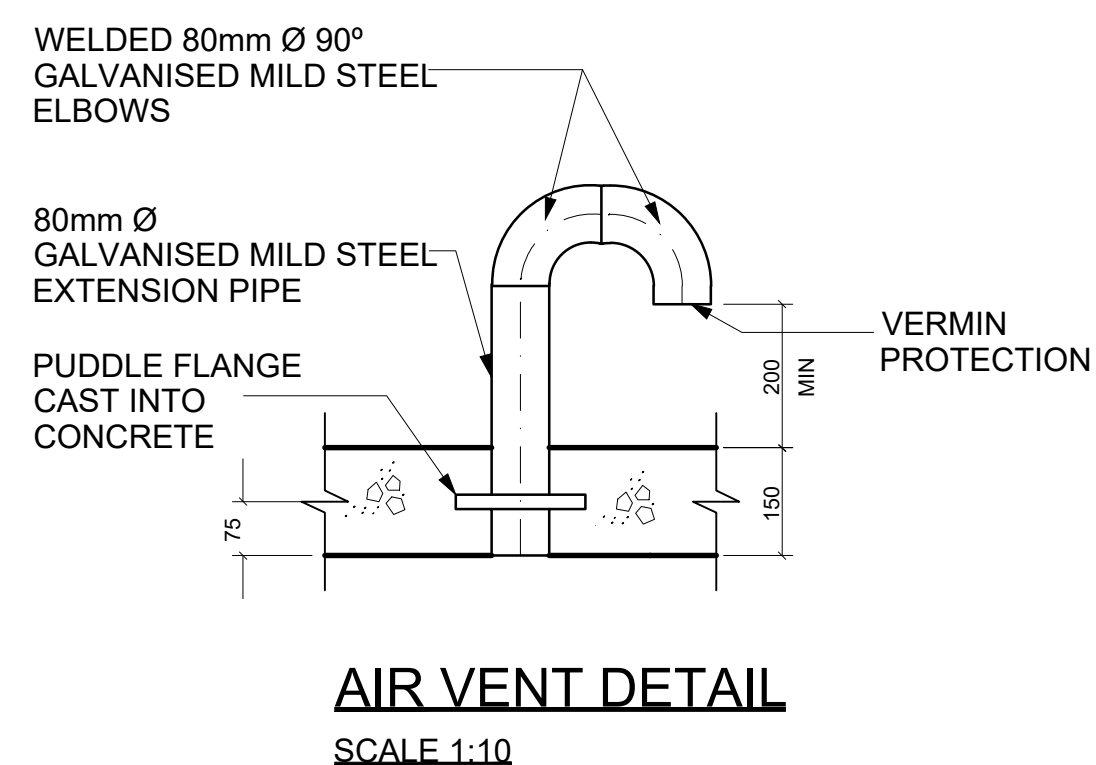
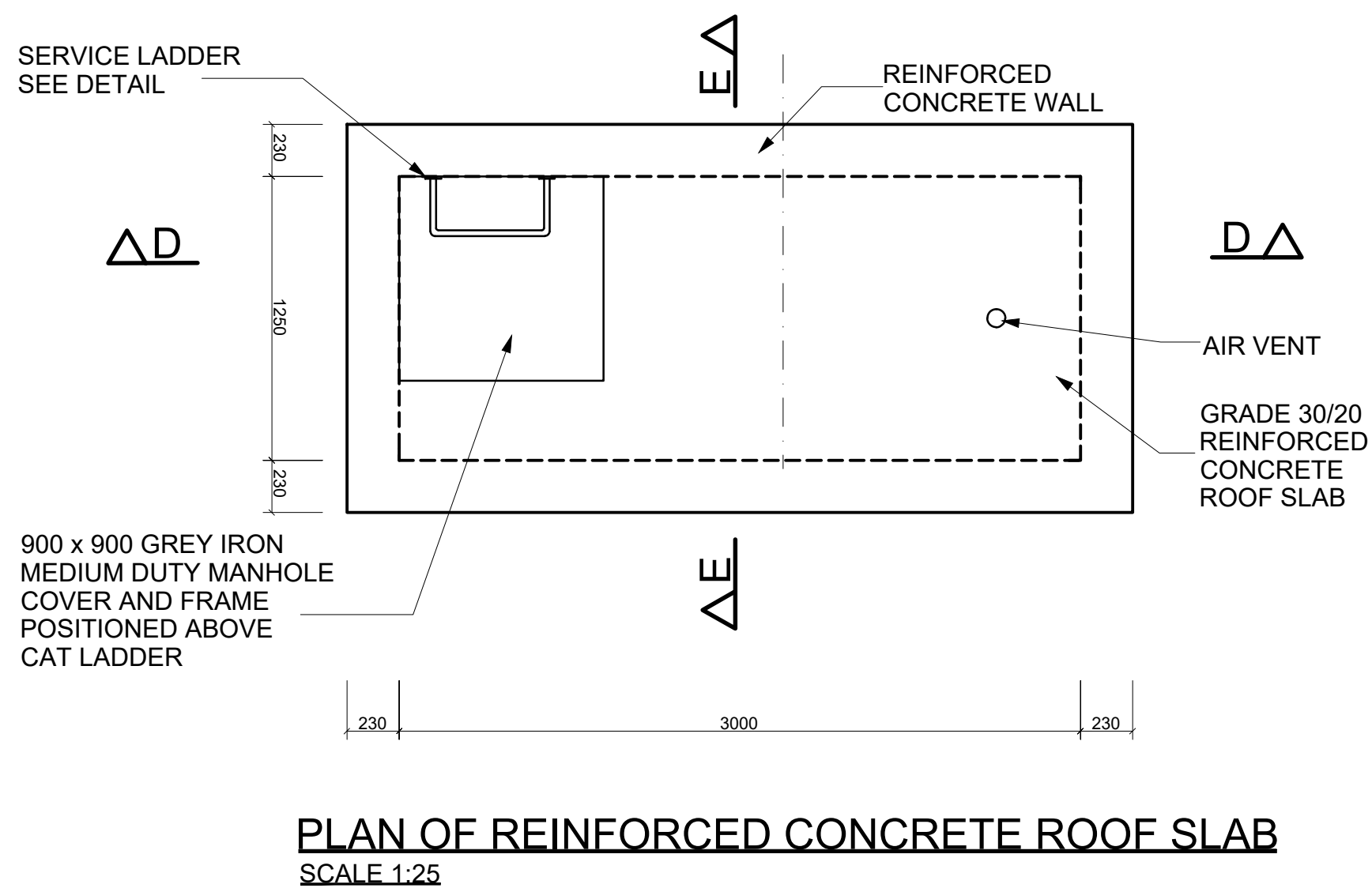
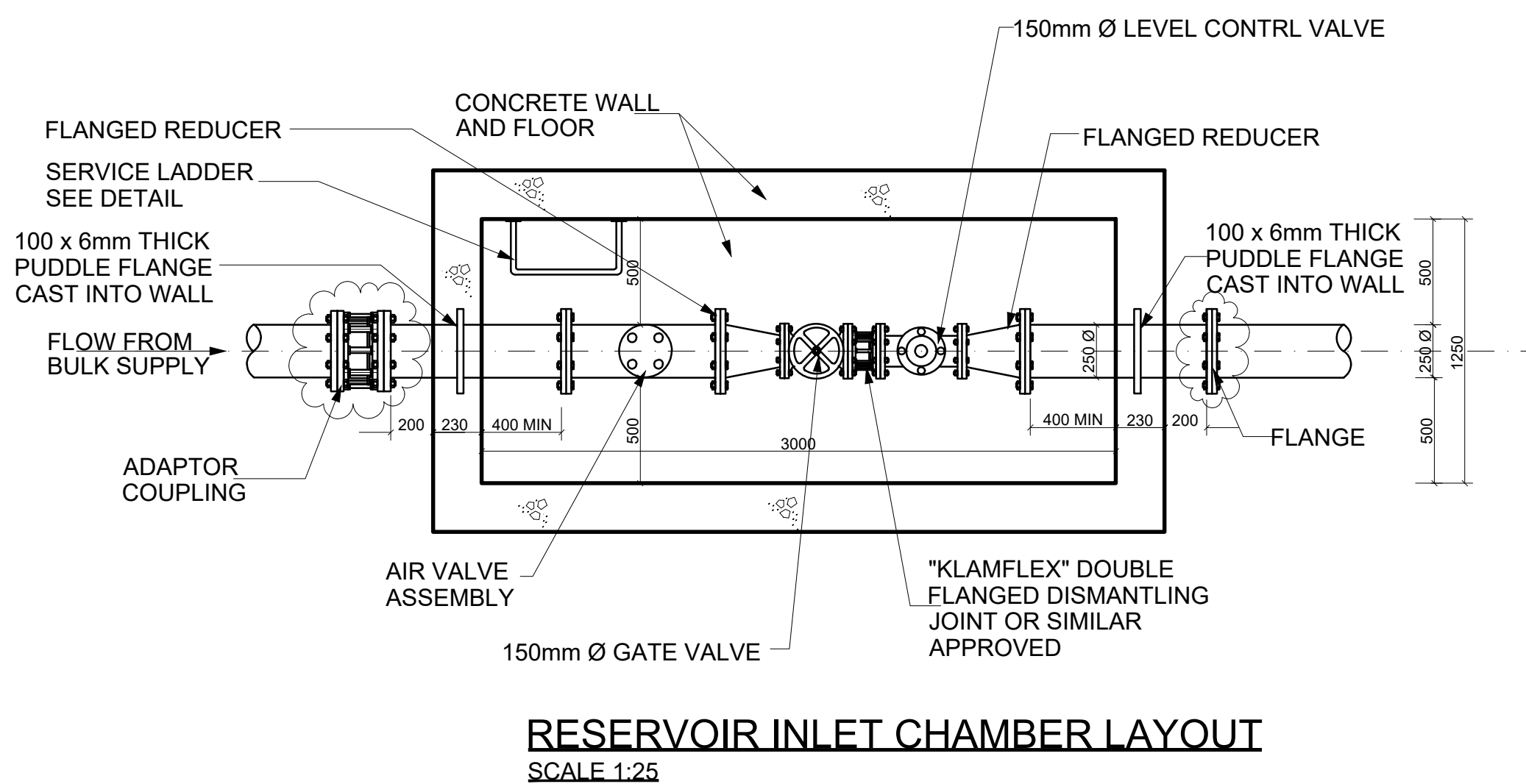
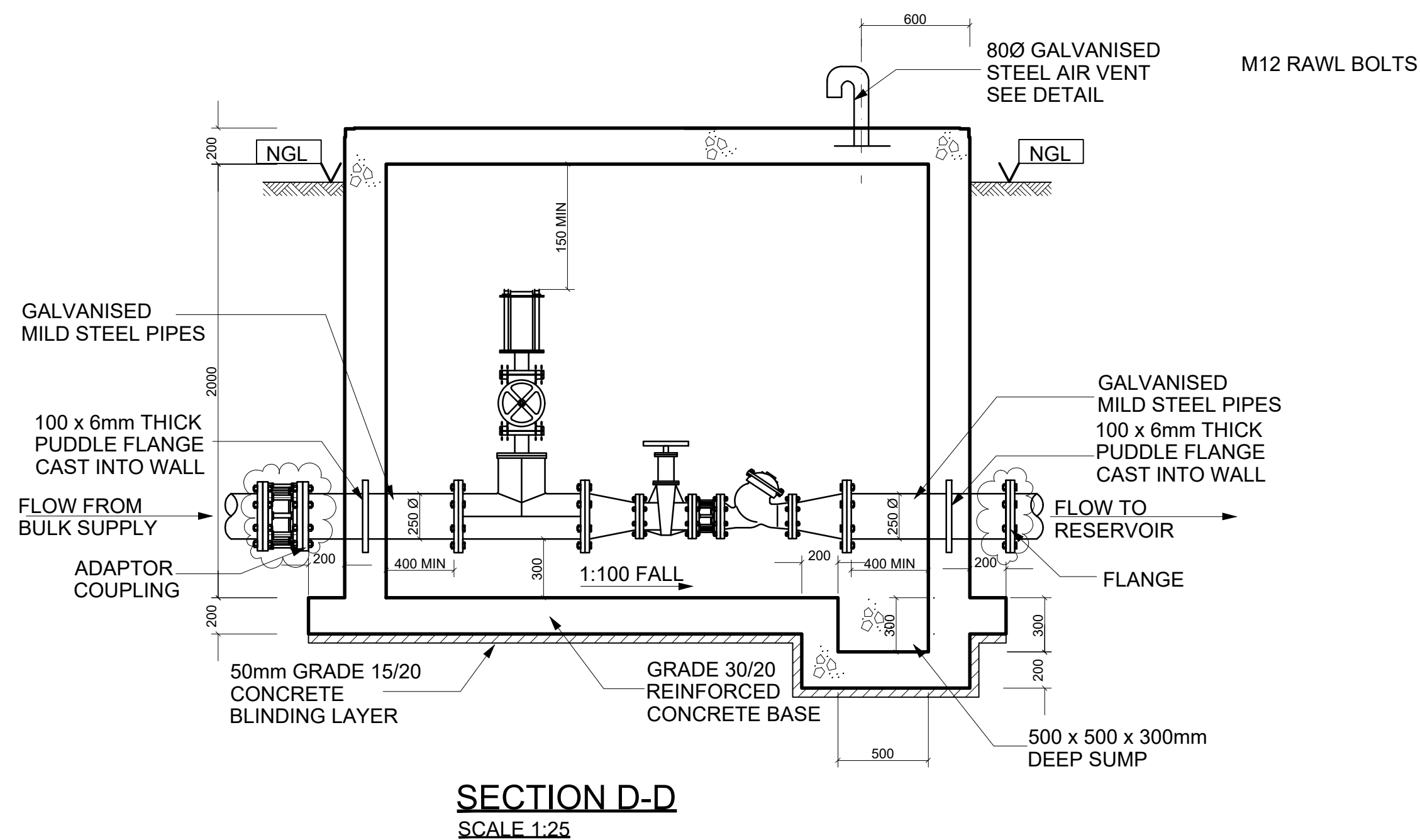
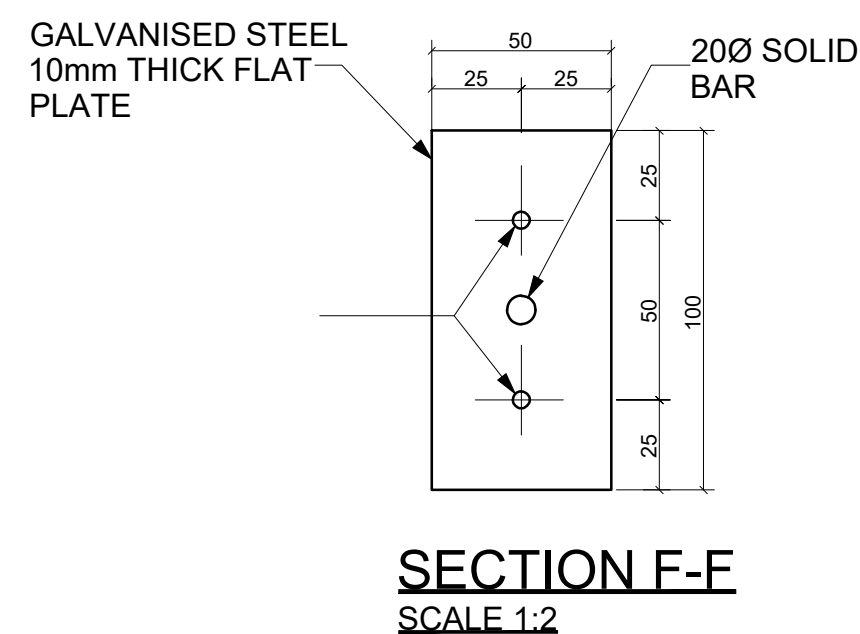
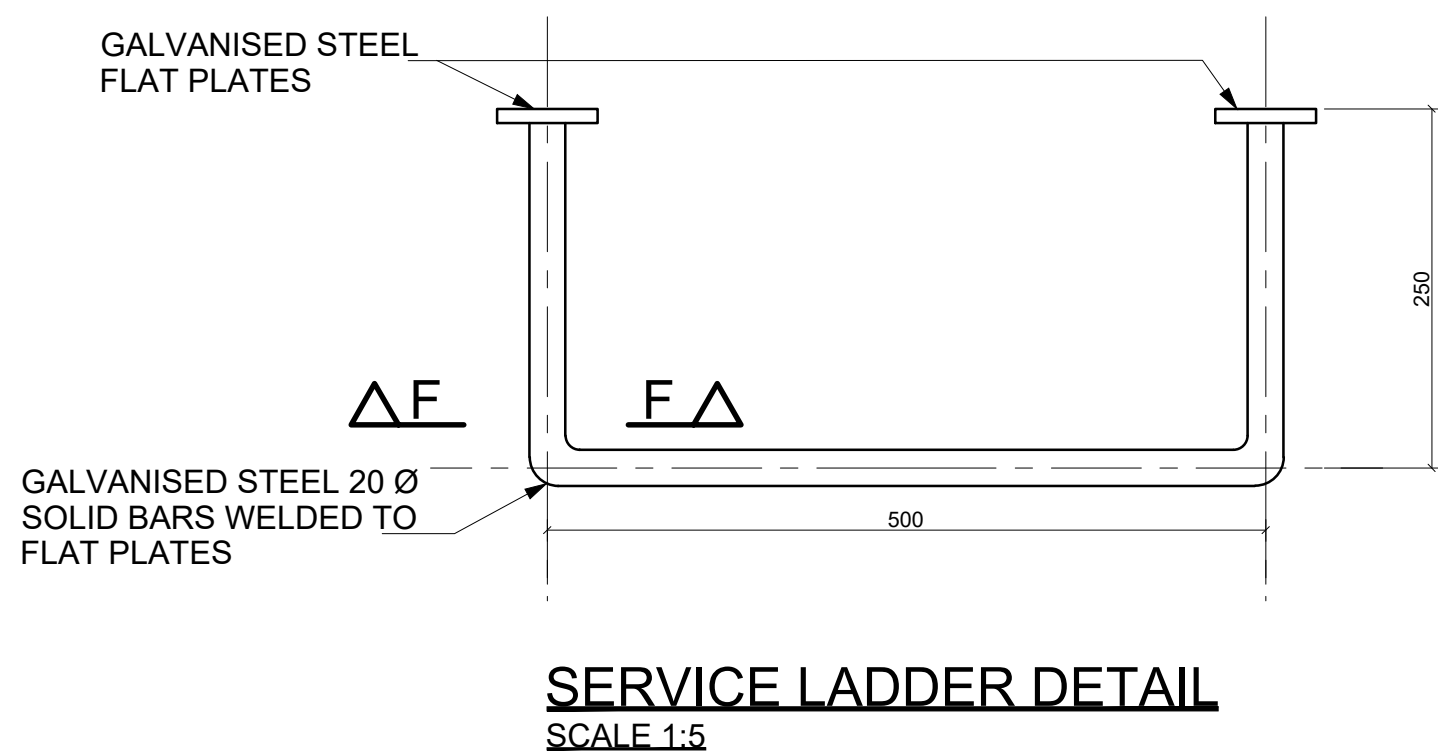
	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026

SCALE	
REVISION	A

PROJECT No. _____

2501-JTMI-XX-02-DR-C-109

COPYRIGHT RESERVED



NOTES:

[illegible]

A	15-05-26	AJM	LM	ISSUED FOR TENDER
REV	DATE	DRAWN	CHECKED	DESCRIPTION

EMPLOYERS AGENT		JMTI CONSULTING ENGINEERS
		Reg. No: 2016/048023/07 18 Hospital street Tzaneen 0850
		Tel: 27 87 093 2039 Fax: 27 86 608 4989
		e-mail: info@jmti.co.za

CLIENT



NKOMAZI

LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION
ELEVATED TANK AND BULK LINE
AT GRETANE

DRAWING

RESERVOIR INLET
DETAILS

TENDER

	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026

SCALE	
REVISION	A

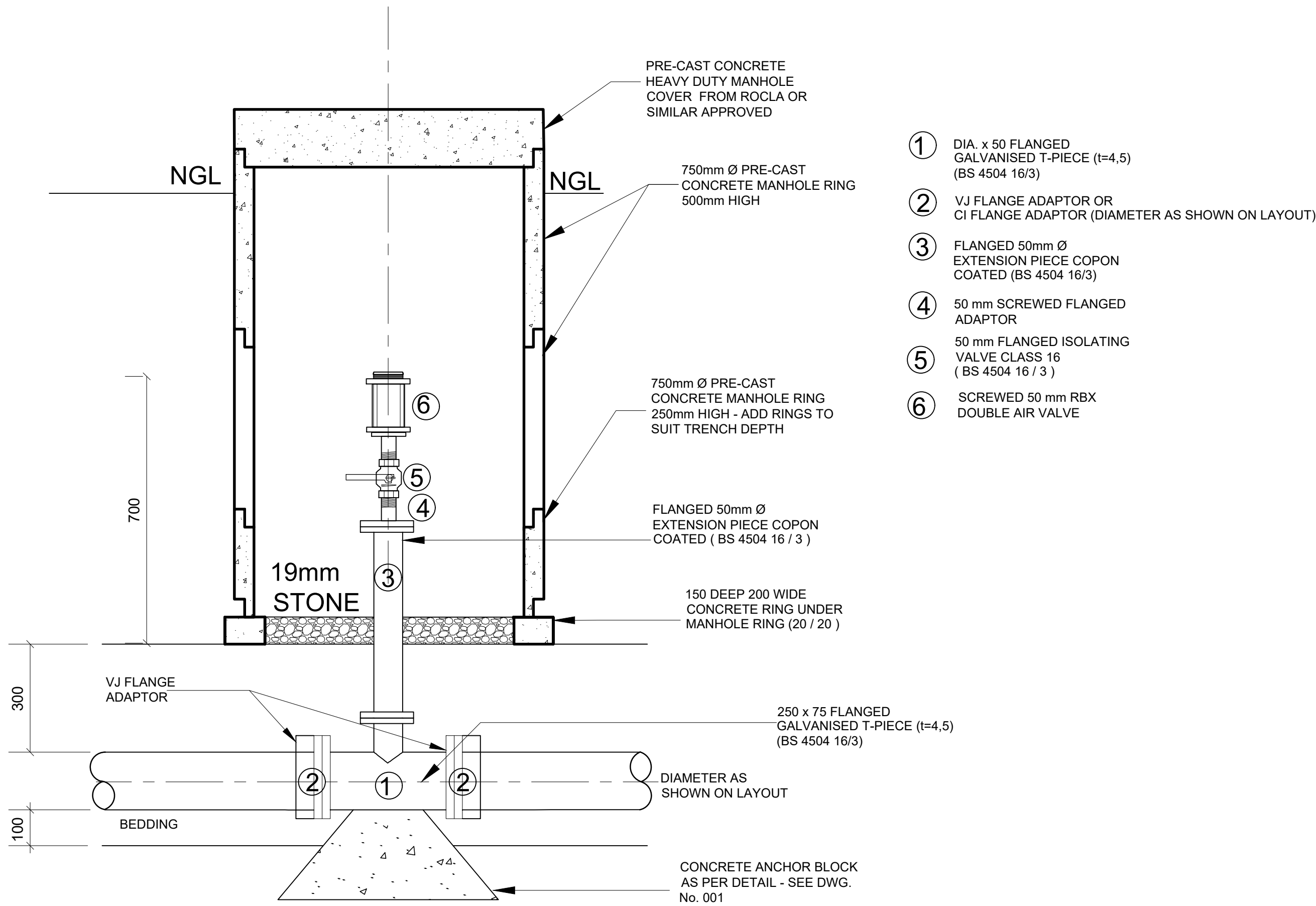
PROJECT No.	
2501-JTMI-XX-02-DR-C-110	

COPYRIGHT RESERVED

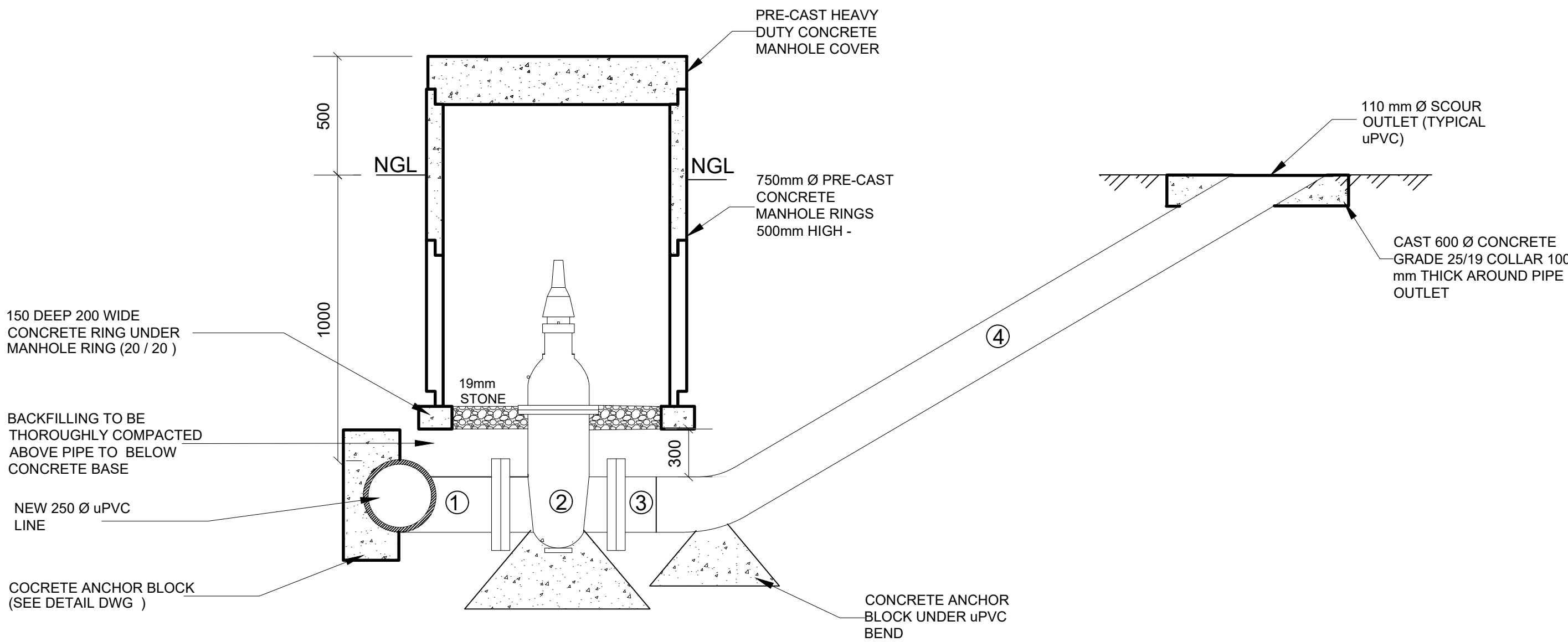
COPYRIGHT RESERVED

"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:



DETAIL - AIR VALVE WITH CHAMBER
SCALE 1 : 10



SCOUR VALVE DETAIL
SCALE 1 : 10

No.	DESCRIPTION
1	250 x 100Ø CI SCOUR T
2	100mm Ø ISOLATING VALVE PN16
3	100Ø CI FLANGE ADAPTOR
4	110mm Ø uPVC SCOUR OUTLET WITH 45° BEND AND 2m LONG

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION
ELEVATED TANK AND BULK LINE
AT GRETANE

DRAWING

AIR VALVE AND SCOUR VALVE
CHAMBER DETAILS

TENDER

	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026
SCALE		
REVISION	A	
PROJECT No.		
2501-JTMI-XX-02-DR-C-112		
COPYRIGHT RESERVED		

CIRCULAR CI VALVE BOX
TYPE 3B TO SABS 558

STEEL TROWEL FINISH

CONCRETE CLASS 20/20

COMPACTED BACKFILL

250 Ø uPVC PIPE

20mm CLEAN CONCRETE
AGGREGATE 50mm DEEP

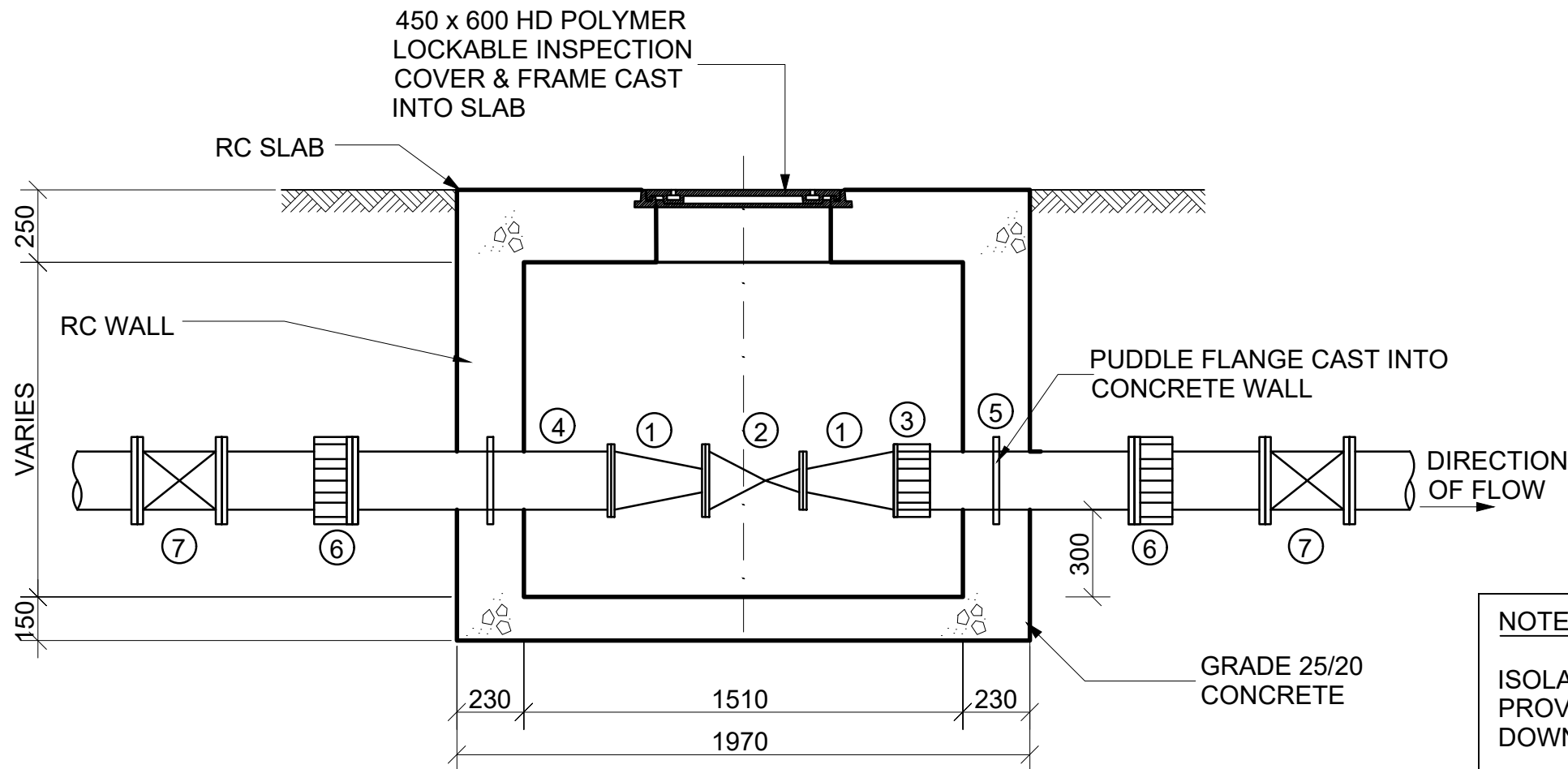
COMPACTED SELECTED BACKFILL

COUPLING

PIPE

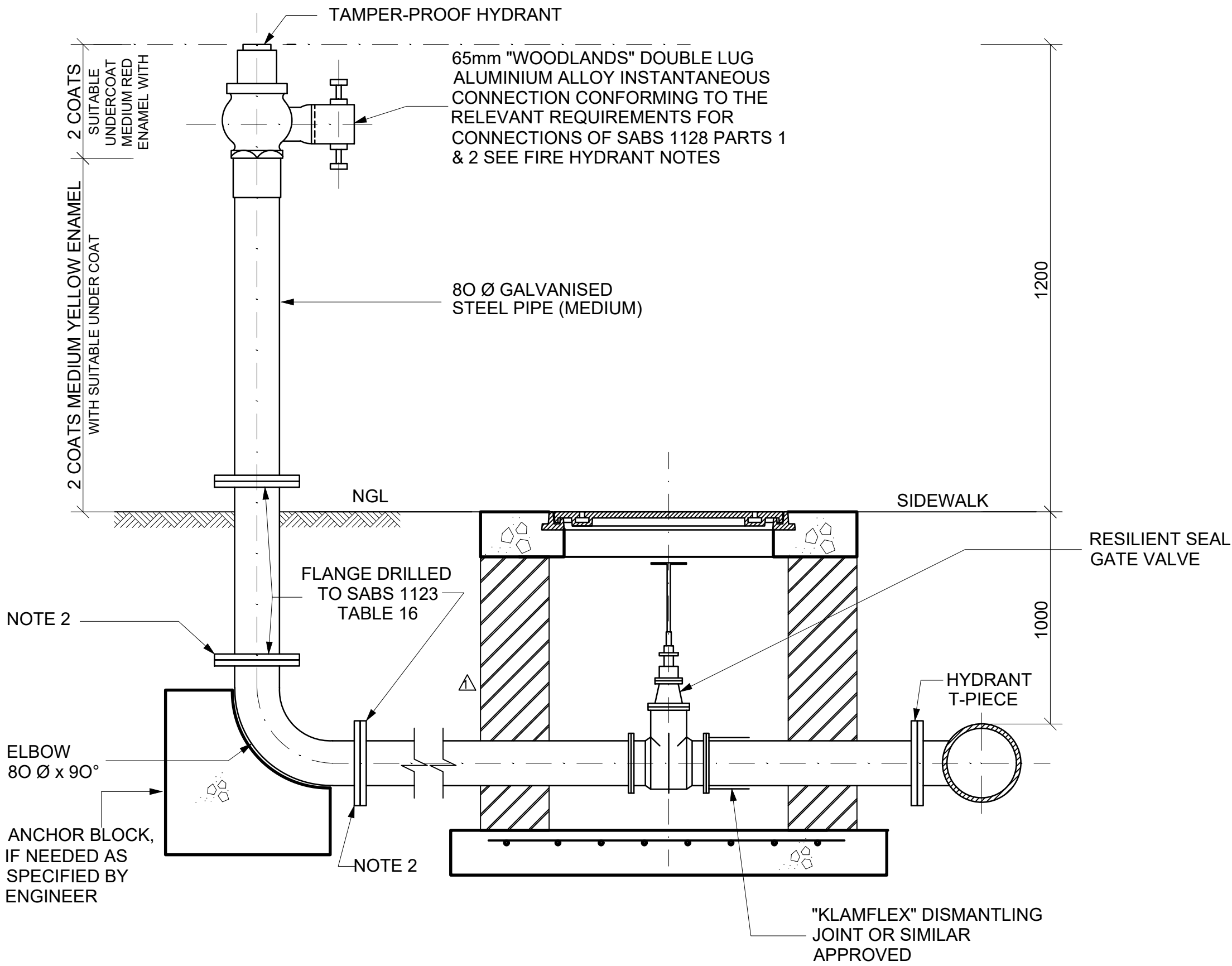
SLUICE VALVE
SOCKETED

TYPICAL SECTION AT ISOLATION VALVE
NOT TO SCALE



PRESSURE REDUCING VALVE CHAMBER DETAIL
SCALE 1:20

Item No							
PRV no	1	2	3	4	5	6	7
PRV No 1	2x GMS Flanged reducer 200 x150mm dia (t=4,5; BS4504 PN16) 180mm long	1 x 150mm dia Bermad 720 V-06 PRV (y type, u plug, PN16)	1 X 200mm dia Galvanised VJ flange adaptor PN16	1X GMS 950mm long 200mm dia flanged Pipe on one side with puddle flange 450mm from flanged side (t=4,5; BS4504 PN16)	1X GMS 950mm long 200 mm dia unflanged Pipe with puddle flange 450mm from side (t=4,5; BS4504 PN16)	2 X 200mm dia Galvanised VJ coupling PN16	2 x 200mm dia isolating valves PN 16



TYPICAL DETAIL OF FIRE HYDRANT (TYPE 1)
NOT TO SCALE

FIRE HYDRANT NOTES:

- HYDRANTS MUST BE LOCATED IN COLLABORATION WITH THE UP SERVICES MANAGER.
- ALL STEEL PIPES AND THREADED CONNECTIONS UNDERGROUND TO BE TAPED WITH "DENSOTAPE" OR SIMILAR APPROVED MATERIAL.
- A 'STORZ' OR SIMILAR APPROVED CONNECTION NEED TO BE PROVIDED FOR AT THE SUCTION HYDRANT

"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTMI Consulting' prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

NOTES:

A 15-05-26 AJM LM ISSUED FOR TENDER

REV DATE DRAWN CHECKED DESCRIPTION

EMPLOYERS AGENT JTMI CONSULTING ENGINEERS
Reg. No. 2016/048023/07
18 Hospital street
Tzaneen
0850
Tel: 27 87 093 2039
Fax: 27 86 608 4989
e-mail: info@jtmi.co.za

CLIENT
 **NKOMAZI
LOCAL MUNICIPALITY**

PROJECT
**CONSTRUCTION OF RETICULATION
ELEVATED TANK AND BULK LINE
AT GRETANE**

DRAWING
**PRESSURE REDUCING VALVE
AND FIRE HYDRANT**

TENDER

	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026
SCALE	SCALE 1: 5000	
REVISION	A	

PROJECT No.

2501-JTMI-XX-25-DR-C-113

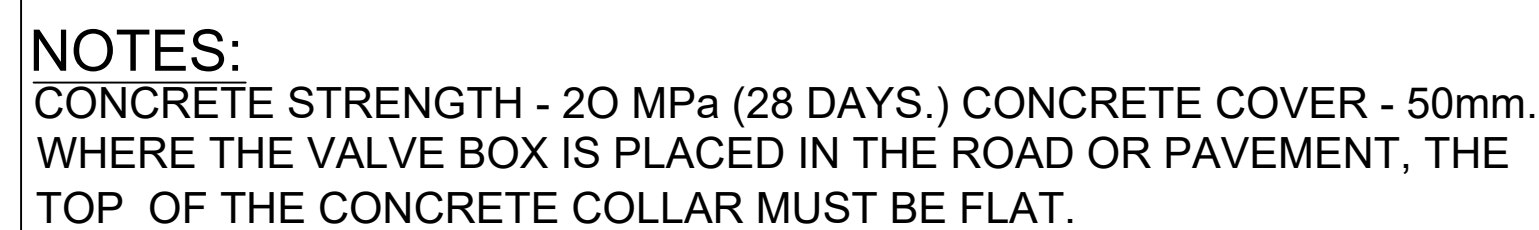
COPYRIGHT RESERVED

NOTES:



Type Mark & size	Qty.	Cut Length (mm)	Shape Code	A (mm)	B (mm)	Mass (kg)
1 - R8 - K1	1	1 400	60	300	300	0,553

DETAIL - TYPICAL ISOLATING VALVE BOX



EMPLOYERS AGENT	JTMI CONSULTING ENGINEERS
	Reg. No. 2016/048023/07 18 Hospital street Tzaneen 0850 Tel: 27 87 093 2039 Fax: 27 86 608 4989 e-mail: info@jtmi.co.za

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE

DRAWING

YARD CONNECTION TYPE AND STAND PIPE DETAILS

TENDER

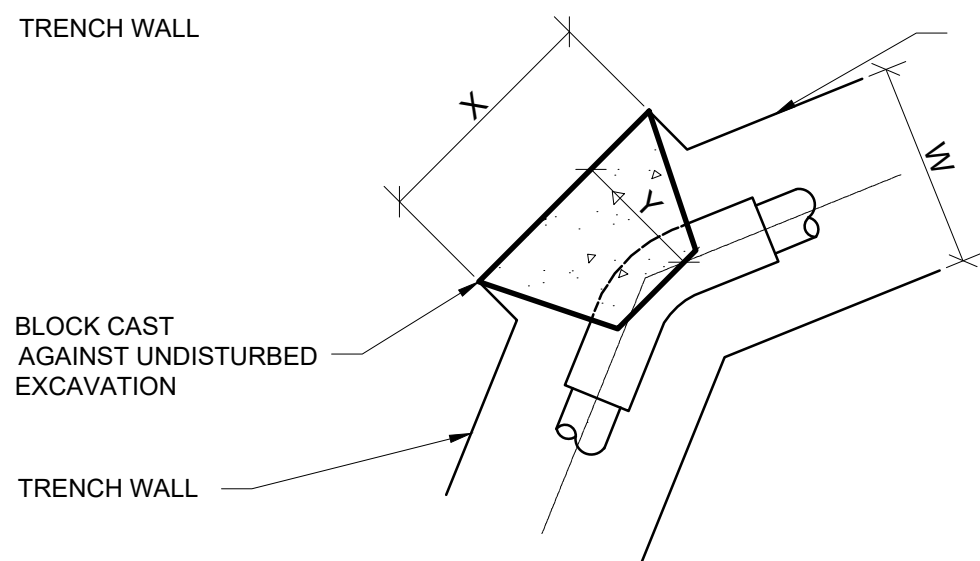
	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026

SCALE	
REVISION	A

PROJECT No.

2501-JTMI-XX-02-DR-C-114

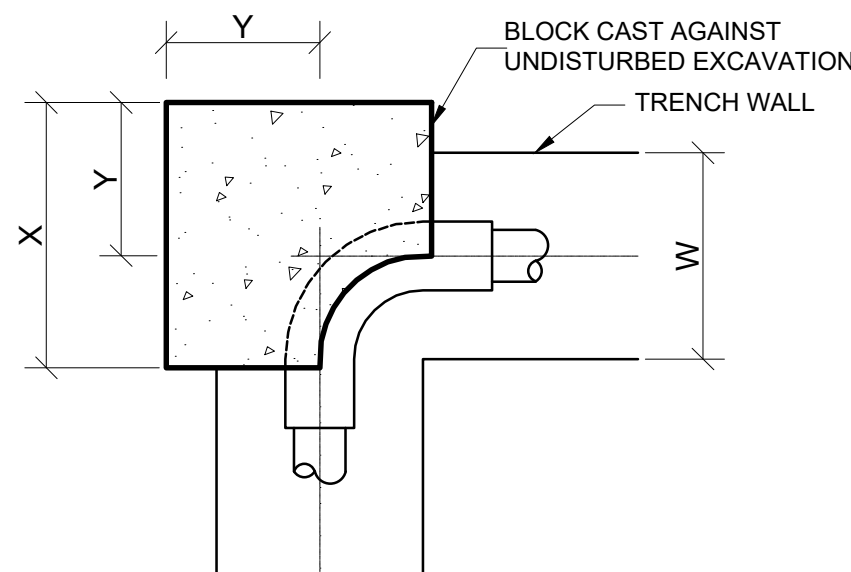
COPYRIGHT RESERVED



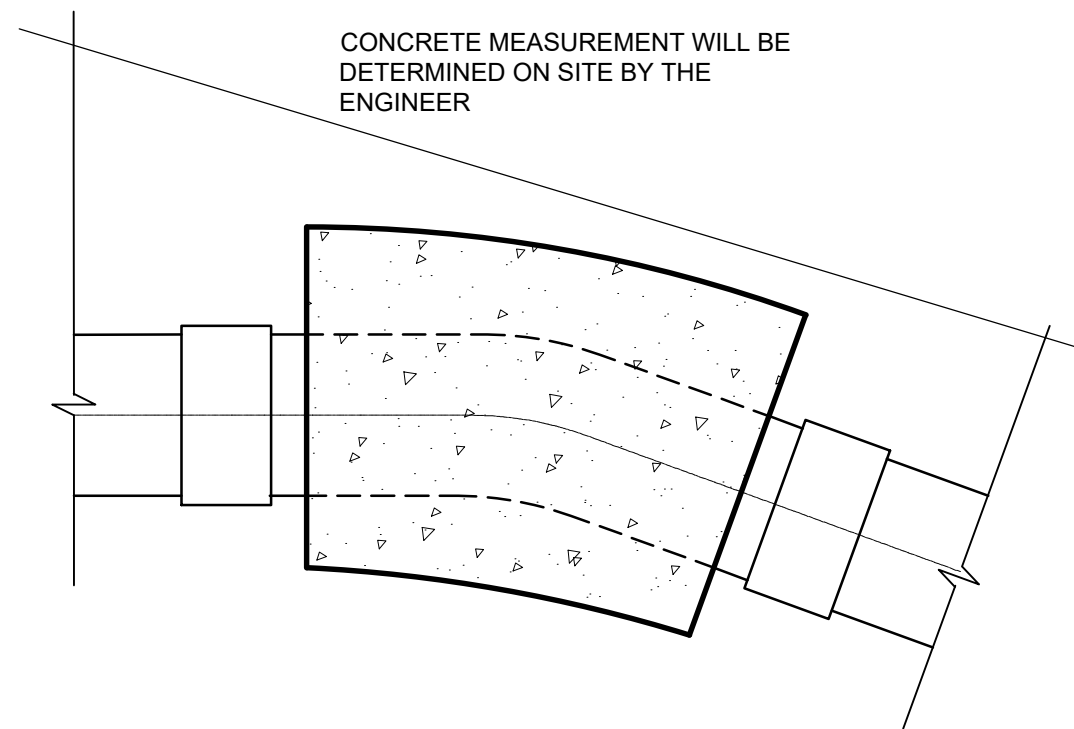
NOMINAL DIA. Ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (mm³)
300	1 400	700	1 000	500	0,350
250	1 300	650	760	400	0,200
200	1 200	600	600	400	0,150
160	1 000	500	500	300	0,075
110	1 000	400	300	200	0,024
75	800	300	300	200	0,018



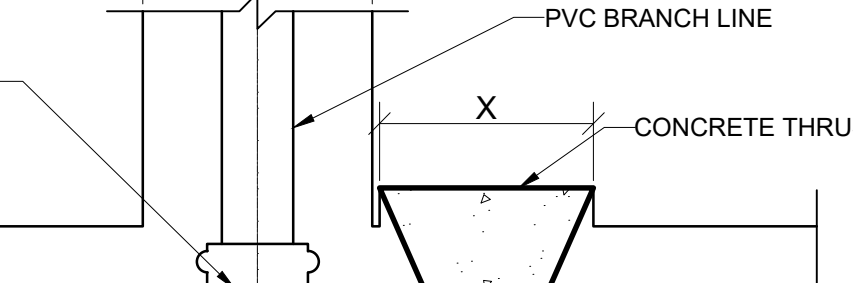
NOMINAL DIA. Ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (mm³)
300	1 400	700	2 000	1 000	1 400
250	1 300	650	1 600	800	0 800
200	1 200	600	1 200	600	0 430
160	1 000	500	1 000	500	0 250
110	1 000	500	350	250	0 043
75	800	400	350	200	0 028



NOMINAL DIA. Ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (mm³)
300	1 400	700	2 700	1 400	5.00
250	1 300	650	2 150	1 100	3.00
200	1 200	600	1 600	800	1.54
160	1 000	500	1 300	700	0.80
110	1 000	500	500	300	0.12
75	800	400	450	300	0.08



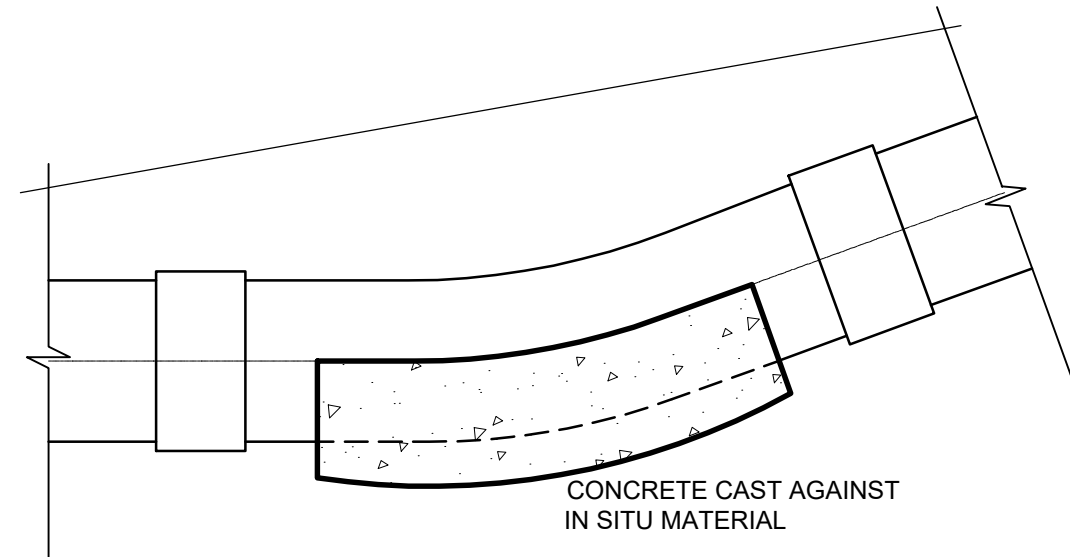
A cross-sectional diagram of a trench. The trench is a narrow, rectangular excavation. At the bottom of the trench, there is a concrete thrust block, which is a rectangular block with a textured, stippled surface. The block is positioned directly under the trench. A label 'TRENCH' is placed vertically along the right side of the trench. A label 'CONCRETE THRUST BLOCK' is placed below the block, with a line pointing to it.



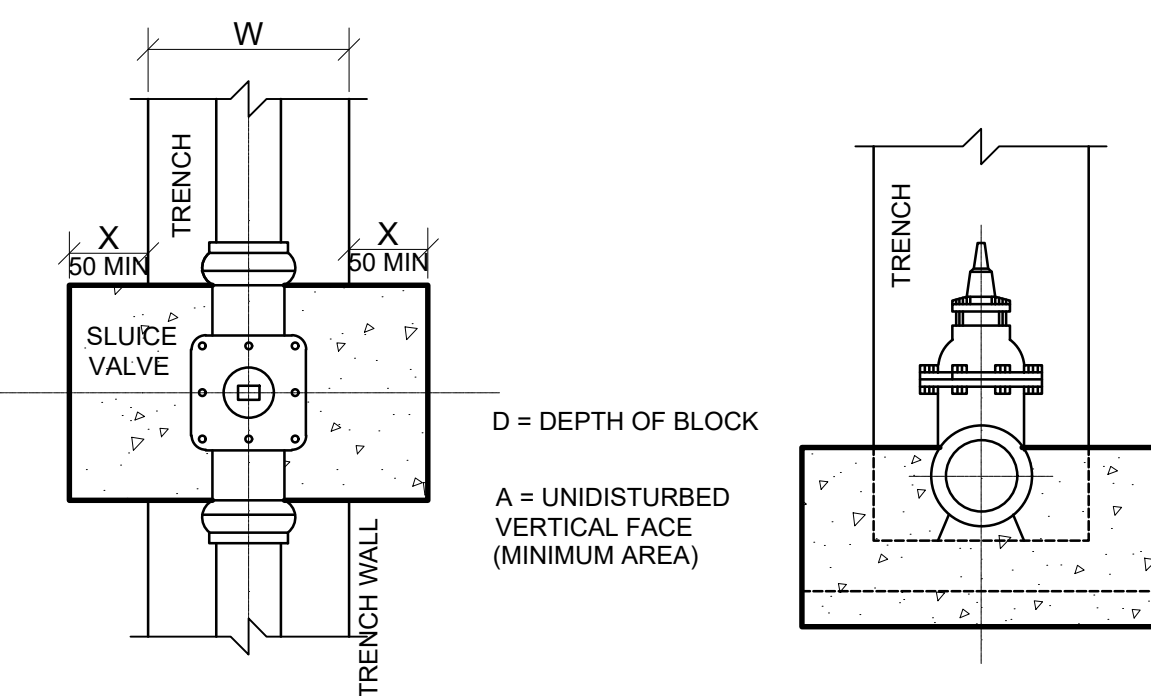
Technical drawing showing a Tee Joint with Thrust Blocks. The drawing includes labels for the PVC Branch Line, Concrete Thrust Block, PVC Main Line, and CI Tee. Dimensions W and X are indicated.

Diagram illustrating a cross-section of a block cast against undisturbed excavation. The diagram shows a trapezoidal block with a top width X and a height Y . The block is supported by a base structure with a width W . The block is labeled "BLOCK CAST AGAINST UNDISTURBED EXCAVATION". The surrounding area is labeled "TRENCH WALL".

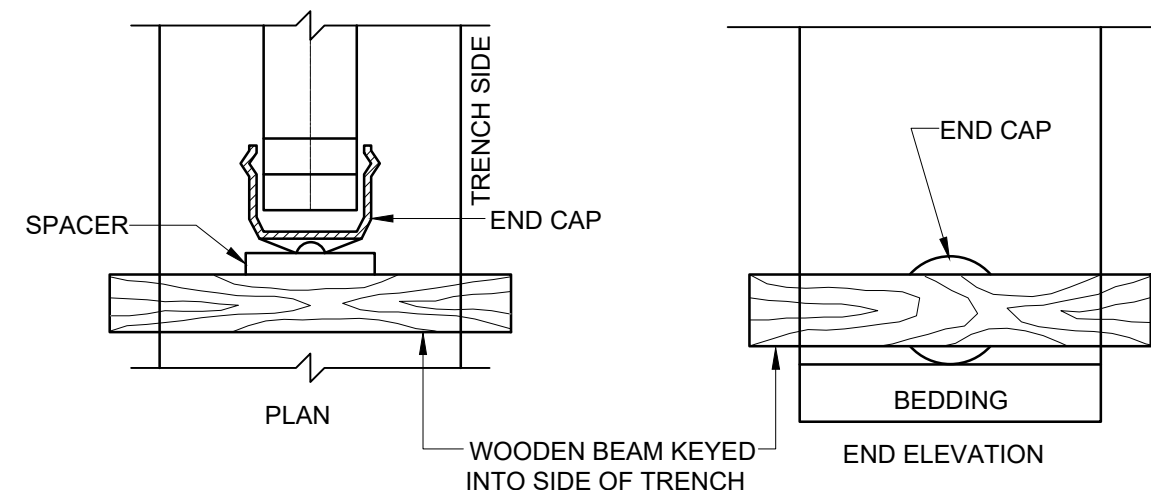
NOMINAL DIA. Ø (mm)	DIMENSIONS				
	D (mm)	Z (mm)	X (mm)	Y (mm)	VOL. (m³)
300	1 400	700	2 700	1 300	2.550
250	1 300	650	2 150	1 100	1.500
200	1 200	600	1 600	800	0.770
160	1 000	500	1 300	650	0.420
110	1 000	500	500	300	0.075
75	800	400	450	300	0.054



NOMINAL Ø1 (mm)	NOMINAL Ø2 (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
			900 kPa		1350 kPa		1800 kPa	
			X (mm)	A (m ²)	X (mm)	A (m ²)	X (mm)	A (m ²)
300	300/250	750	300	0.43	450	0.64	600	0.85
250	250/200	700	250	0.35	400	0.53	550	0.71
200	200/150	650	250	0.29	350	0.43	450	0.57
160	150/100	600	200	0.22	300	0.32	400	0.43
110	100/75	500	150	0.12	200	0.19	250	0.24
75	75/50	400	150	0.06	150	0.08	150	0.11
50	50	300	100	0.03	150	0.04	150	0.05



NOMINAL Ø (mm)	DEPTH OF BLOCK D (mm)	MAXIMUM TESTING PRESSURE					
		900 kPa			1800 kPa		
		X (mm)	A (m ²)	X (mm)	A (m ²)	X (mm)	A (m ²)
300	500	500	0.64	850	0.96	1150	1.27
250	450	350	0.45	600	0.67	850	0.89
200	400	250	0.29	400	0.43	600	0.57
160	350	150	0.16	200	0.24	350	0.32
110	300	150	0.07	150	0.11	150	0.14
75	250	150	0.04	150	0.06	150	0.08
50	200	150	0.02	150	0.03	150	0.04



COMPACTED SELECTED FILL BLANKET

D

200

100

GRADE OF COMPACTED GRANULAR MATERIAL

FLEXIBLE PIPES

$x = D/4$ SUBJECT TO x BEING NOT LESS THAN 100mm AND MORE THAN 200mm.

TYPICAL DETAIL OF MAIN BACKFILLING

The diagram shows a cross-section of a trench with a pipe. The layers from top to bottom are:

- TRENCH**: The top layer, indicated by a bracket on the left.
- INITIAL BACKFILL**: The layer immediately below the trench, indicated by a bracket on the left.
- SELECTED MATERIAL COVERS THIS SIDEFILL AREA**: A bracket on the left indicates the area covered by the selected material.
- BEDDING**: The bottom layer, indicated by a bracket on the left.

On the right side, the following details are provided:

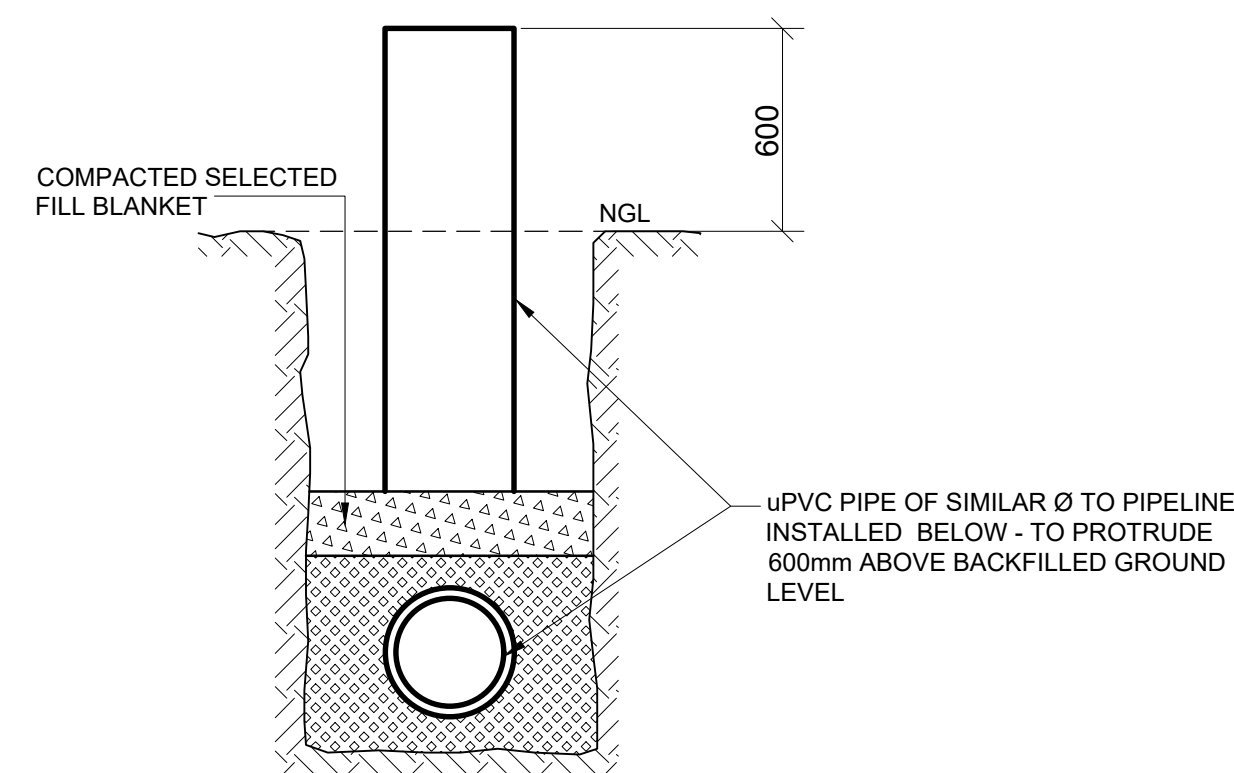
- FILL WITH EXCAVATED TRENCH MATERIAL TAMPING AT EACH 300mm LAYER**: A bracket on the right indicates the top three layers (each 300mm thick).
- 75mm LAYERS (OR UNTIL CROWN OF PIPE IS REACHED) SELECTED SIDEFILL**: A bracket on the right indicates the layer below the initial backfill, which is 75mm thick (or until the crown of the pipe is reached).

The diagram also shows a circular pipe section within the bedding layer.

A diagram of a curved beam cross-section. The beam is shown as a horizontal bar with a slight upward curve. The radius of curvature is labeled as "RADIUS (R)" and the angle of the arc is labeled as "ANGLE (A)".

PIPE SIZE	ALLOWABLE ANGLE (A) PER PIPE CLASS				
	4	6	9	12	16
50mm	35°	35°	30°	30°	30°
63mm	33°	33°	28°	28°	28°
75mm	27°	27°	23°	23°	23°
90mm	23°	23°	18°	18°	18°
110mm	16°	16°	12°	12°	12°
125mm	15°	15°	11°	11°	11°
140mm	14°	14°	10°	10°	10°
160mm	11°	11°	9°	9°	9°
200mm	8°	8°	7°	7°	7°
250mm	6°	6°	5°	5°	5°
315mm	3°	3°	3°	3°	3°
355&400mm	2°	2°	2°	2°	2°

TABLE SHOWING ALLOWABLE LONGITUDINAL BENDING (ANGLE A) OVER 6m PIPE LENGTHS (SEE DIAGRAM) (INCLUDING ALLOWANCE FOR JOINT DEFLECTION)



"Should these drawings and Project Specifications be used or relied upon for any other purpose other than what they were intended for on this specific site, without JTM Consulting's prior knowledge and written consent, then the user shall indemnify the copyright holder against all liabilities, claims, damages, losses, fines and/or penalties (either in contract or delict) instituted by the user or any other party as result of their re-use of or reliance on these drawings and project specifications."

[illegible]

A	15-05-26	AJM	LM	ISSUED FOR TENDER
---	----------	-----	----	-------------------

REV	DATE	DRAWN	CHECKED	DESCRIPTION
-----	------	-------	---------	-------------

EMPLOYERS AGENT		JMTI CONSULTING ENGINEERS
		Reg. No: 2016/048023/07 18 Hospital street Tzaneen 0850
		Tel: 27 87 093 2039 Fax: 27 86 608 4989
		e-mail: info@jmti.co.za

CLIENT



NKOMAZI
LOCAL MUNICIPALITY

PROJECT

CONSTRUCTION OF RETICULATION ELEVATED TANK AND BULK LINE AT GRETANE

DRAWING

THRUST BLOCK AND TRENCH DETAILS

TENDER

	SIGNATURE	DATE
DESIGNED	AJM	15-05-2026
DRAWN	AJM	15-05-2026
CHECKED	IM	15-05-2026
APPROVED	LM	15-05-2026

SCALE	
REVISION	A

PROJECT No.

2501-JTMI-XX-02-DR-C-115

COPYRIGHT RESERVED

STANDARD SPECIFICATIONS : THRUST BLOCKS