

NYANGA SCHOOL WATER AND WASTE WATER UPGRADE
CONTRACT NUMBER : AW2023/24/06

Implementing Agent:

AMATOLA WATER



Funding Agency:

DEPARTMENT OF EDUCATION



Beneficiary:

DEPARTMENT OF EDUCATION



Consulting Engineer:

ROMH CONSULTING



Contractor:

GENERAL NOTES

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

CONTRACTOR'S NAMEBOARD

DESIGNED:	A. MAYEKISO	DRAWN:	Q. MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A. MAYEKISO
SCALE:	AS SHOWN		

DESIGN COORDINATOR APPROVAL

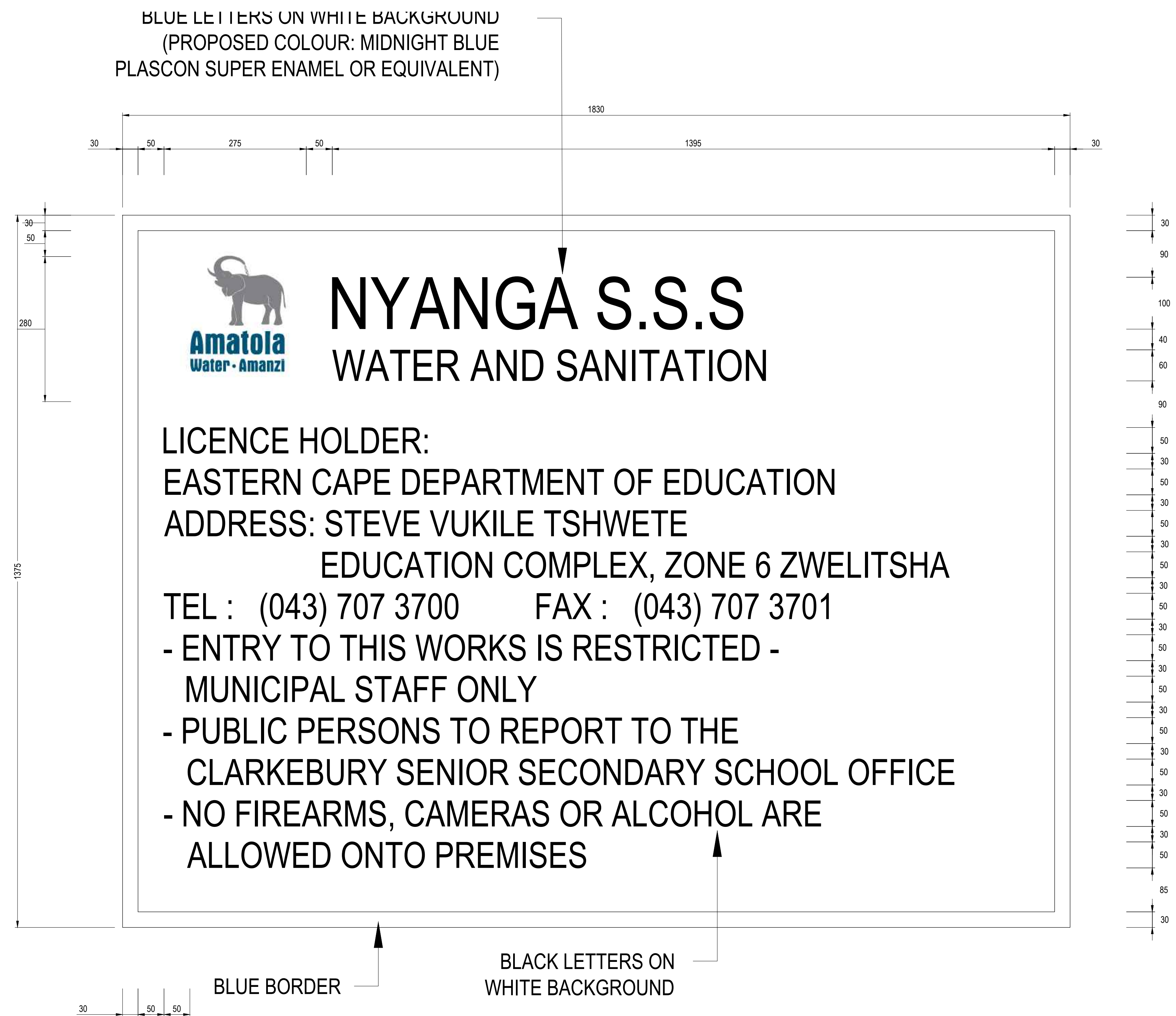
ROMH CONSULTING (Pty) Ltd

DATE

CLIENT APPROVAL

DATE


CONTRACT No.	ORIGINAL DRAWING SIZE:
AW2023/24/06	A1
PROJECT No.	DRAWING No.
ROM-131-07-076-04-01	A1
REV No.	0



GENERAL NOTES

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

UNAUTHORIZED ENTRY
SIGNBOARD ISIXHOSA

DESIGNED:	A.MAYEKISO	DRAWN:	Q. MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:		AS SHOWN	

DESIGN COORDINATOR APPROVAL			
ROMH CONSULTING (Pty) Ltd		DATE	
CLIENT APPROVAL		DATE	
CONTRACT No. AW2023/24/06		ORIGINAL DRAWING SIZE: A1	
PROJECT No. ROM-131-07-076-04-02	DRAWING No. A1	REV No.	<div>0</div>

BLUE LETTERS ON WHITE BACKGROUND
(PROPOSED COLOUR: MIDNIGHT BLUE
PLASCON SUPER ENAMEL OR EQUIVALENT)




BLUE BORDER
BLACK LETTERS ON
WHITE BACKGROUND

GENERAL NOTES

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



Amatola
Water-Amanzi

AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROMH

ROYAL MINDANE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
51 BALFOUR ROAD
VINCENT
EAST LONDON

Tel: (043) 748 0016
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

UNAUTHORIZED ENTRY
SIGNBOARD ISIXHOSA

DESIGNED:	A.MAYEKISO	DRAWN:	Q. MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:		AS SHOWN	

DESIGN COORDINATOR APPROVAL

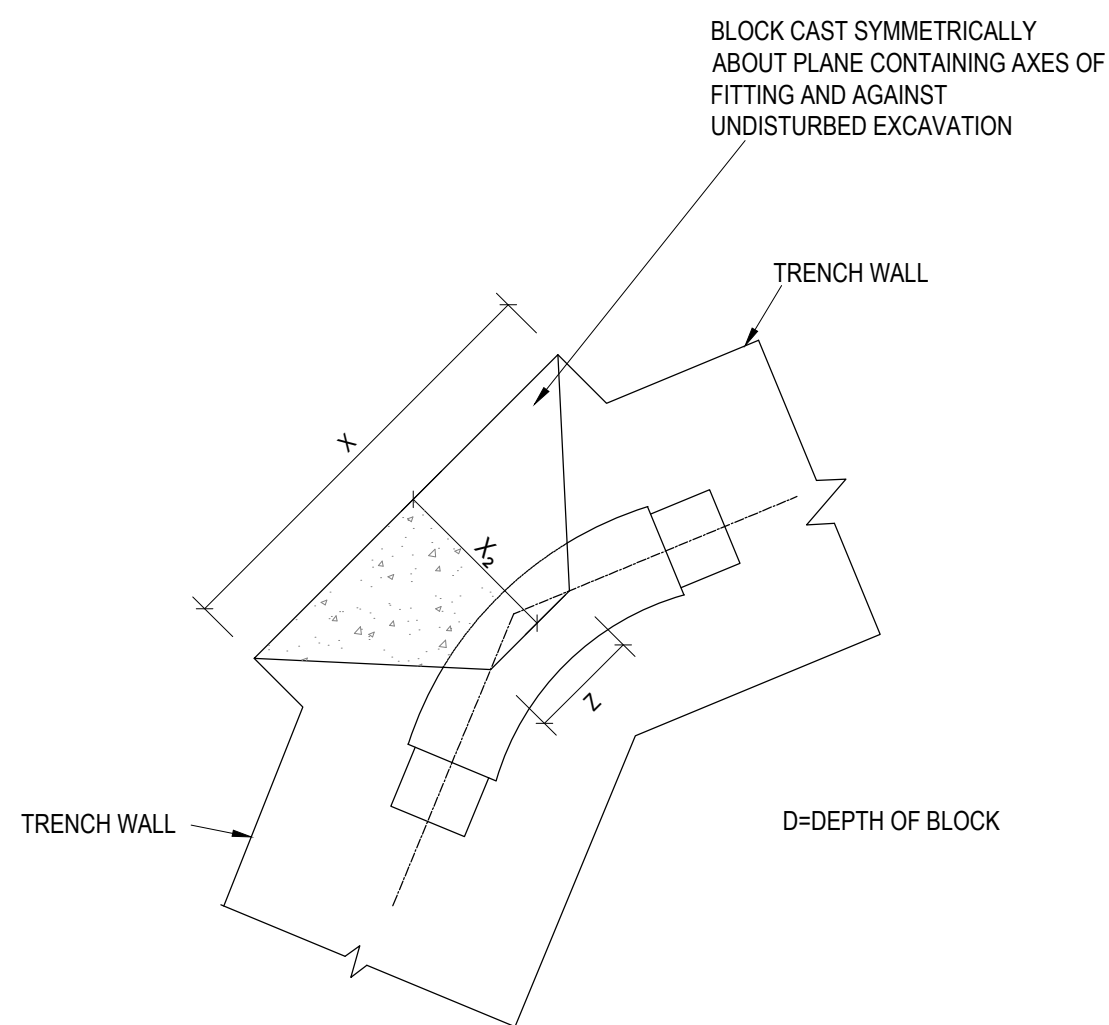
ROMH CONSULTING (Pty) Ltd

DATE

CLIENT APPROVAL

DATE

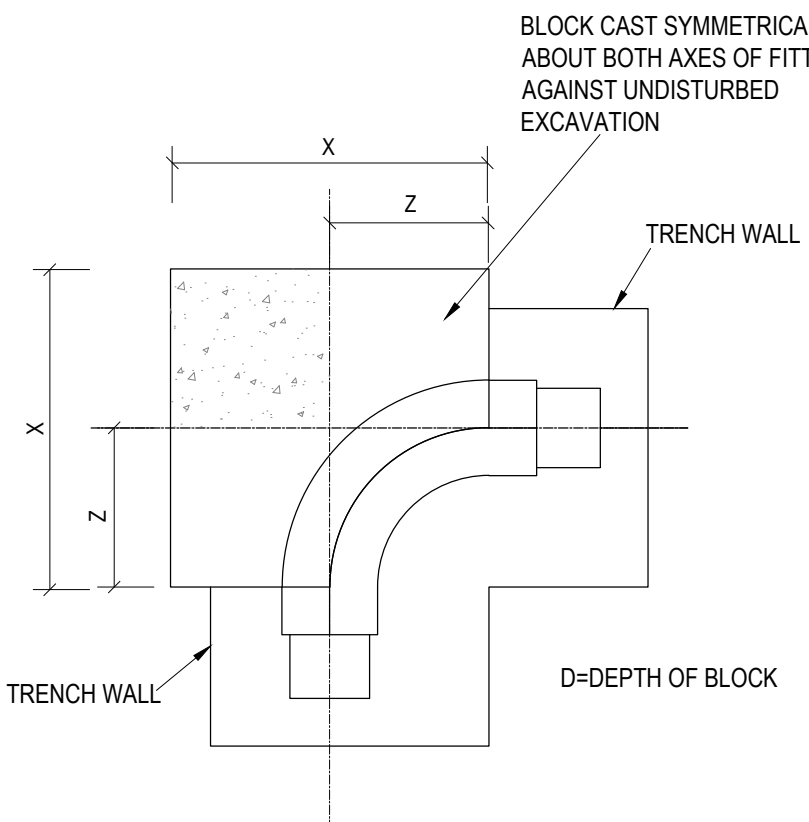
CONTRACT No. AW2019/20/28		ORIGINAL DRAWING SIZE: A1	
PROJECT No. ROM-131-07-076-04-03	DRAWING No. A1	REV No.	<div>0</div>



NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE AND THE STRENGTH OF THE CONCRETE TO BE 15MPa.

PIPEØ	X	X ₂	D	Z	CONCRETE (m³)	FORMWORK (m²)
500	1200	2000	800	350	1.440	3.341
400	1000	1500	600	300	0.675	1.897
300	700	1000	500	350	0.263	1.059
250	700	750	400	300	0.150	0.662
200	500	750	400	250	0.113	0.632
150	400	500	400	200	0.060	0.431
100	400	500	250	150	0.034	0.269
63	300	500	250	100	0.025	0.261
50	300	500	250	100	0.025	0.261

THRUST BLOCK DETAIL FOR 11,25° BEND
(CONCRETE VOLUMES SIMILAR FOR REDUCER)

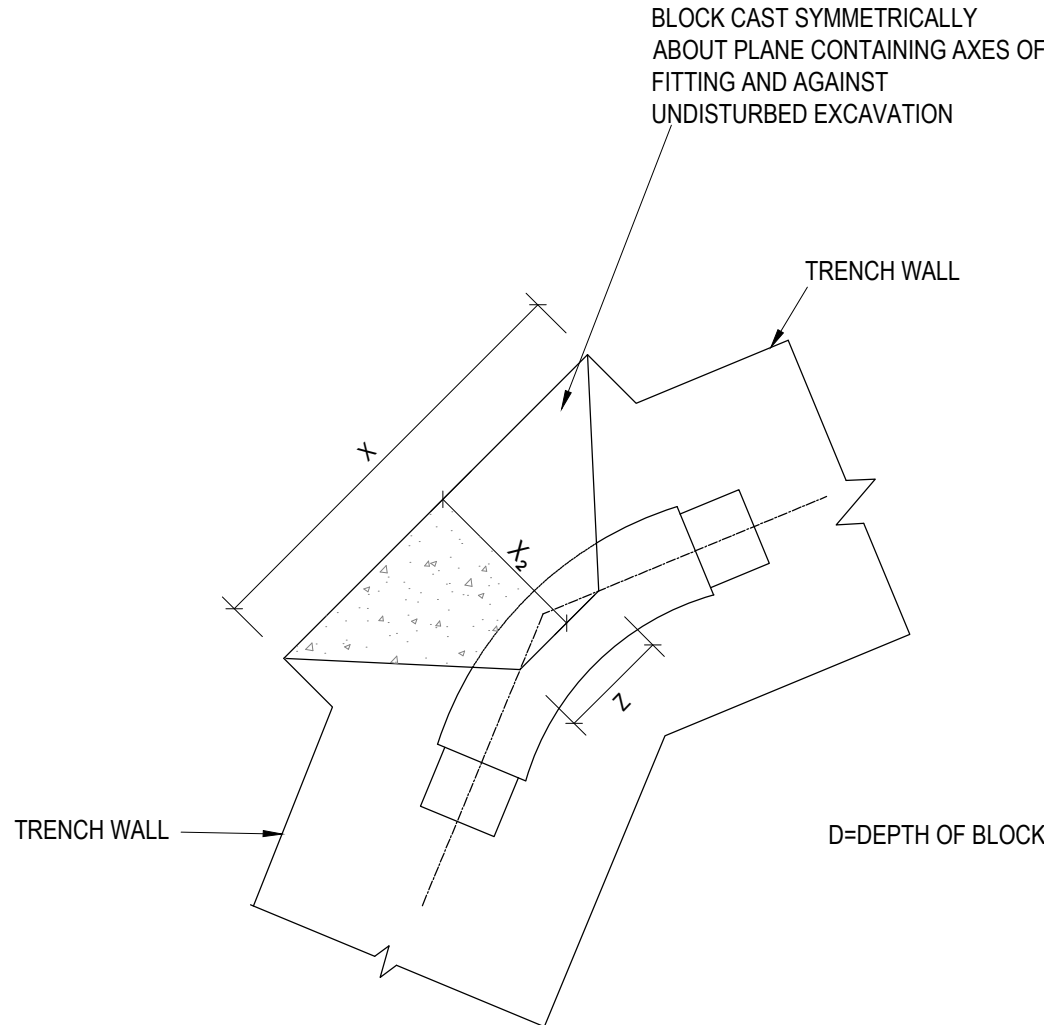


NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE AND THE STRENGTH OF THE CONCRETE TO BE 15MPa.

PIPEØ	X	X ₂	D	Z	CONCRETE (m³)	FORMWORK (m²)
500	3400	2000	1800	600	7.200	9.450
400	3000	1500	1300	400	3.413	5.515
300	2100	1000	1000	600	1.348	3.190
250	1400	750	1100	400	0.701	2.257
200	1100	750	900	300	0.455	1.674
150	900	500	700	150	0.193	0.942
100	600	500	500	100	0.094	0.583
63	500	500	300	100	0.045	0.335
50	300	500	250	100	0.025	0.261

THRUST BLOCK DETAIL FOR 90° BEND

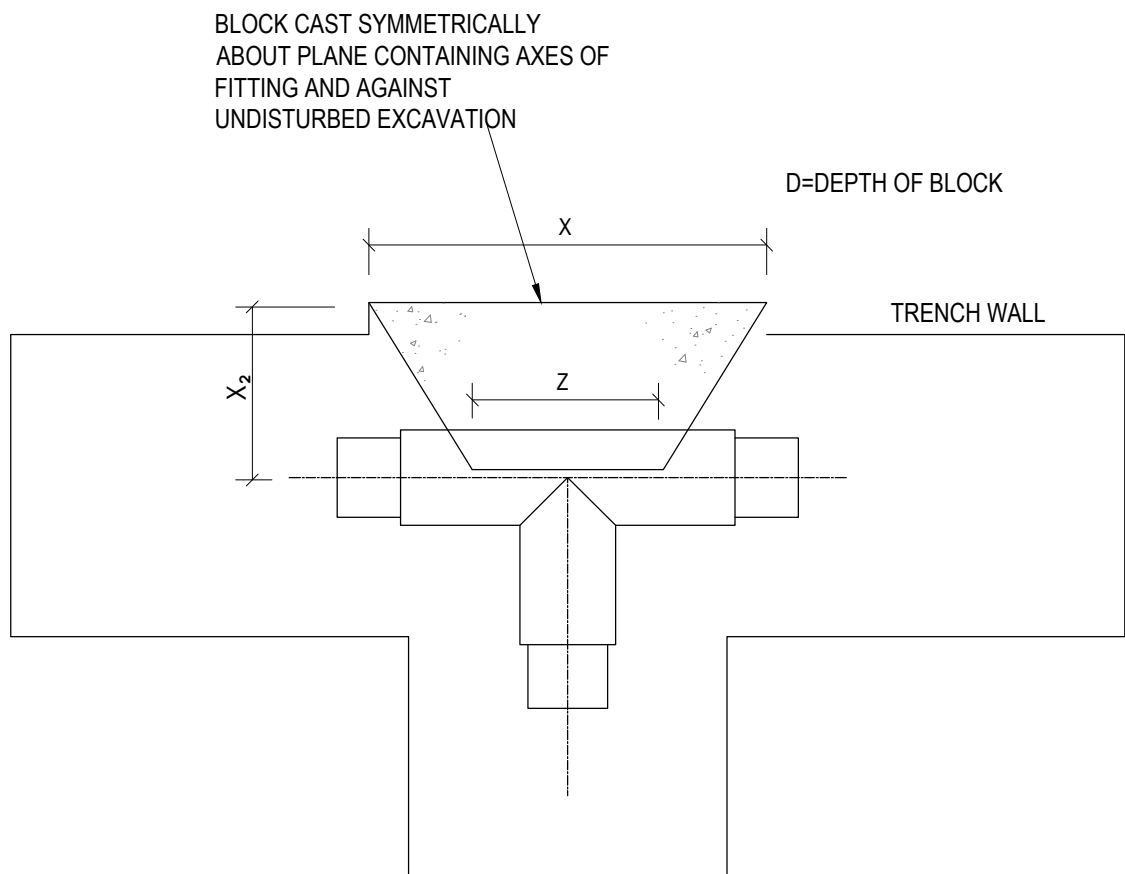
THRUSTBLOCK DETAILS
MAXIMUM PIPE PRESSURE - 400kPa
SOIL BEARING STRENGTH - 100 kN/m2



NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE AND THE STRENGTH OF THE CONCRETE TO BE 15MPa.

PIPEØ	X	X ₂	D	Z	CONCRETE (m³)	FORMWORK (m²)
500	1600	2000	1100	350	2.420	4.739
400	1600	1500	700	300	1.103	2.380
300	900	1000	700	350	0.438	1.535
250	1100	750	400	300	0.210	0.744
200	700	750	400	250	0.143	0.662
150	500	500	400	200	0.070	0.447
100	500	500	250	150	0.041	0.280
63	300	500	250	100	0.025	0.261
50	300	500	250	100	0.025	0.261

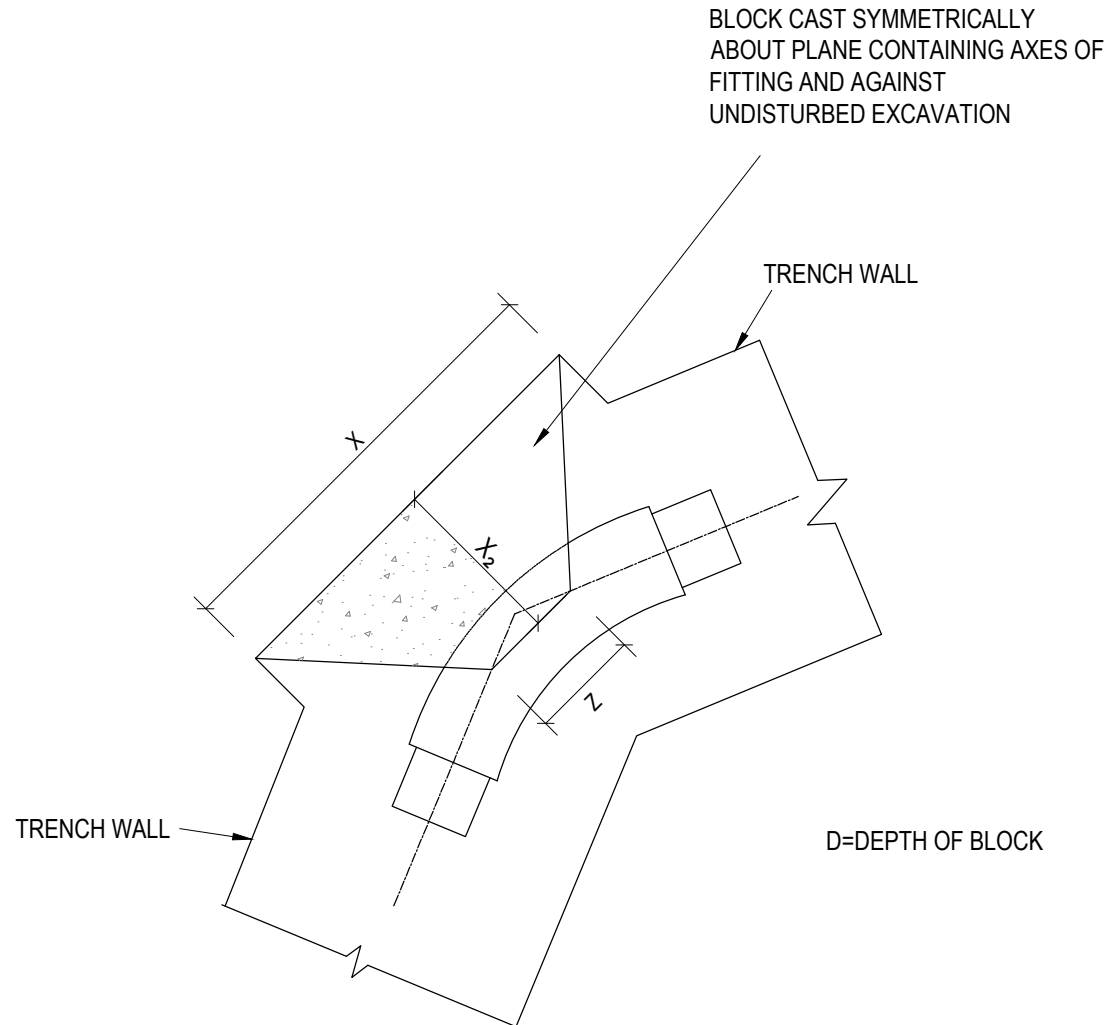
THRUST BLOCK DETAIL FOR 22,5° BEND



NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE AND THE STRENGTH OF THE CONCRETE TO BE 15MPa.

PIPEØ	X	X ₂	D	Z	CONCRETE (m³)	FORMWORK (m²)
500	4800	2000	1800	600	9.720	11.247
400	3100	1500	1800	500	4.860	7.765
300	2400	1000	1300	350	1.788	4.061
250	1800	750	1200	300	0.945	2.812
200	1300	750	1100	250	0.639	2.153
150	1000	500	800	200	0.240	1.131
100	700	500	500	150	0.106	0.610
63	600	500	400	100	0.070	0.466
50	500	500	250	100	0.038	0.281

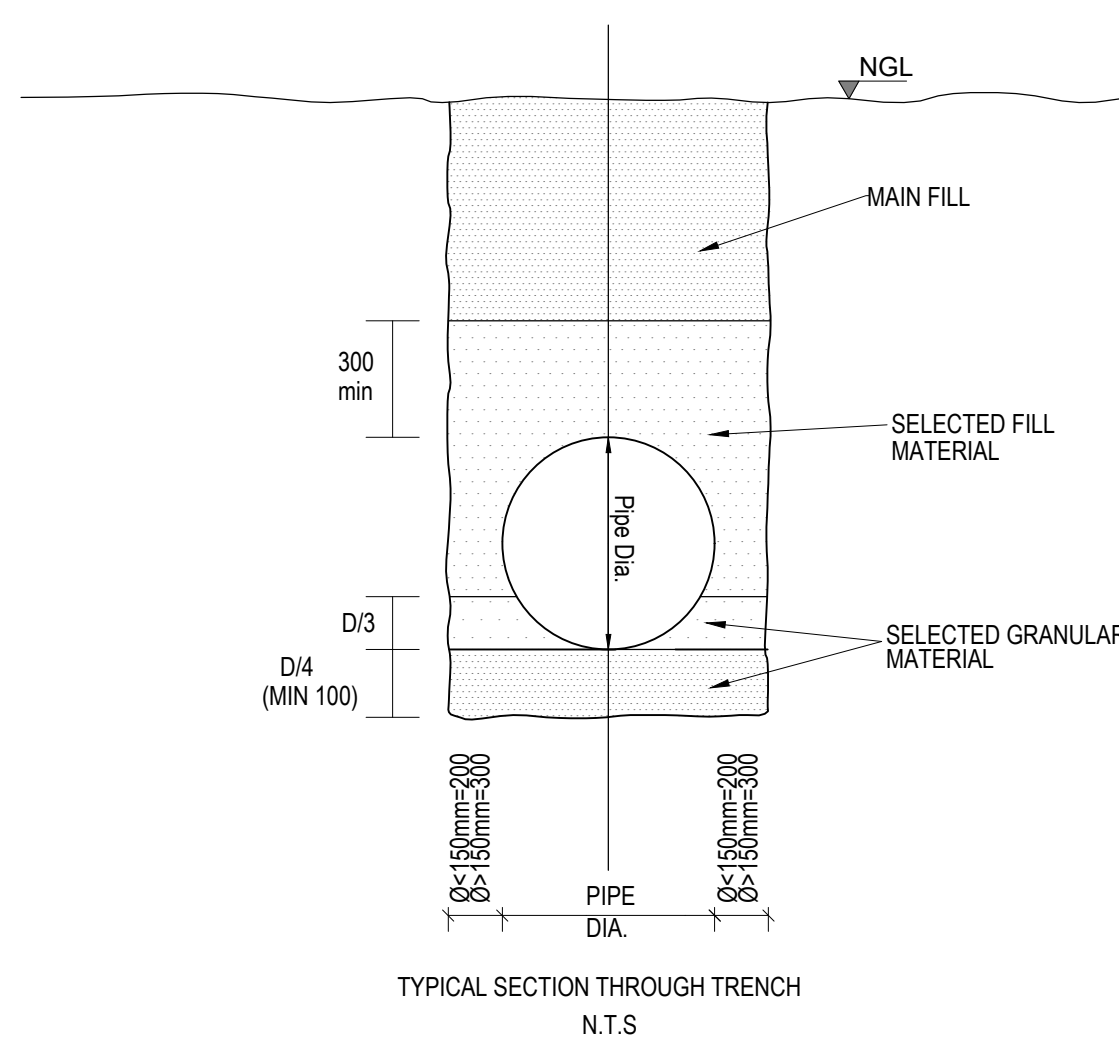
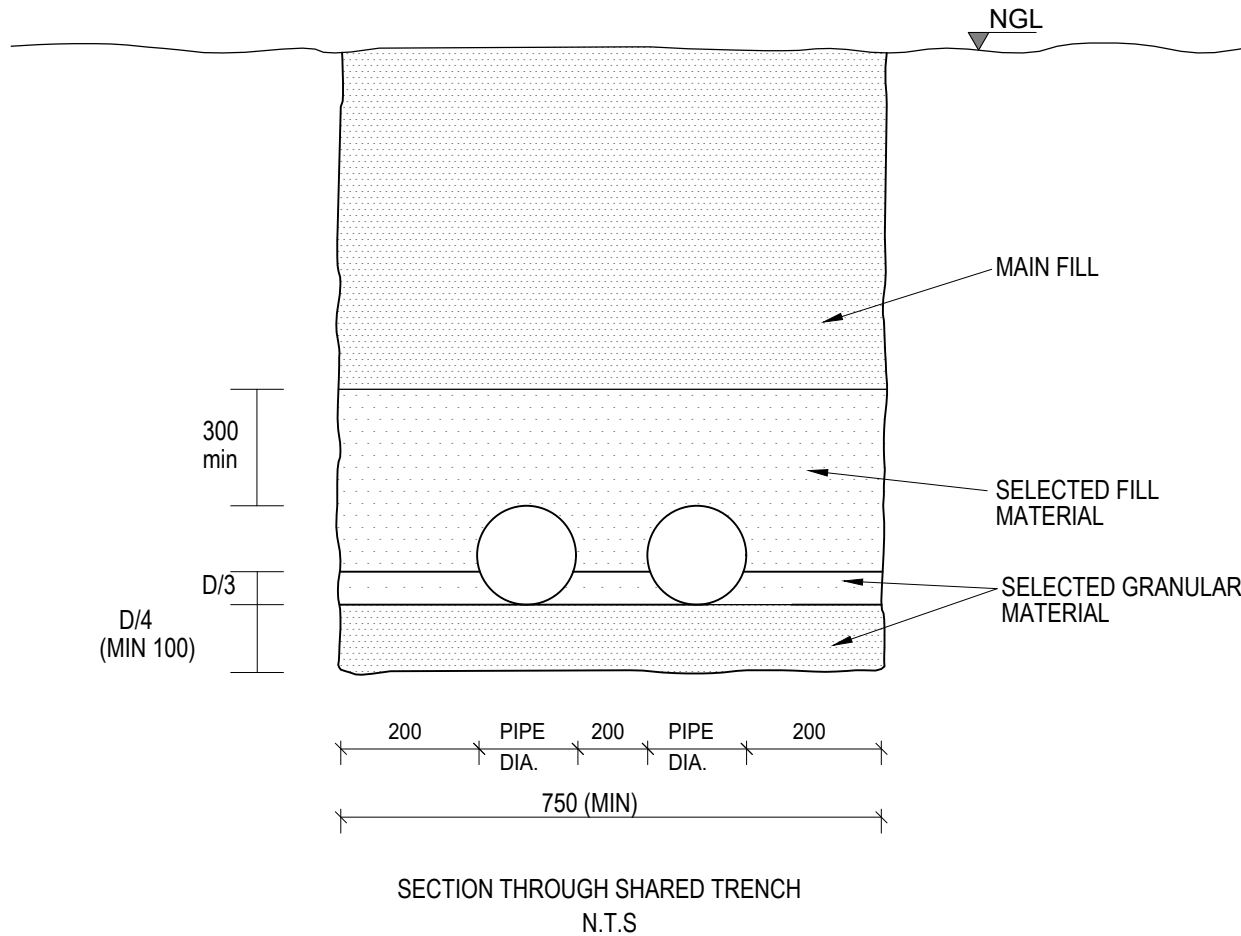
THRUST BLOCK DETAIL FOR TEE AND ENDCAP



NOTE: COUPLINGS AND FLANGES SHALL BE LEFT CLEAR OF CONCRETE AND THE STRENGTH OF THE CONCRETE TO BE 15MPa.

PIPEØ	X	X ₂	D	Z	CONCRETE (m³)	FORMWORK (m²)
500	2800	2000	1200	350	4.080	5.859
400	1700	1500	1300	300	2.145	4.483
300	1100	1000	1100	350	0.798	2.511
250	1100	750	800	300	0.420	1.488
200	800	750	700	250	0.285	1.324
150	600	500	500	200	0.100	0.583
100	500	500	300	150	0.049	0.355
63	300	500	250	100	0.025	0.261
50	300	500	250	100	0.025	0.261

THRUST BLOCK DETAIL FOR 45° BEND



GENERAL NOTES

- THRUSTBLOCK DETAILS PROVIDED FOR BULK MAINS BASED ON A SOIL BEARING PRESSURE OF 100kN/m² WITH A HIGHER MAXIMUM PIPE TEST PRESSURE FOR BULK MAINS REFER TO EMPLOYER'S AGENT FOR VARIANCES IN SOIL BEARING PRESSURES.
- EMPLOYER'S AGENT TO INSPECT EXCAVATION PRIOR TO CASTING THRUSTBLOCKS.
- QUANTITIES PROVIDED FOR CONCRETE AND FORMWORK BASED ON X₂ DIMENSION WHICH IS TO BE CONFIRMED ON SITE.
- TRENCH SIDE WALL TOLERANCES TO BE:
 - 200mm FOR PIPE Ø LESS THAN 150mm
 - 300mm FOR PIPE Ø EQUAL TO AND GREATER THAN 150mm
 - 200mm FOR PIPES (ALL DIAMETERS) IN SHARED TRENCHES
- SELECTIVE EXCAVATION TO BE PRACTICED BY CONTRACTOR. ENGINEER TO CONFIRM SUITABILITY OF INSITU MATERIAL FOR USE AS BEDDING MATERIAL.
- TOPSOILING AND REVEGETATION TO COMMENCE IMMEDIATELY AFTER COMPLETION OF SUCCESSFUL PRESSURE TEST ON PIPEWORK.

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

WATER RETICULATION: THRUST
BLOCK DETAIL

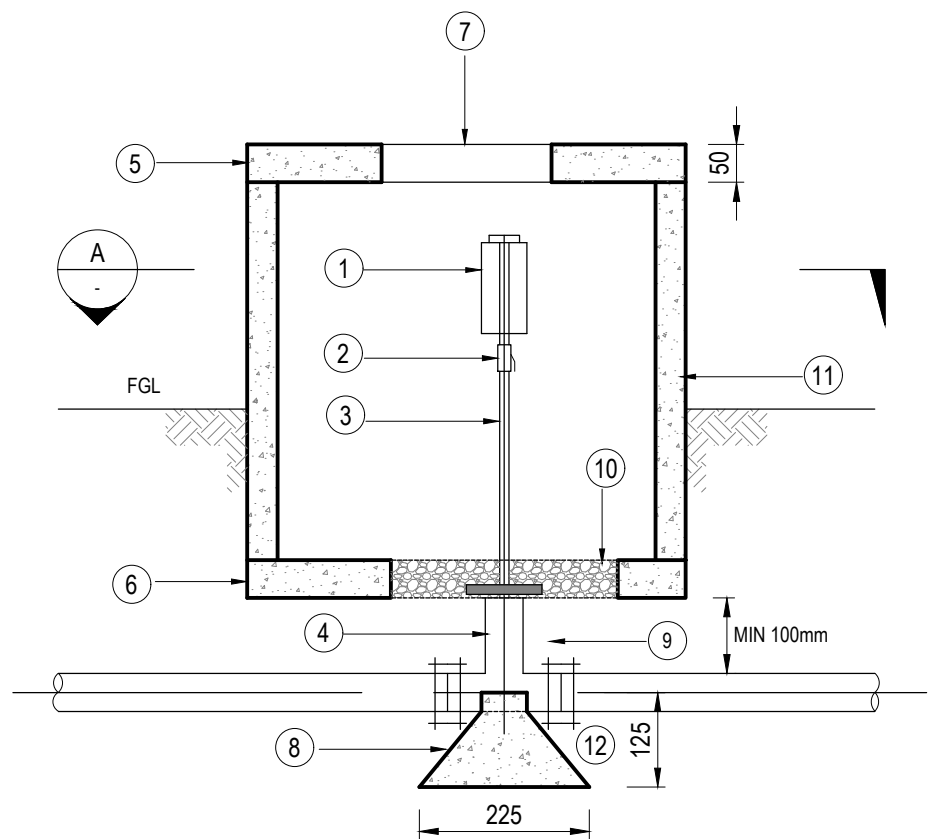
DESIGNED:	A.MAYEKISO	DRAWN:	Q. MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:		AS SHOWN	

DESIGN COORDINATOR APPROVAL

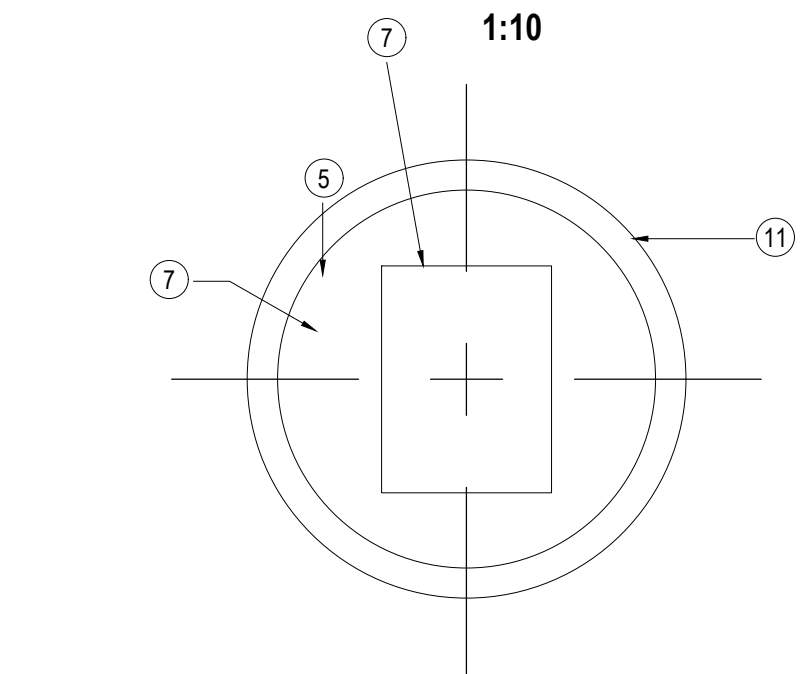
ROMH CONSULTING (Pty) Ltd DATE

CLIENT APPROVAL DATE

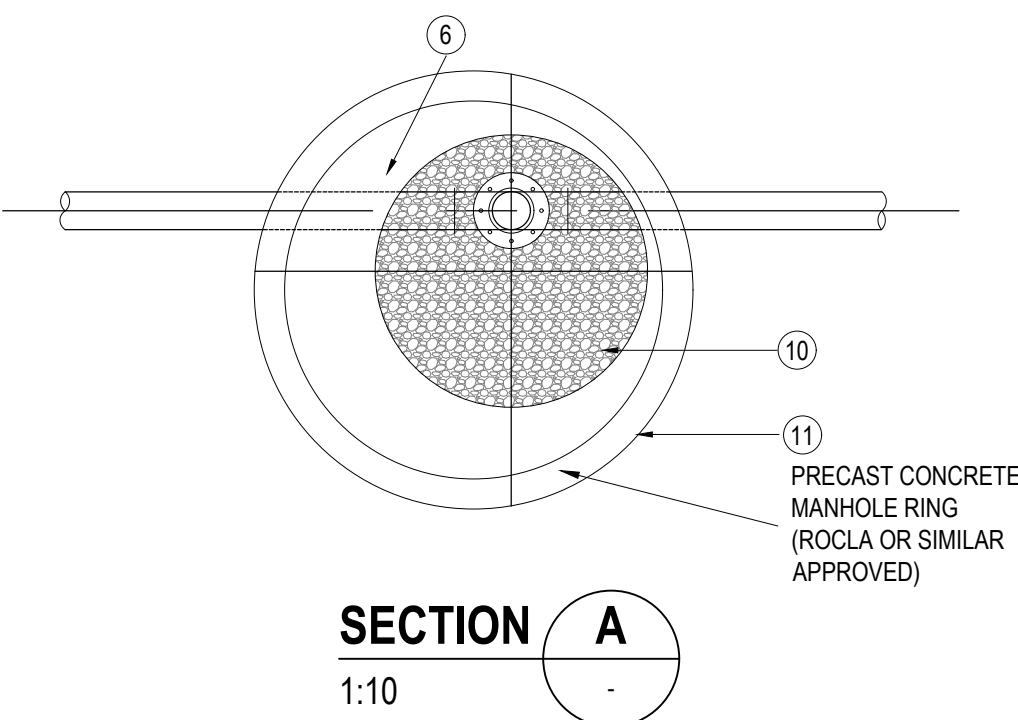
CONTRACT No. AW2023/24/06	ORIGINAL DRAWING SIZE: A1
PROJECT No. ROM-131-07-076-04-05	DRAWING No. A1
	REV No. 0



SECTIONAL SIDE ELEVATION
1:10



PLAN VIEW
1:10



SECTION A
1:10

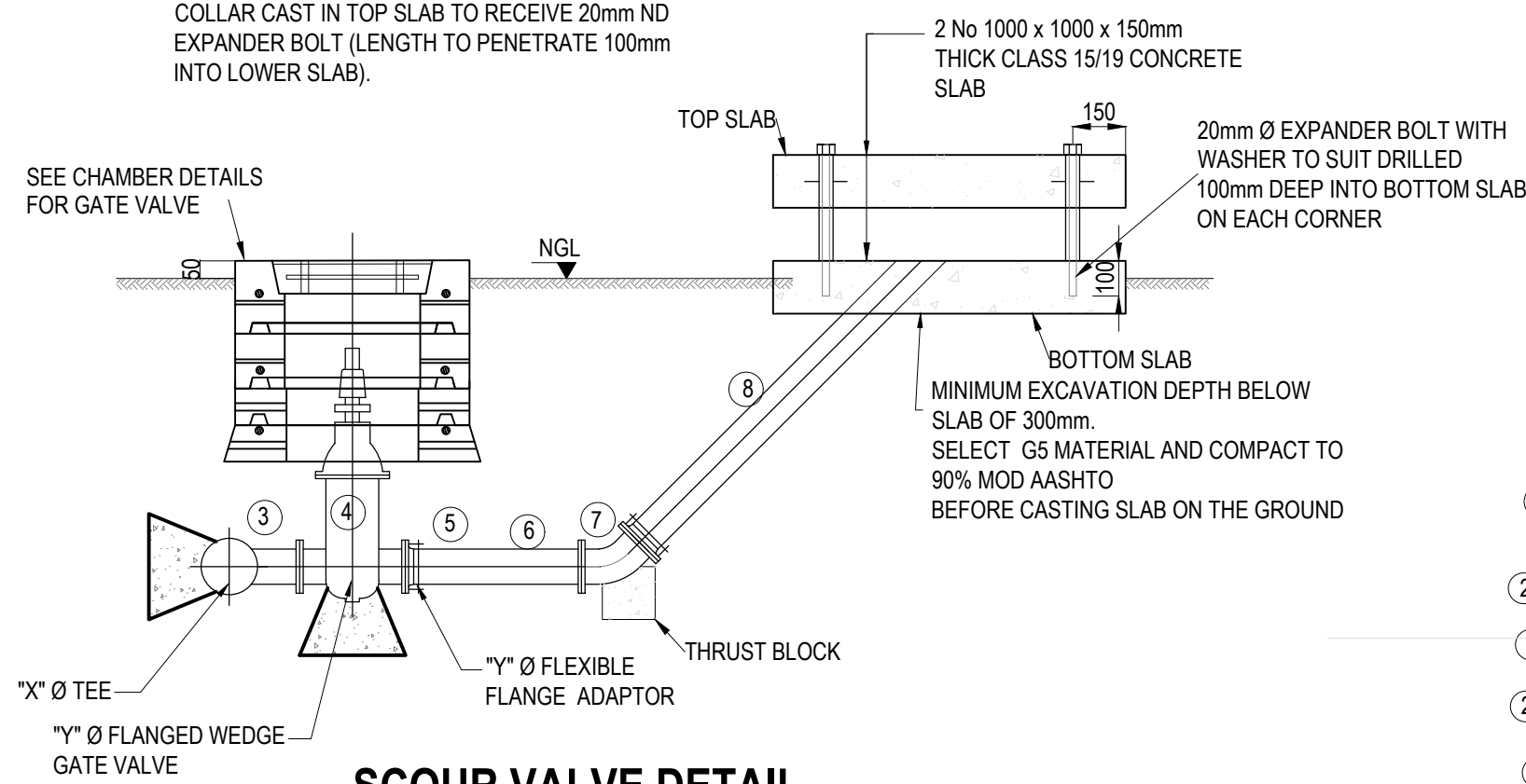
MATERIALS

- AIR VALVE OF SIZE 25mm Ø AS INDICATED ON LONG SECTION DRAWINGS TO BE DOUBLE ORIFICE AIR RELEASE AND VACUUM BREAK VALVE
- ISOLATING VALVE (25mm S/S BAR VALVE)
- RISER PIPE (25mm Ø AS SCHEDULED) 300mm LONG x 25mm ND EXTENSION PIECE (MS) WITH ONE END FLANGED TO SUIT 65mm ND AND THE OTHER THREADED.
- AIR VALVE TEE 63 x 63 GMS FLANGED EQUAL TEE WITH FLANGE ADAPTOR TO SUIT.
- PRECAST MANHOLE COVER SLAB WITH 450 x 600mm GMS COVER AND FRAME CAST IN-SITU
- PRECAST MANHOLE COVER SLAB USED AS BASE/FLOOR TO MANHOLE
- 450 x 600mm GMS LOCKABLE COVER AND FRAME
- 20MPa CONCRETE THRUST BLOCK
- BEDDING
- 25mm CONCRETE STONE TO INVERT FLOOR LEVEL
- 1000mm ID PRECAST CONCRETE MANHOLE RING (ROCLA OR SIMILAR)
- FLEXIBLE COUPLING TO SUIT HDPE MAIN

AIR VALVE

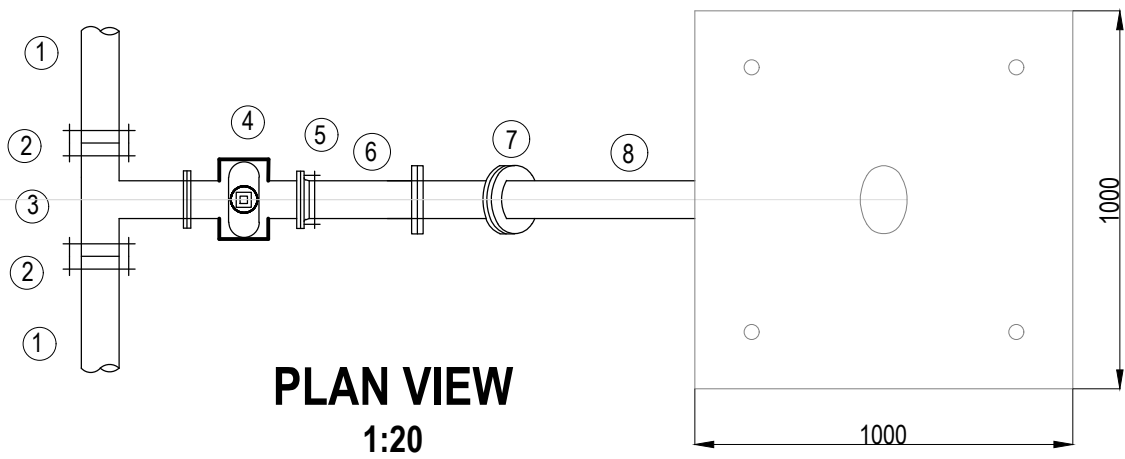
NOTES

40mm Ø x 300mm LONG GMS SLEEVE WITH PUDDLE COLLAR CAST IN TOP SLAB TO RECEIVE 20mm ND EXPANDER BOLT (LENGTH TO PENETRATE 100mm INTO LOWER SLAB).



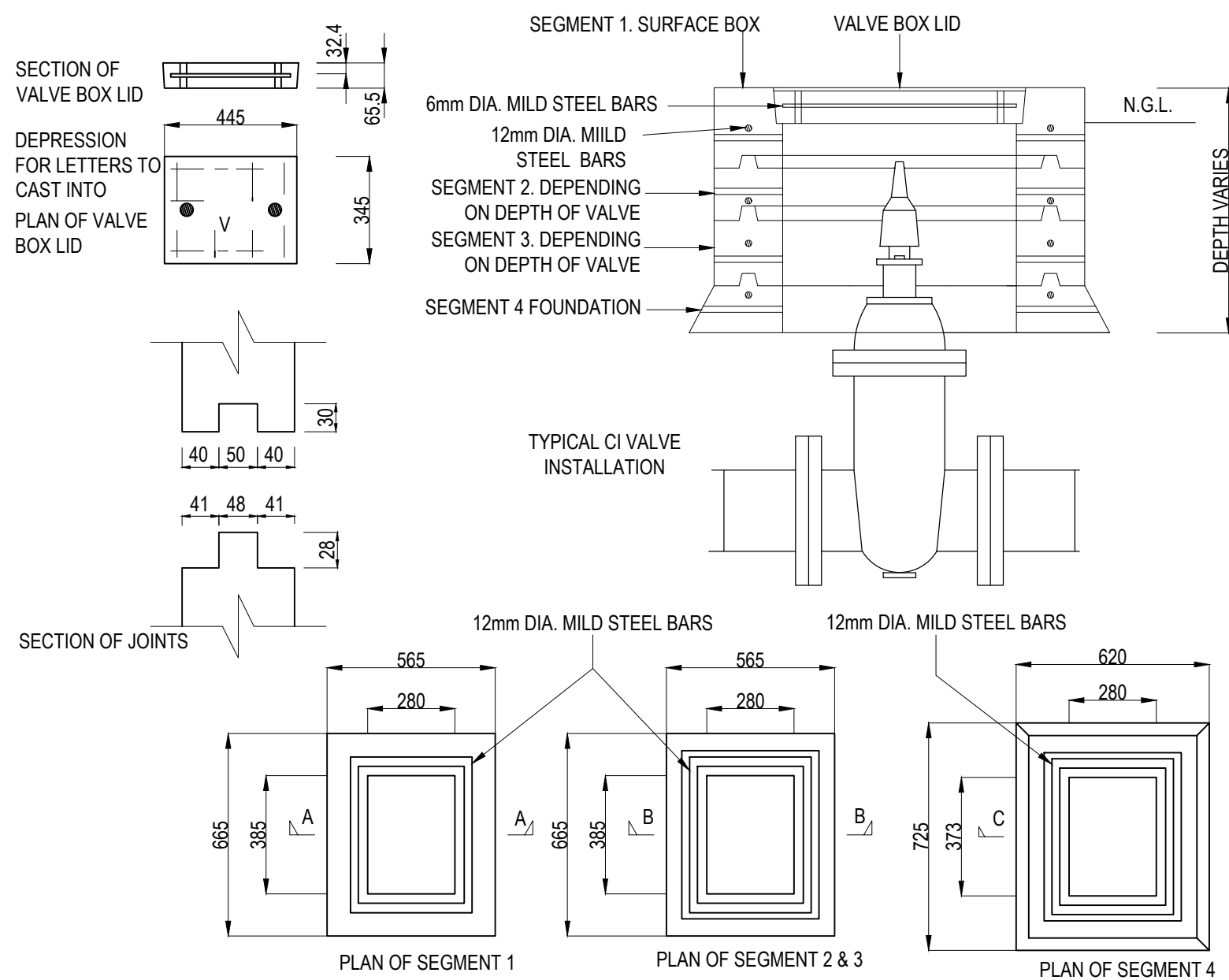
SCOUR VALVE DETAIL
1:20

"X" Ø	TEE CLASS TO SUIT (FLANGED BRANCH)	"Y" Ø VALVE CLASS TO SUIT
400mm Ø	GMS SCOUR TEE	100mm Ø
300mm Ø	GMS SCOUR TEE	100mm Ø
250mm Ø	GMS SCOUR TEE	100mm Ø
200mm Ø	GMS SCOUR TEE	100mm Ø
160mm Ø	GMS SCOUR TEE	100mm Ø
110mm Ø	GMS SCOUR TEE	100mm Ø
90mm Ø	GMS SCOUR TEE	80mm Ø
63mm Ø	GMS SCOUR TEE	63mm Ø
50mm Ø	GMS EQUAL TEE	50mm Ø S/S BALL VALVE

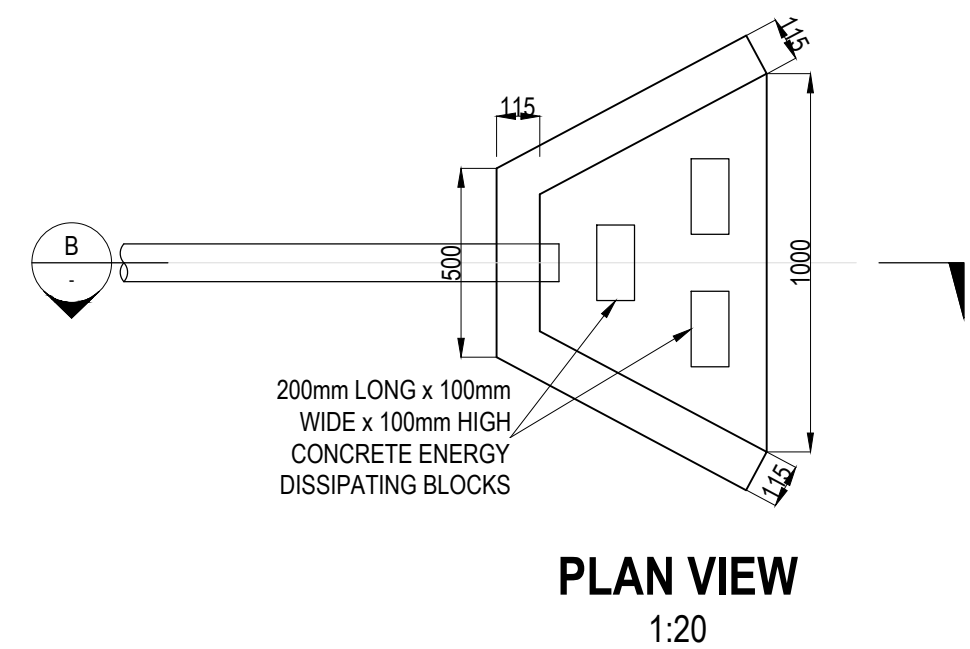


PLAN VIEW
1:20

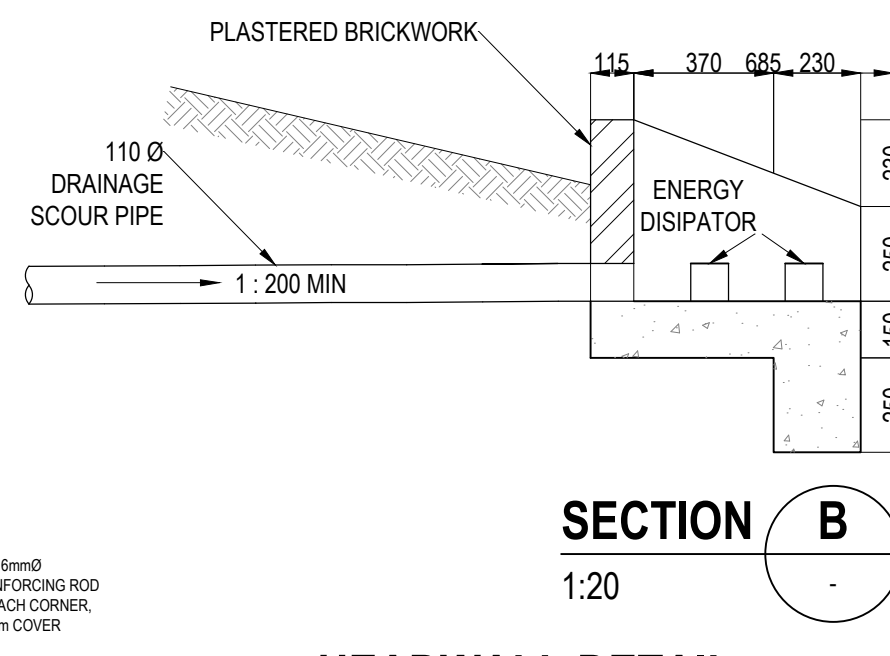
NODE	PVC/GMS SCOUR VALVE ASSEMBLY
1	RETICULATION/BULK SUPPLY PIPEWORK
2	FLEXIBLE COUPLING (KLAMFLEX RANGER OR SIMILAR APPROVED) TO SUIT
3	PLAIN ENDED GMS SCOUR TEE (FLANGED BRANCH) WITH FLANGED ADAPTORS TO SUIT.
4	"Y" ND FLANGED SG IRON GATE VALVE PRESSURE RATING TO SUIT (SEE ADJUSTMENT TABLE FOR BRANCH / SCOUR DIAMETER)
5	FLEXIBLE FLANGED ADAPTOR TO SUIT MS/PVC PIPE (KLAMFLEX RANGER OR SIMILAR)
6	"Y" Ø MS EXTENSION PIECE FLANGED ONE END.
7	"Y" Ø 45° FLANGED MS BEND
8	APPROX 1000mm LONG PLAN ENDED PVC EXTENSION PIECE WITH ONE END CUT AT 45°



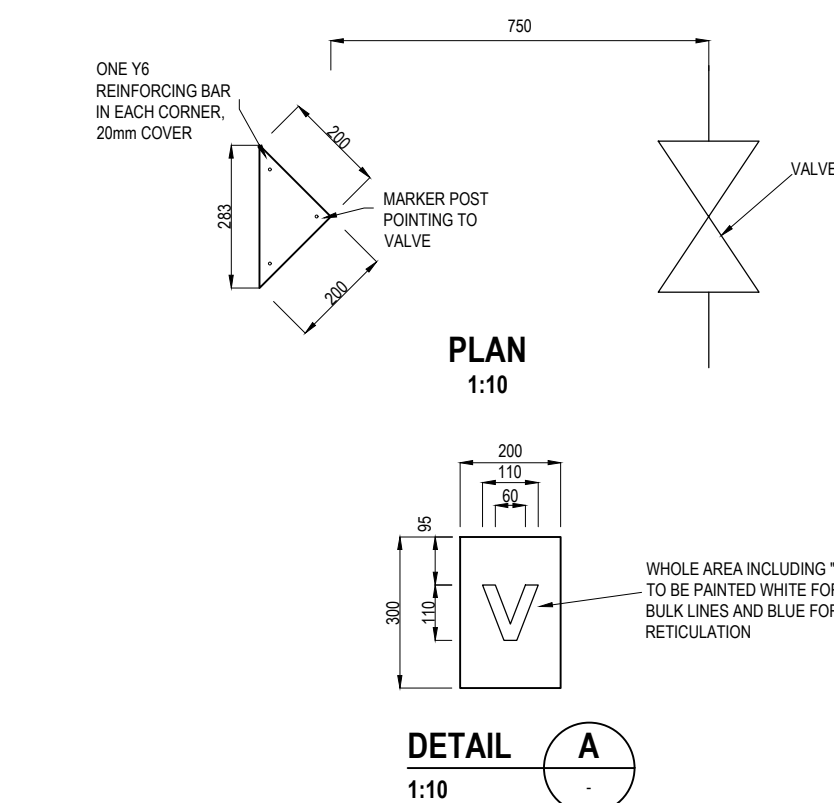
GATE VALVE



PLAN VIEW
1:20



HEADWALL DETAIL



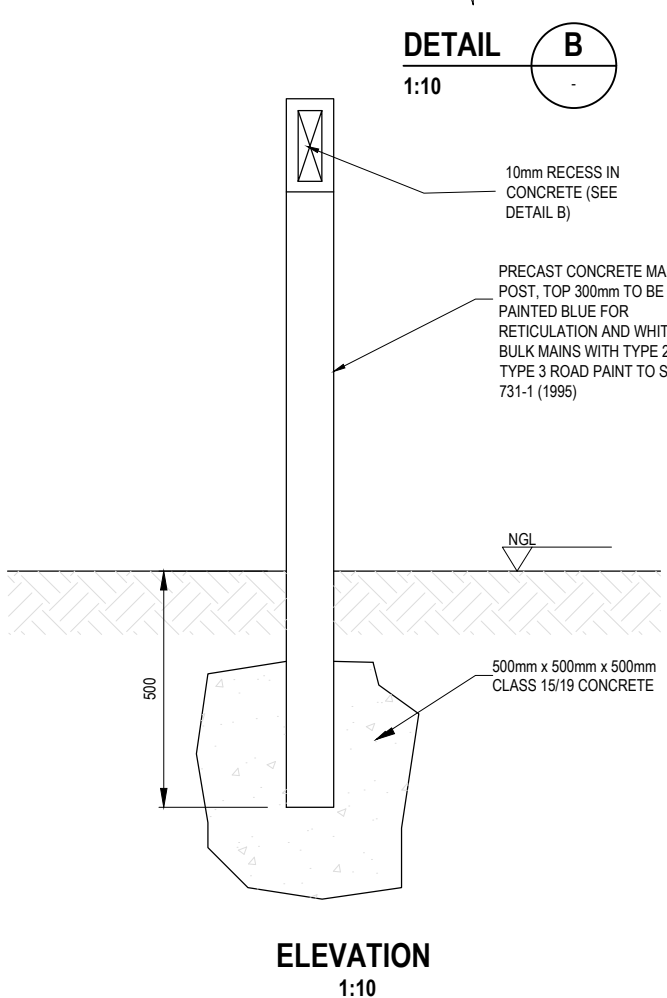
PIPELINE MARKER

NOTES

ALL SURFACES TO BE PAINTED WITH 2 LAYERS OF ROAD MARKING PAINT IN THE COLOURS INDICATED.

NOTE: SEE GENERAL NOTES IN TITLE BLOCK

VALVE MARKER
1:10



ELEVATION
1:10

GENERAL NOTES

PIPELINE MARKER POSTS

- CONCRETE MARKER POSTS TO BE PLACED AT AN OFFSET OF 1m FROM CENTERLINE OF PIPE.
- WHEN LOOKING IN THE DIRECTION OF WATER FLOW, CONCRETE MARKER POSTS TO BE PLACED ON THE LEFT HAND SIDE.
- CONCRETE MARKER POSTS TO BE PLACED AT BENDS AND TEES ON ALL PIPELINES.
- THE CONCRETE MARKER POSTS MUST BE PLACED IN LINE OF SITE, SO THAT THE NEXT MARKER POST IS VISIBLE FROM THE PREVIOUS MARKER POST.
- ALL COUPLINGS, JOINTS, FLANGES, BOLTS AND BURIED BELOW GROUND LEVEL TO BE TREATED WITH DENSO SS PRIME, DENSO MASTIC & DENSO HT TAPE OR SIMILAR APPROVED.
- ALL STEEL FITTINGS TO BE HEAVY DUTY HOT DIPPED GALVANIZED TO SANS 32 BEFORE FBE COATING. FURTHER MACHINING, CUTTING OR WELDING AFTER HOT DIPPED GALVANIZING WILL NOT BE ALLOWED.

No.	DATE	DESCRIPTION	CHECKED
-----	------	-------------	---------

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD TIA ROMH CONSULTING
LEADWOOD HOUSE CEDAR SQUARE
BONZA BAY ROAD
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

WATER RETICULATION: AIR VALVE,
SCOUR VALVE AND GATE VALVE
DETAILS

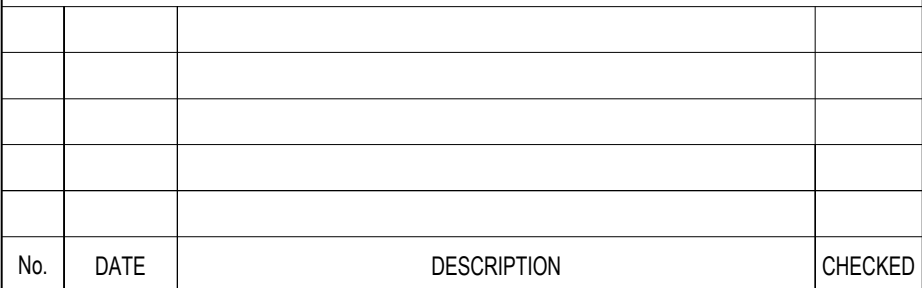
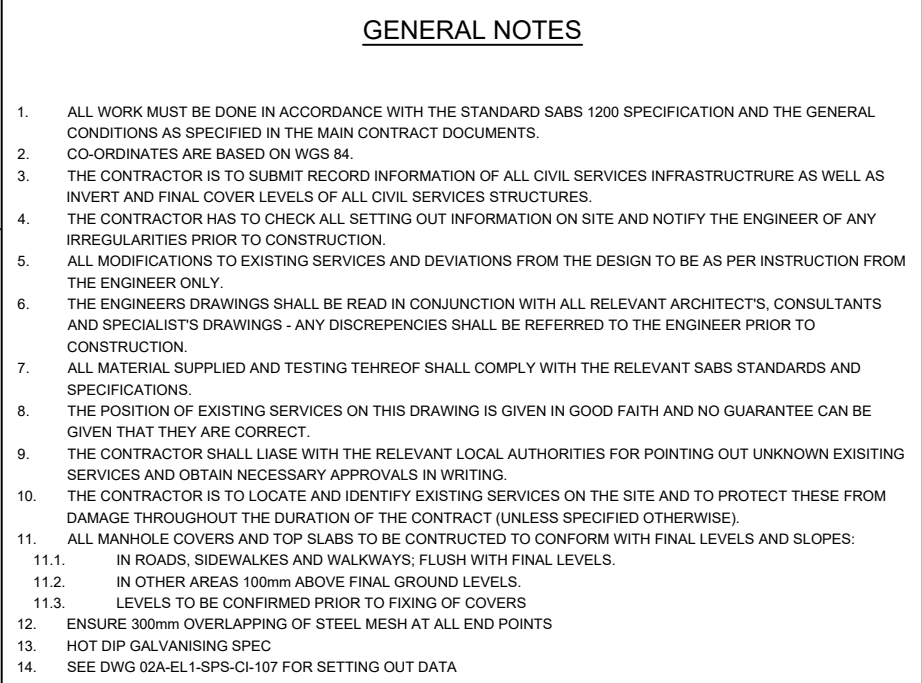
DESIGNED:	A.MAYEKISO	DRAWN:	Q. MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:		AS SHOWN	

DESIGN COORDINATOR APPROVAL

ROMH CONSULTING (Pty) Ltd DATE

CLIENT APPROVAL DATE

CONTRACT No:	AW2023/24/06	ORIGINAL DRAWING SIZE:	A1
PROJECT No:	ROM-131-07-076-04-06	DRAWING No:	A1
		REV No:	0



CONSULTANT:

RMIH

ROYAL MINDAWE HOLDINGS (PTY) LTD TIA ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONDAART ROAD
BEACONSBAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

DRAWING TITLE:

PUMPING MAIN

DESIGN COORDINATOR APPROVAL _____

CONTRACT No. AW2023/24/06	ORIGINAL DRAWING SIZE: A1
PROJECT No.	DRAWING No.

GENERAL NOTES

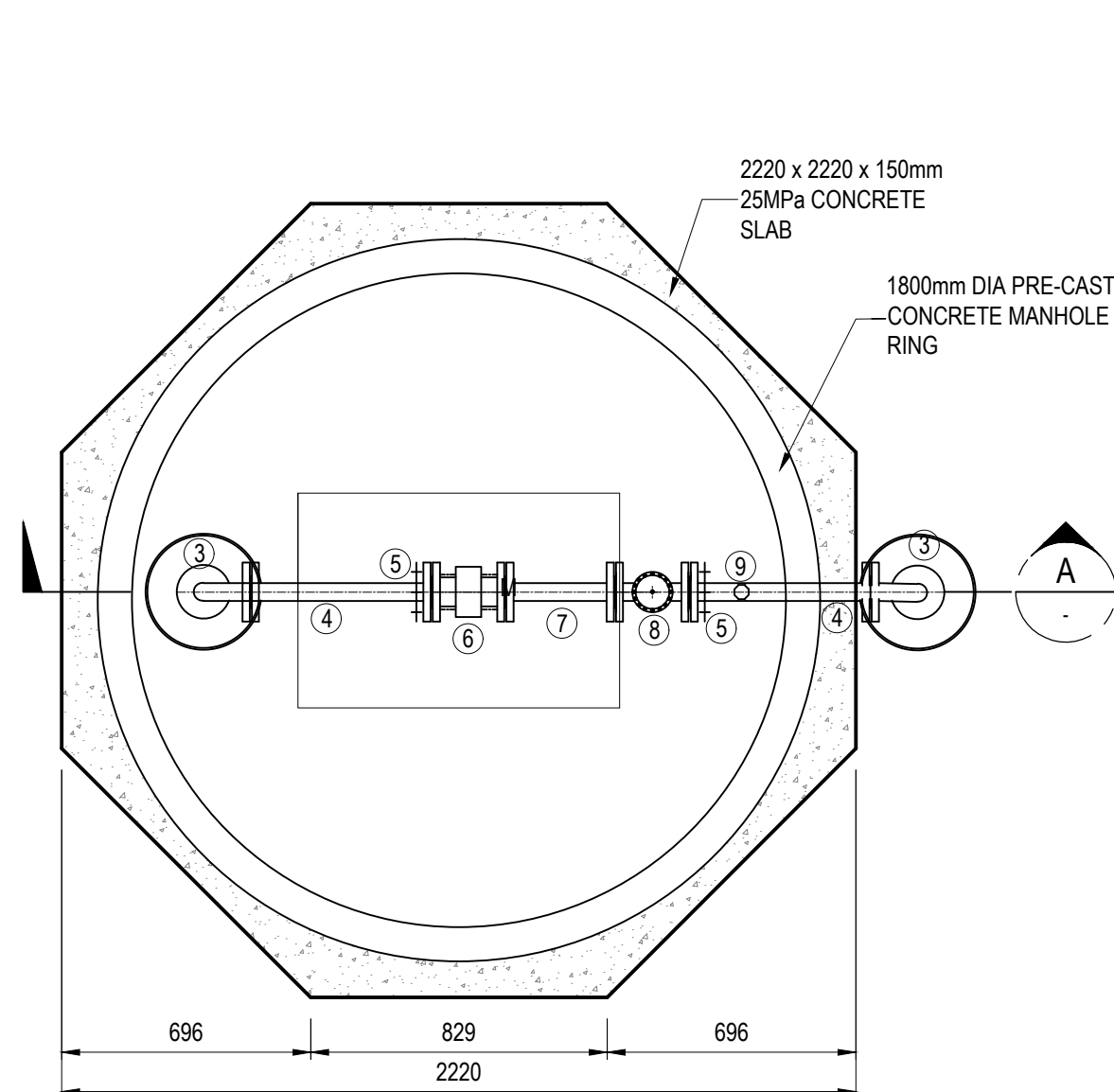
1. AREA AROUND STRUCTURE TO BE SHAPED TO AVOID PONDING OF WATER

PIPEWORK:

2. ALL PIPEWORK TO BE PROVIDED AND INSTALLED BY CONTRACTOR

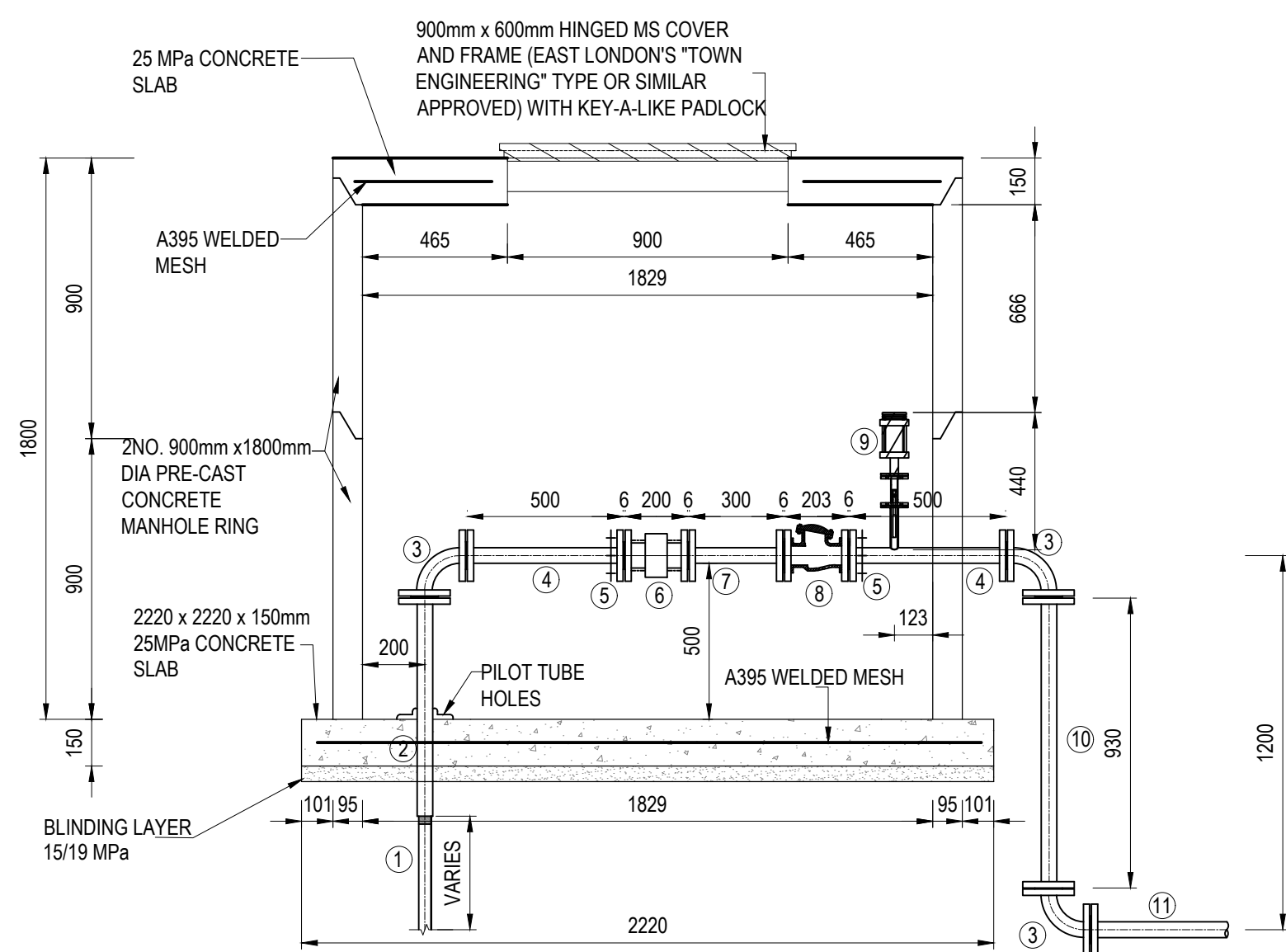
CIVIL WORK:

3. EMPLOYER'S AGENT TO INSPECT AND APPROVE MATERIAL BEFORE BLINDING IS CAST
4. ALL EXPOSED EDGES TO BE CHAMFERED 20X20 UNLESS OTHERWISE NOTED.
5. BACKFILL MATERIAL TO BE COMPACTED TO 93% MOD AASHTO IN MAX 150mm LAYERS.
6. ALL CONCRETE TO BE 28 MPa AT 28 DAYS.
7. EXISTING CONCRETE SLAB AROUND EXISTING HAND PUMP TO BE INCORPORATED INTO NEW FLOOR SLAB.
8. INSTALL SAFE CABLING.



PLAN

1:20



SECTION **A**
1:20

PIPE CONNECTION ASSEMBLY			
NODE	DESCRIPTION	NODE	DESCRIPTION
1.	40mmØ HDPE MALE THREADED CONNECTION PIECE TO BOREHOLE (LENGTH TO BE FINALISED ON SITE)	6.	50mm ND KLAMFLEX RANGER FLANGED COUPLING OR SIMILAR APPROVED
2.	700 mmØ x 50 mmØ GMS FLANGED ONE END EXTENSION PIECE AND FEMALE THREADED ON THE OTHER	7.	300mm LONG x 50mm ND GMS FLANGED EXTENSION PIECE (PN 25)
3.	50mm Ø FLANGED GMS 90° BEND (130 mm LONG)	8.	203mm LONG x 50mm ND GMS FLANGED ISOLATION VALVE (PN 25)
4.	500mm LONG GMS EXTENSION PIECE FLANGED BOTH ENDS, WITH PRESSURE GAUGE SWITCH AND FLOW SWITCH ATTACHED.	9.	50/80mm ND RBX VENT-O-MAT AIR VALVE PN25
5.	200mm LONG x 50mm Ø SENSUS TYPE WATER METER/HELIK 4000 OR SIMILAR APPROVED	10.	930mm x 50mmØ GMS FLANGED EXTENSION PIECE

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: Indubela@amatolawater.co.za
Web: www.amatolwater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA SENIOR SECONDARY SCHOOL

DRAWING TITLE:

BOREHOLE CHAMBER DETAILS

DESIGNED:	A.MAYEKISO	DRAWN:	Q. MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		


DESIGN COORDINATOR APPROVAL

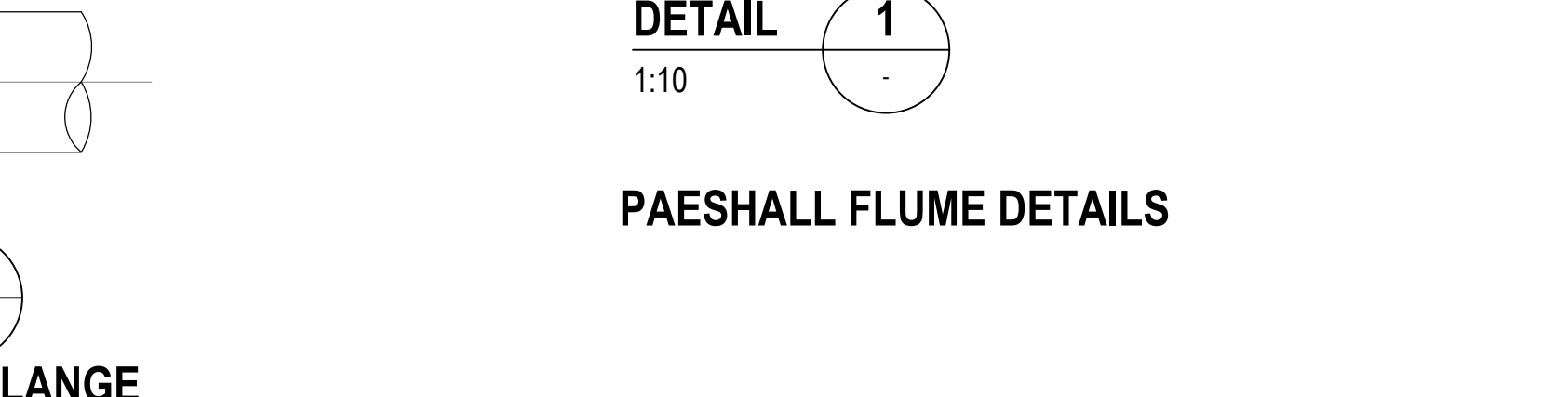
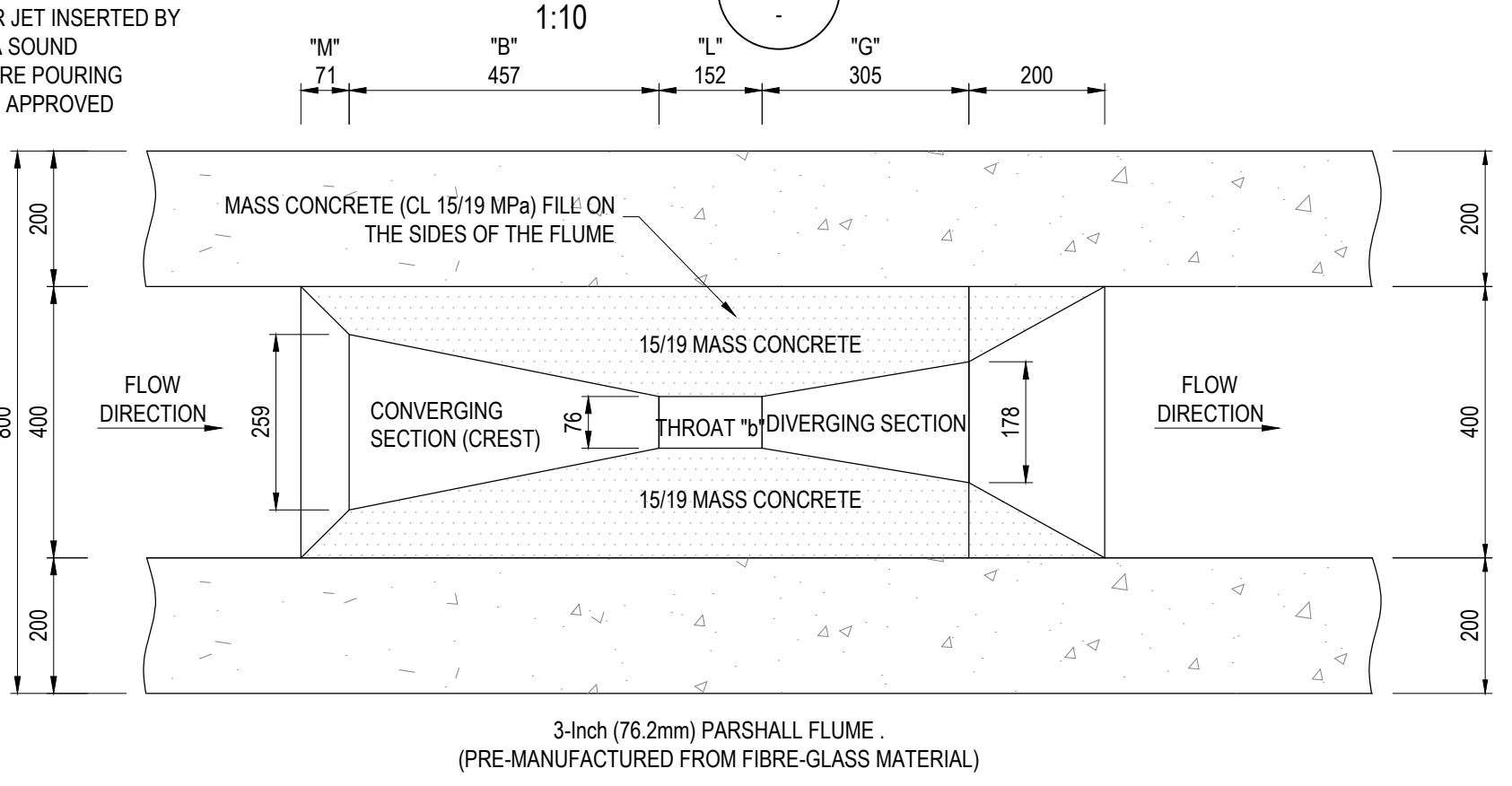
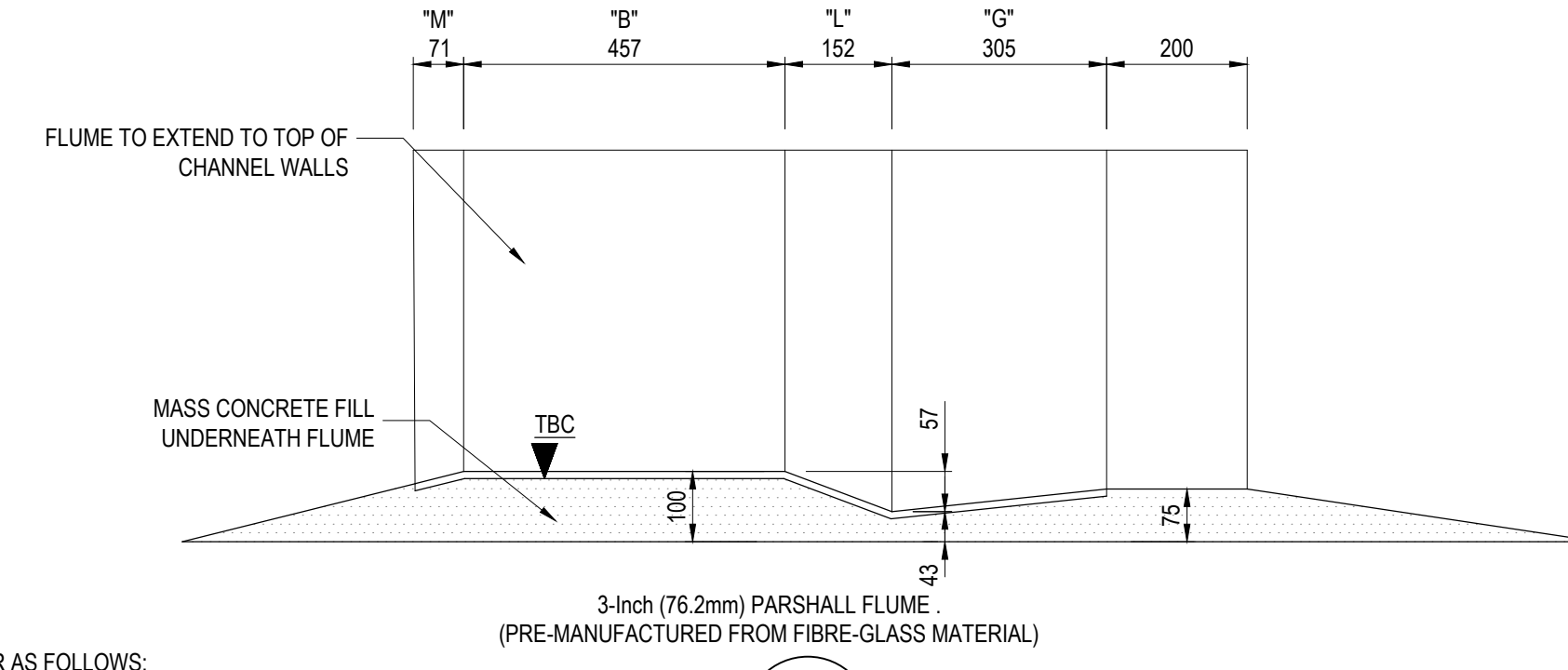
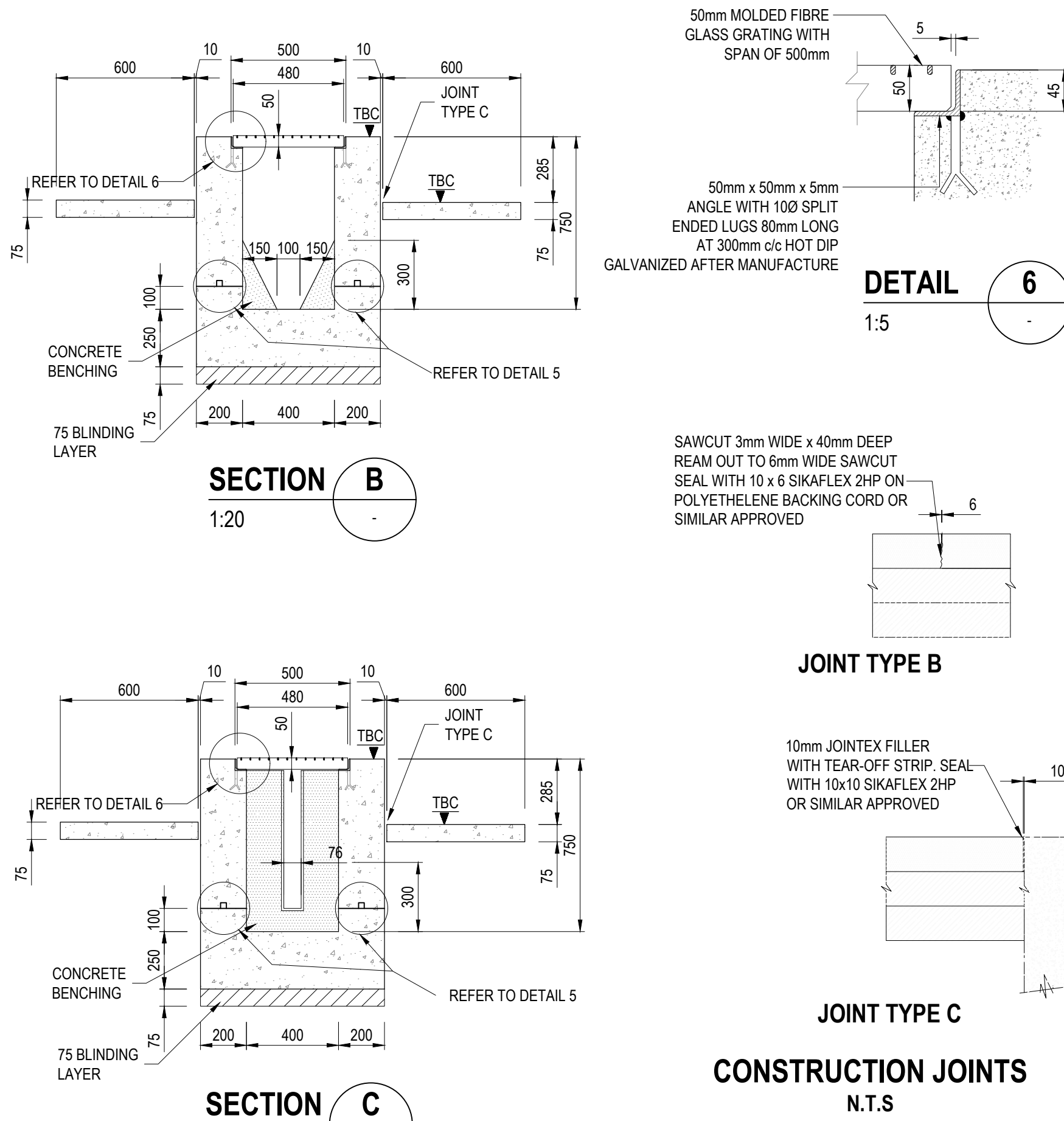
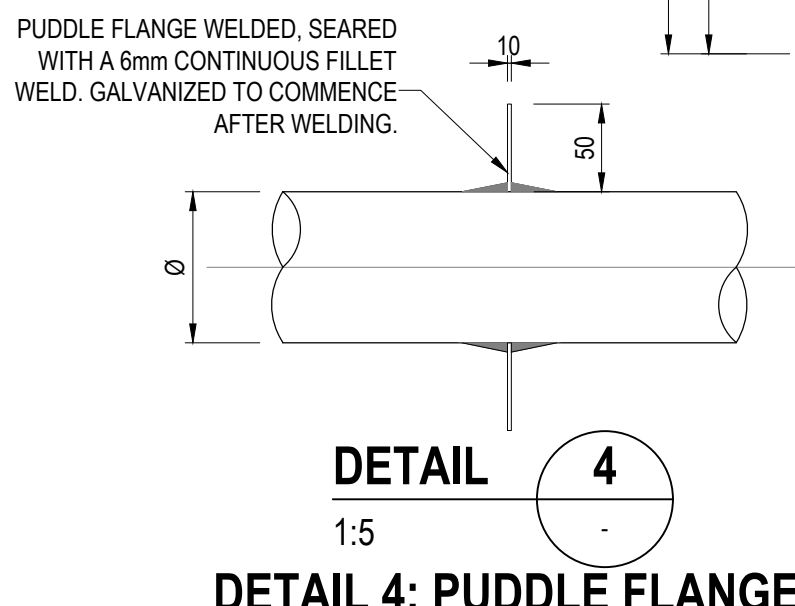
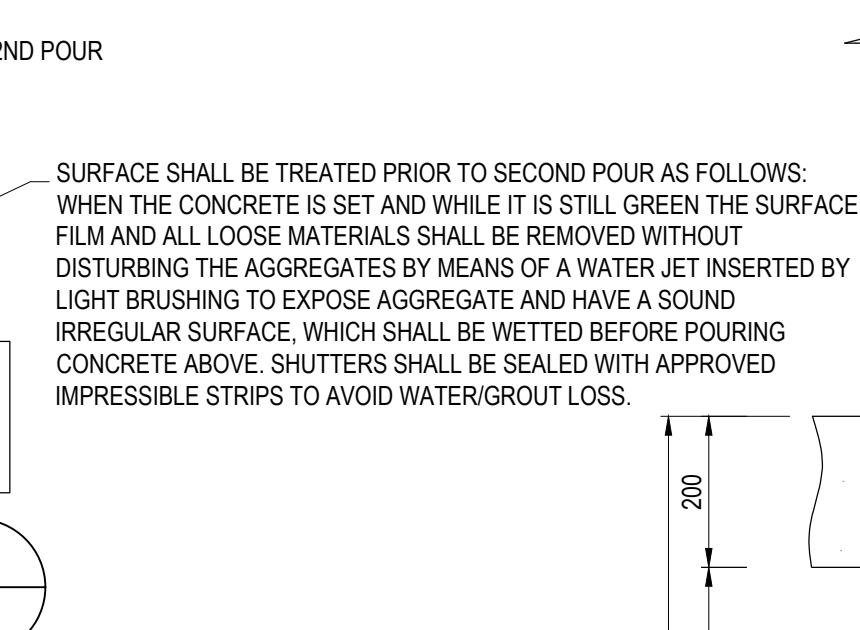
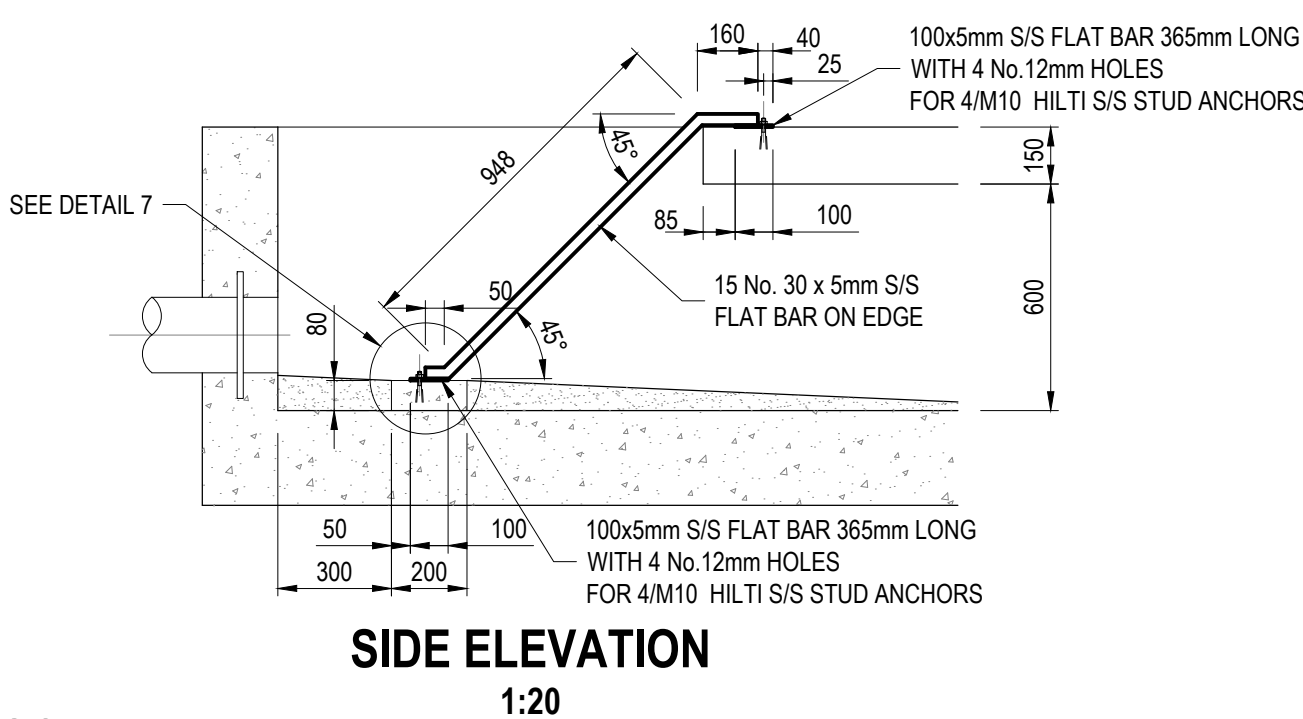
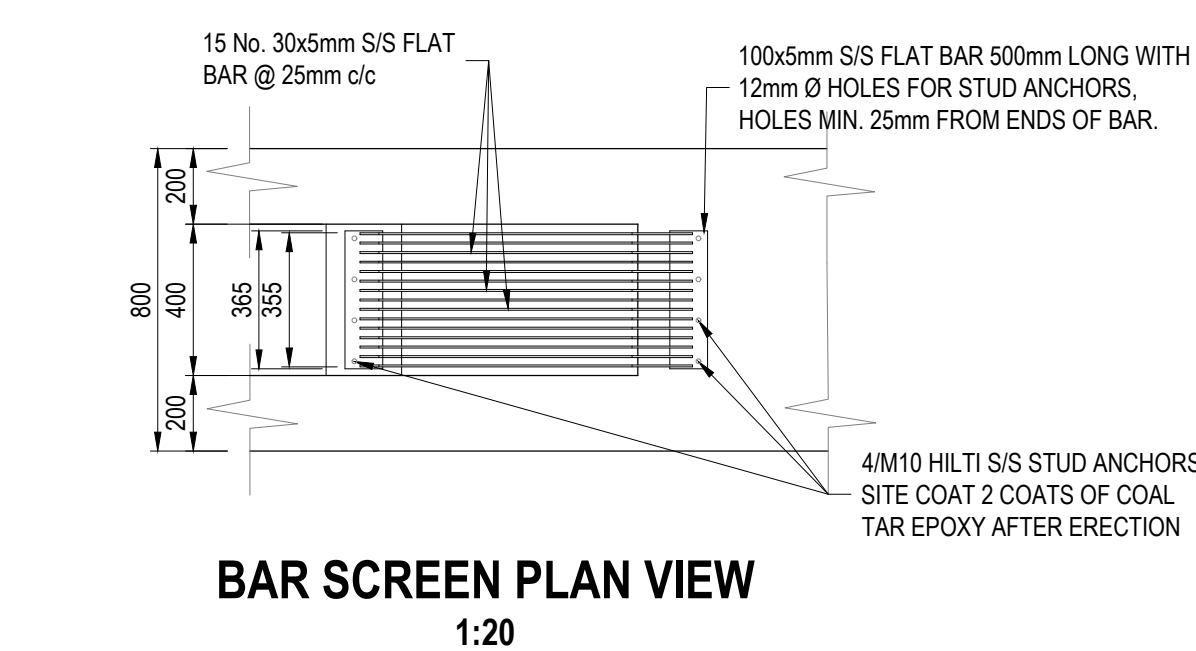
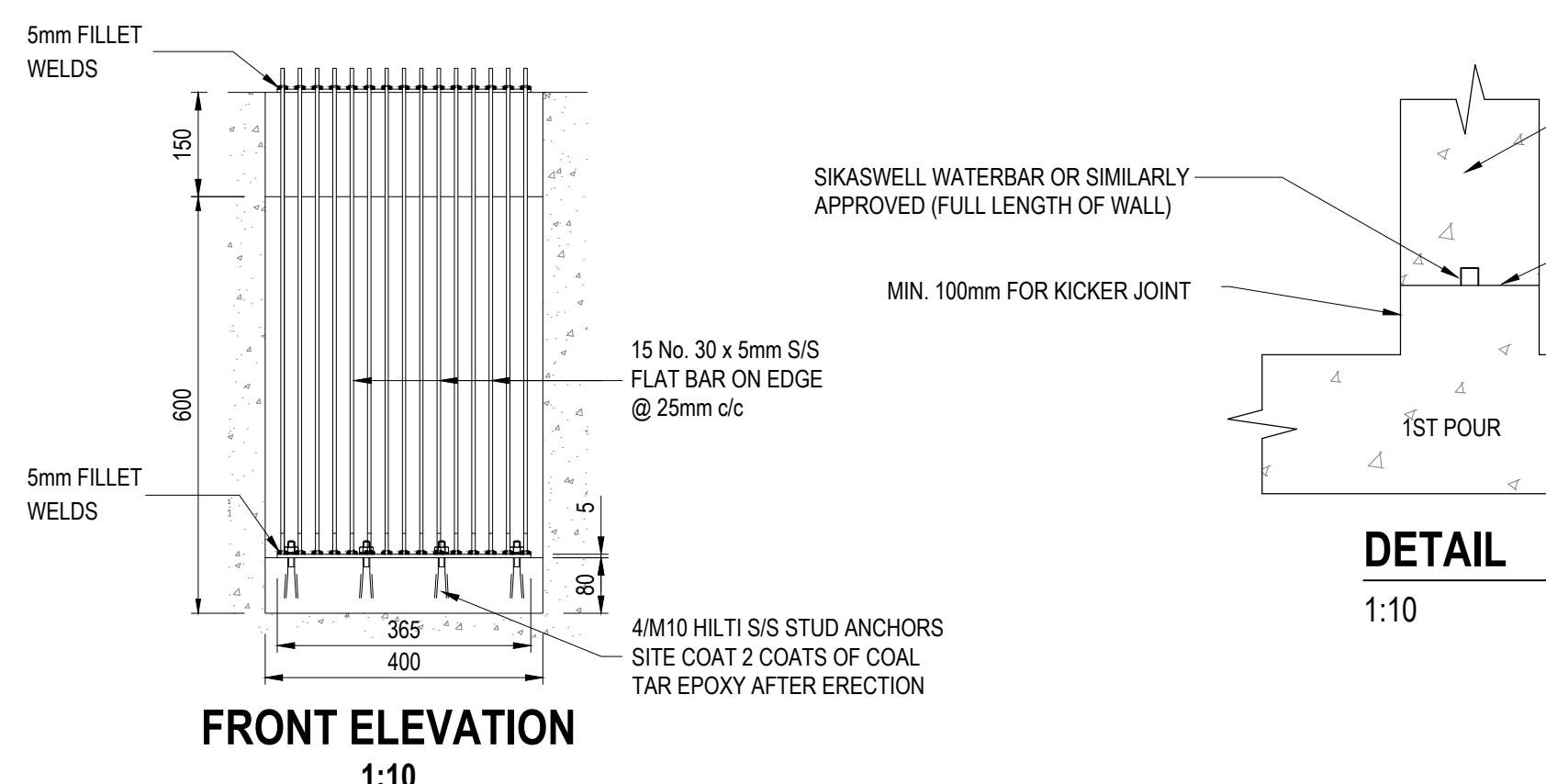
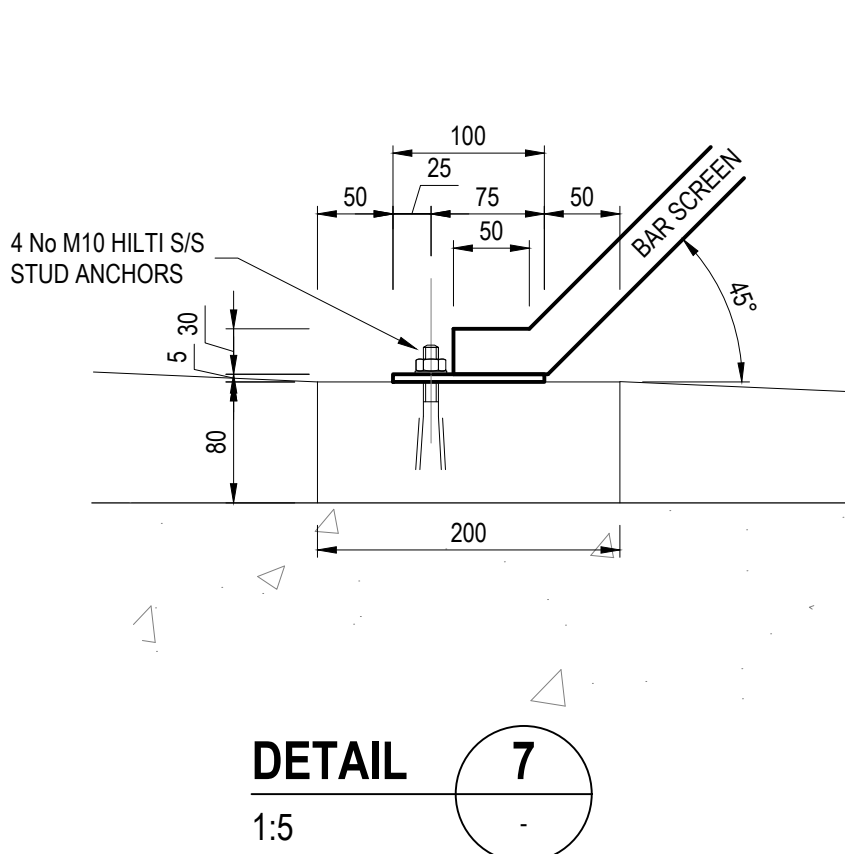
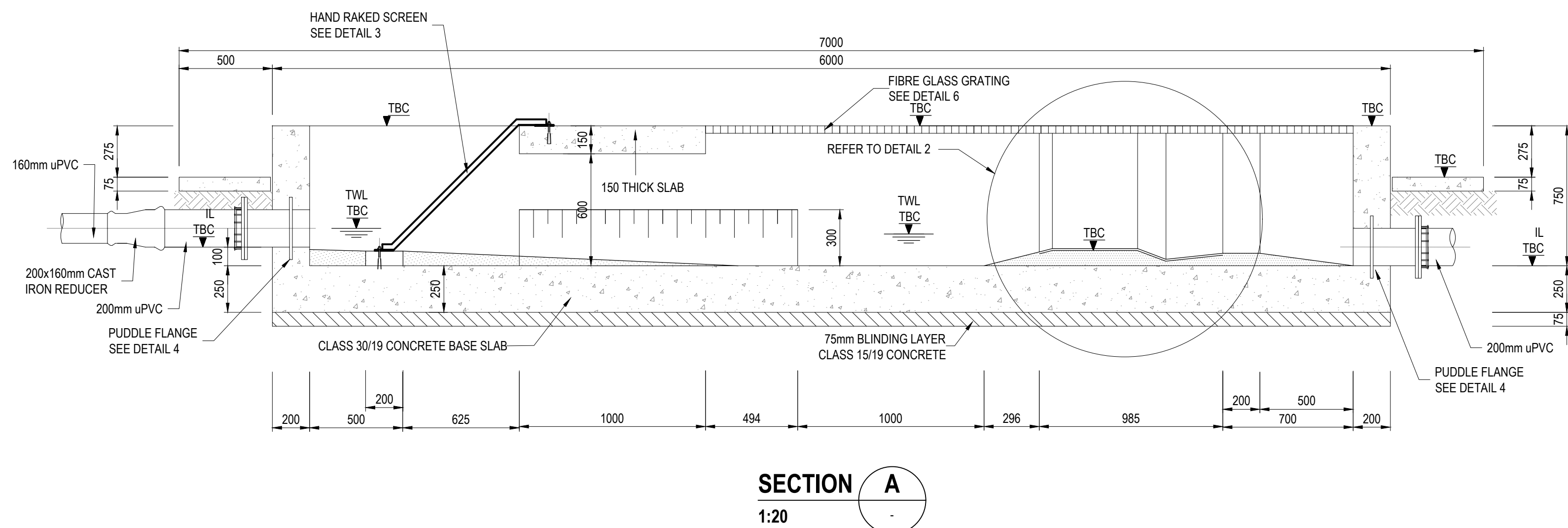
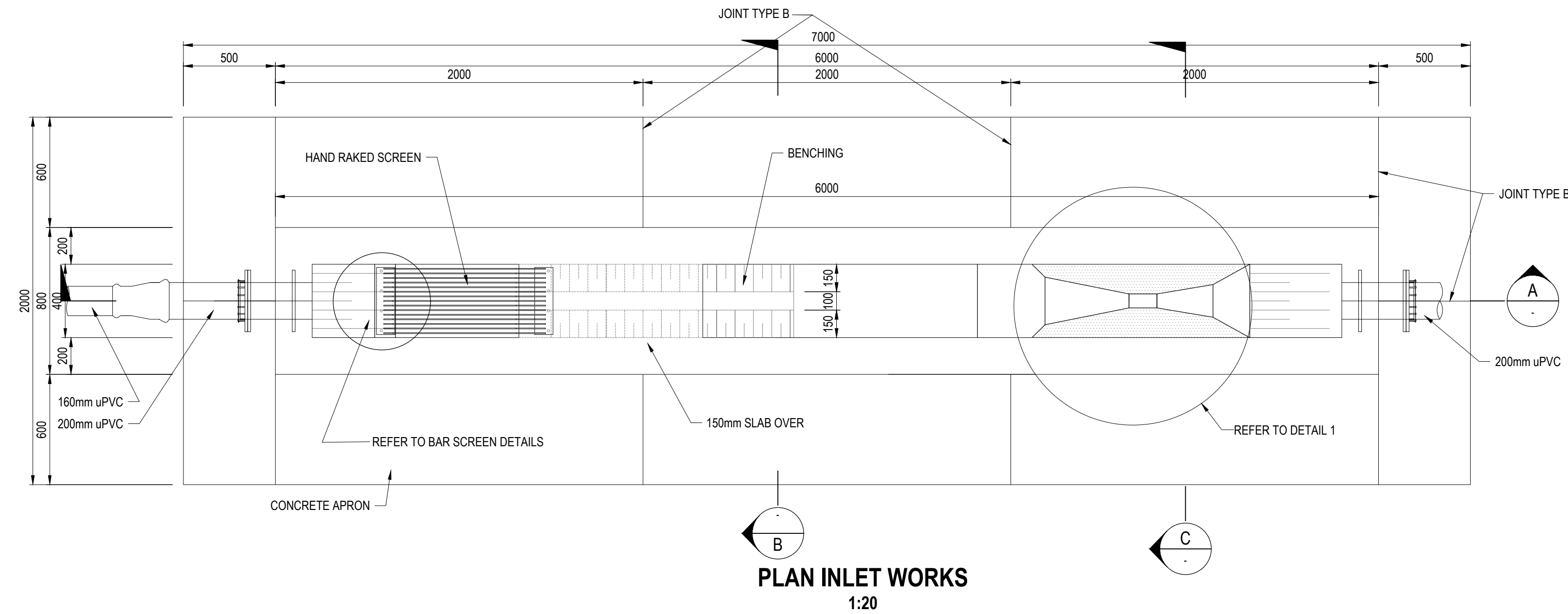
OMH CONSULTING (Pty) Ltd

DATE _____

CLIENT APPROVAL

DATE _____

CONTRACT No. AW2023/24/06		ORIGINAL DRAWING SIZE: A1	
PROJECT No. ROM-131-07-076-04-08		DRAWING No. A1	REV No. 




GENERAL NOTES

PARSHALL FLUME NOTES:

- PARSHALL FLUMES SHALL BE CONSTRUCTED OR PRE-FABRICATED FROM DURABLE AND CORROSION-RESISTANT MATERIALS.
- IN THE CASE OF PRE-FABRICATED FLUMES, GRP MATERIAL IS PREFERRED. PROPOSALS TO USE ALTERNATIVE MATERIALS SHALL BE SUBMITTED TO THE EMPLOYERS AGENT IN WRITING FOR APPROVAL.
- ALLOWABLE CONSTRUCTION DEVIATION TOLERANCES FOR THE PARSHALL FLUME AS FOLLOWS:
 - ON BOTTOM THROAT WIDTH "b", 0.2% OF b WITH ABSOLUTE MAXIMUM OF 0.01m.
 - ON POINT DEVIATIONS FROM A PLANE SURFACE IN THE THROAT, 0.1% OF "L".
 - ON WIDTH BETWEEN VERTICAL SURFACES IN THE THROAT, 0.2% OF WIDTH WITH A MAXIM. OF 0.01m.
 - ON AVERAGE LONGITUDINAL AND TRANSVERSE SLOPES OF THE BASE OF THE THROAT, 0.1%.
 - ON SLOPE OF INCLINED SURFACES IN THE THROAT, 0.1%.
 - ON THROAT LENGTH, 1% OF "L".
 - ON POINT DEVIATIONS FROM A PLANE SURFACE IN ENTRANCE TRANSITION TO THE THROAT, 0.1% OF "L".
 - ON POINT DEVIATIONS FROM A PLANE SURFACE IN THE EXIT TRANSITION FROM THE THROAT, 0.3% OF "L".
 - ON DEVIATIONS FROM A PLANE OR CURVE ON OTHER VERTICAL OR INCLINED SURFACES, 1%.
 - ON DEVIATION FROM A PLANE OF THE BED OF THE LINED APPROACH CHANNEL, 0.1% OF "L".
- THE STRUCTURE TO BE MEASURED ON COMPLETION OF CONSTRUCTION AND AVERAGE VALUES OF RELEVANT DIMENSIONS AND THEIR STANDARD DEVIATIONS AT 95% CONFIDENCE LIMITS SHALL BE COMPUTED.
- THE AVERAGE VALUES OF DIMENSIONS TO BE USED FOR COMPUTING DISCHARGE OF THEIR STANDARD DEVIATIONS TO OBTAIN THE OVERALL UNCERTAINTY IN THE DETERMINATION OF DISCHARGE.
- THE VOIDS BETWEEN THE FLUME AND THE CONCRETE WALLS AND UNDERNEATH TO BE CAREFULLY FILLED WITH CLASS 15/19 MASS CONCRETE.
- A METHOD STATEMENT FOR CONSTRUCTING AND/OR INSTALLING THE FLUME TO BE SUBMITTED IN WRITING TO THE EMPLOYERS AGENT FOR APPROVAL.

No.	DATE	DESCRIPTION	CHECKED

CLIENT:




AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL RANDWAVE HOLDINGS (PTY) LTD TRA ROMH CONSULTING
51 BALFOUR ROAD
VINCENT
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA SENIOR SECONDARY SCHOOL

DRAWING TITLE:


INLET WORKS: PLAN, SECTIONS AND DETAILS

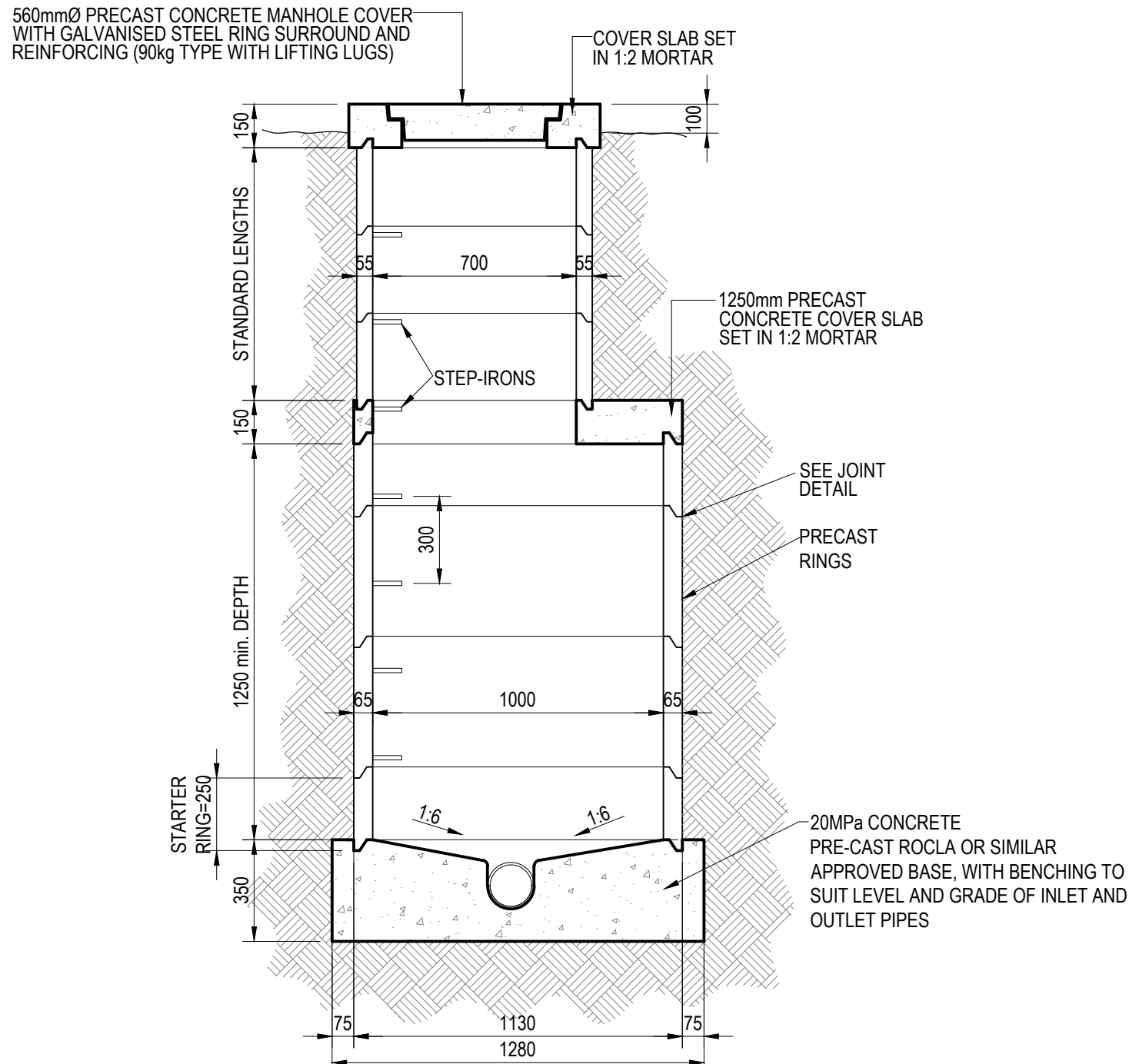
DESIGNED:	A.MAYEKISO	DRAWN:	Q.MABUSELA
DESIGNED CHECKED:	S.XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		

DESIGN COORDINATOR APPROVAL

ROMH CONSULTING (Pty) Ltd DATE

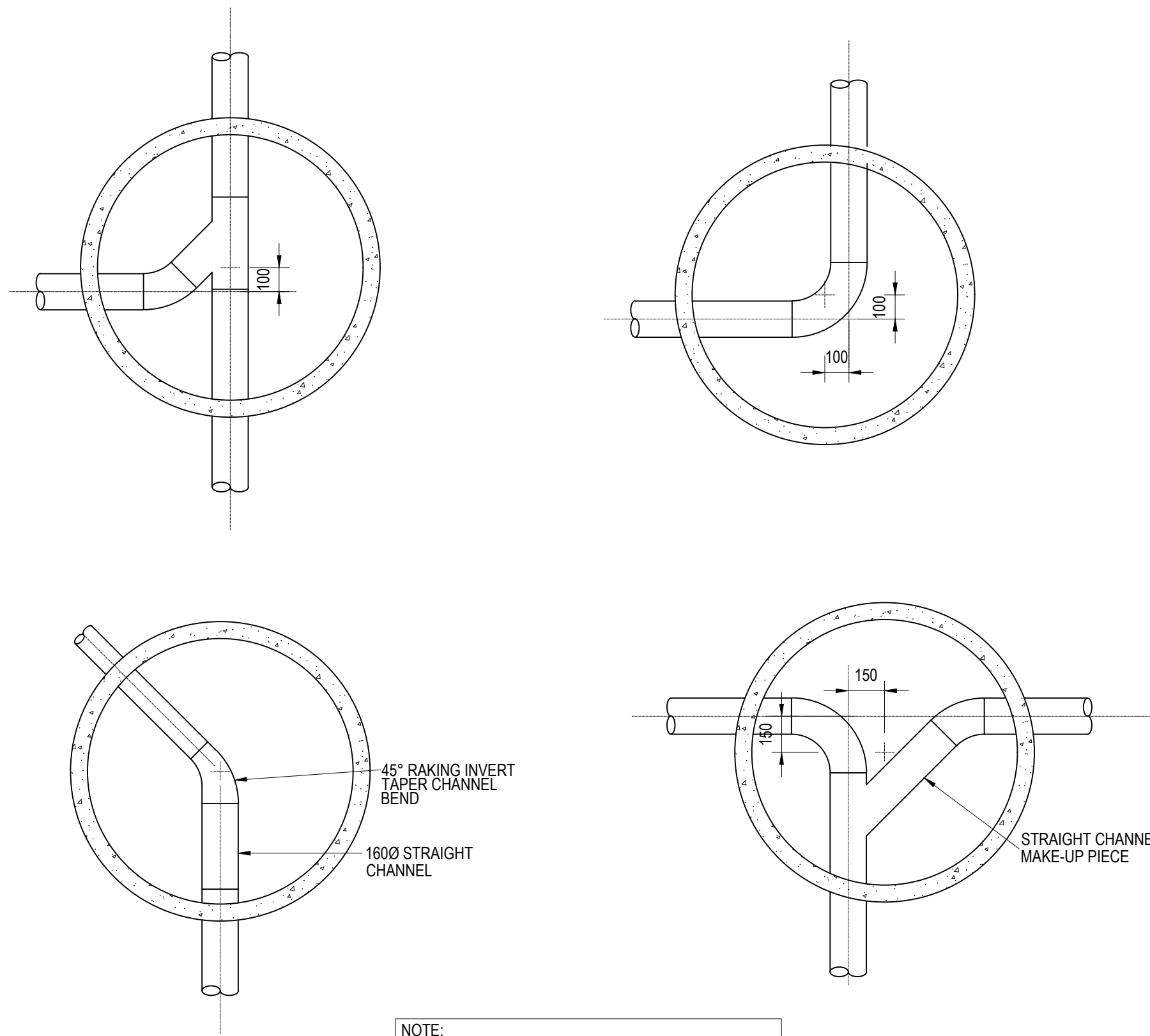
CLIENT APPROVAL DATE

CONTRACT No. AW2023/24/06	ORIGINAL DRAWING SIZE: A1
PROJECT No. ROM-131-07-06-04-11	DRAWING No. A1
	REV No. 



>1500mm DEEP PRECAST SEWER MANHOLE

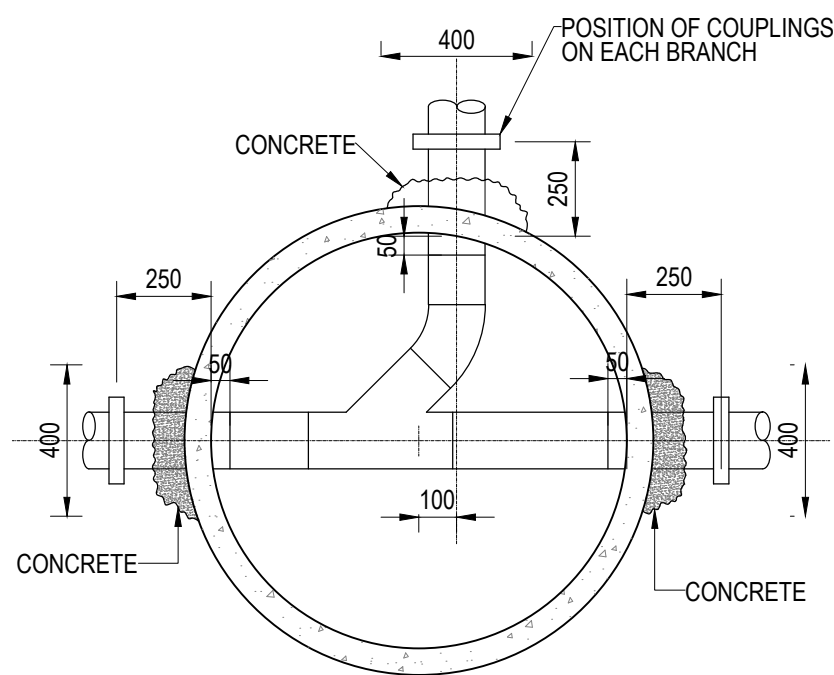
1:20



- NOTE:
1. CENTRES OF MANHOLES TO BE OFFSET FROM PIPELINE CENTRE LINES AS DIMENSIONED.
 2. LONG RADIUS CHANNEL BENDS TO BE USED IN ALL INSTANCES.

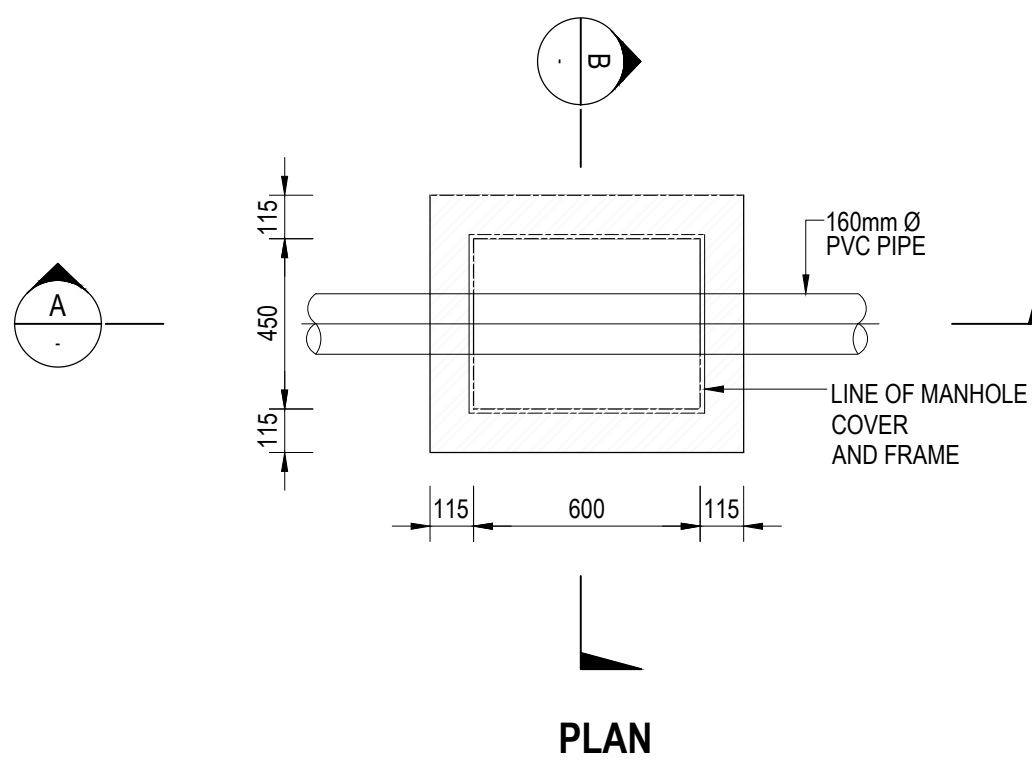
TYPICAL ARRANGEMENTS OF 160mm

CHANNELS IN MANHOLE FLOOR



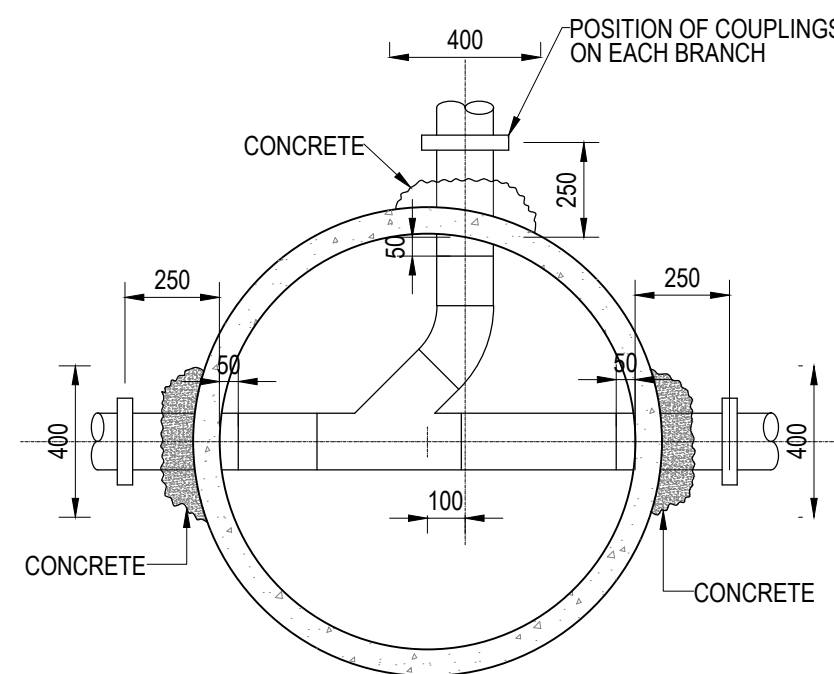
PLAN - PRECAST SEWER MANHOLE

1:20



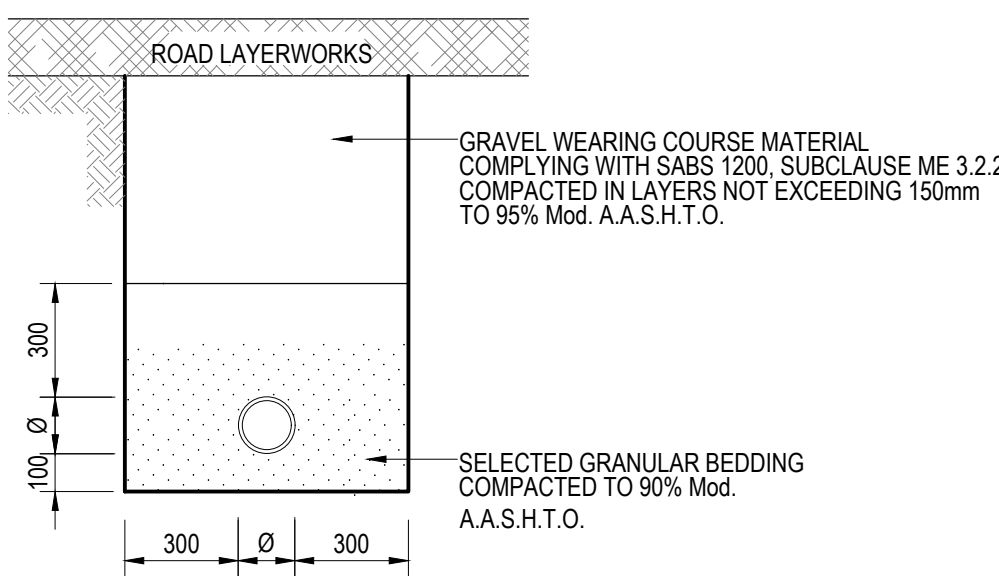
PLAN

1:20



PLAN - PRECAST SEWER MANHOLE

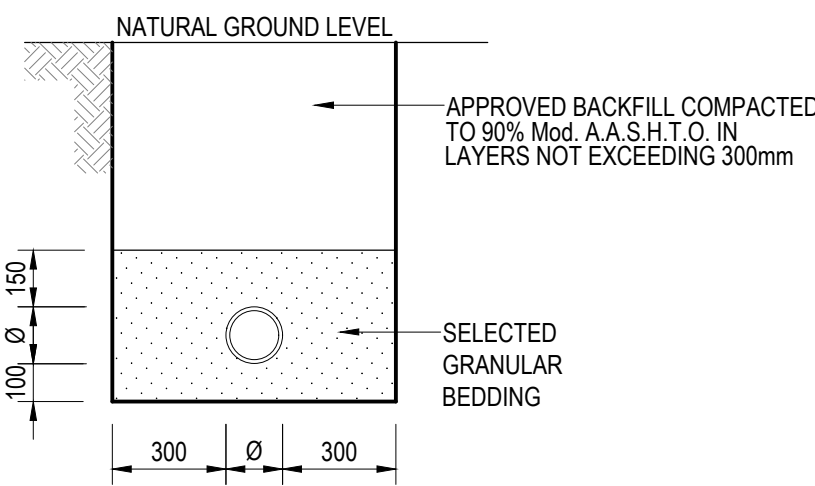
1:20



TYPICAL TRENCH DETAIL FOR SEWERS

IN AREAS SUBJECT TO TRAFFIC LOADS

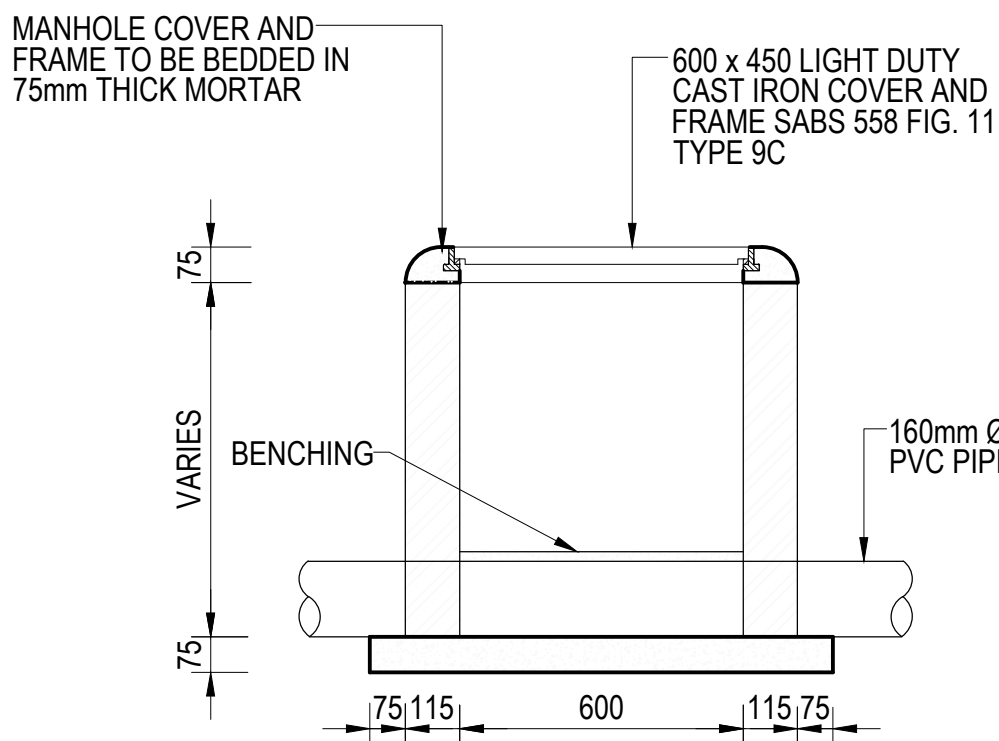
1:20



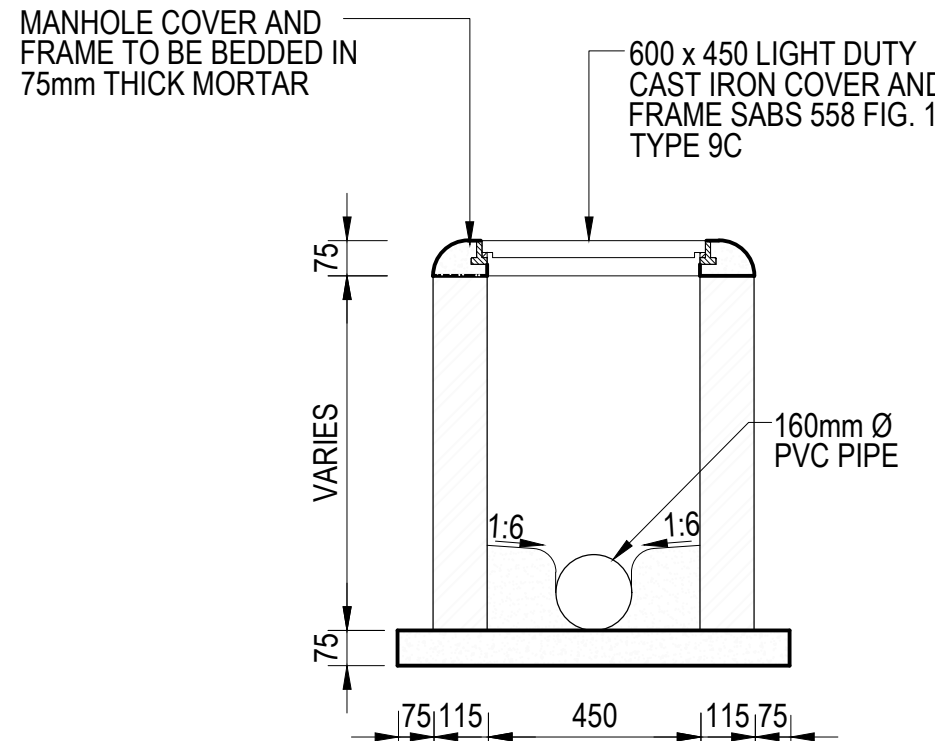
TYPICAL TRENCH DETAIL FOR SEWERS

IN AREAS NOT SUBJECT TO TRAFFIC LOADS

1:20



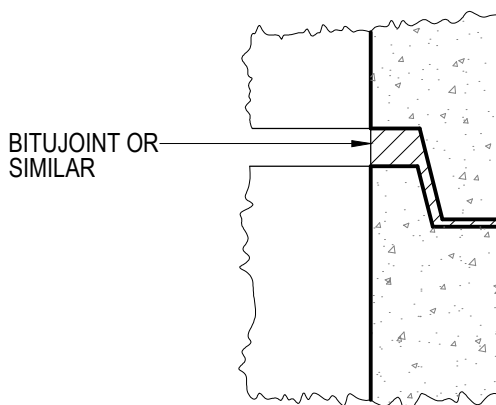
SECTION A
1:20



SECTION B
1:20

< 1500mm DEEP PRECAST SEWER MANHOLE

1:20



DETAIL OF JOINT SEAL

1:20

GENERAL NOTES

1. STEEL BAR INSERTS TO MANHOLE LIDS TO BE HEAVY DUTY HOT DIPPED GALVANISED TO SANS 763 AFTER MANUFACTURING.
2. THE POSITION OF THE INSPECTION CHAMBER IS TO BE CONFIRMED BY THE EMPLOYER'S AGENT BEFORE CONSTRUCTION.
3. THIS DRAWING SHOWS TYPICAL DETAILS APPLICABLE TO ALL TYPES OF PIPES.
4. CHANNELS AND SPECIALS TO BE OF THE SAME MATERIAL AS THE PIPE.
5. STARTER RING TO BE 500mm NOMINAL HEIGHT.
6. ALL CONCRETE TO BASE AND ENCASEMENT TO BE CLASS 20/19. ALL BENCHING TO BE CONCRETE CLASS 20/13.
7. BENCHING ABOVE THE CHANNEL TO BE VERTICAL WITH REMAINDER TO BE AT SLOPE OF 1:3.
8. ALL PIPES TO PROTRUDE 100mm MIN. INTO MANHOLE.
9. ALL MANHOLES TO HAVE FLEXIBLE JOINTS AS DETAILED IN SANS 1200LD.
10. ALL PRECAST ELEMENTS TO COMPLY WITH SANS 677 & 1294.
11. NO MANHOLE IS TO BE BACKFILLED WITHOUT THE PERMISSION OF THE EMPLOYER'S AGENT.
12. ALL TERMINAL MANHOLES ARE TO BE BRICKED-UP AND SEALED WITH AN APPROVED SEALANT.

NOTE: ANY REFERENCE TO A SABS STANDARD, IN ANY CONTEXT OR FORM, WILL BE DEEMED TO BE A REFERENCE TO THE CORRESPONDING SANS STANDARD, AND VICE VERSA.

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEARNWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

SEWER MANHOLE, TRENCH AND
INSPECTION CHAMBER DETAILS

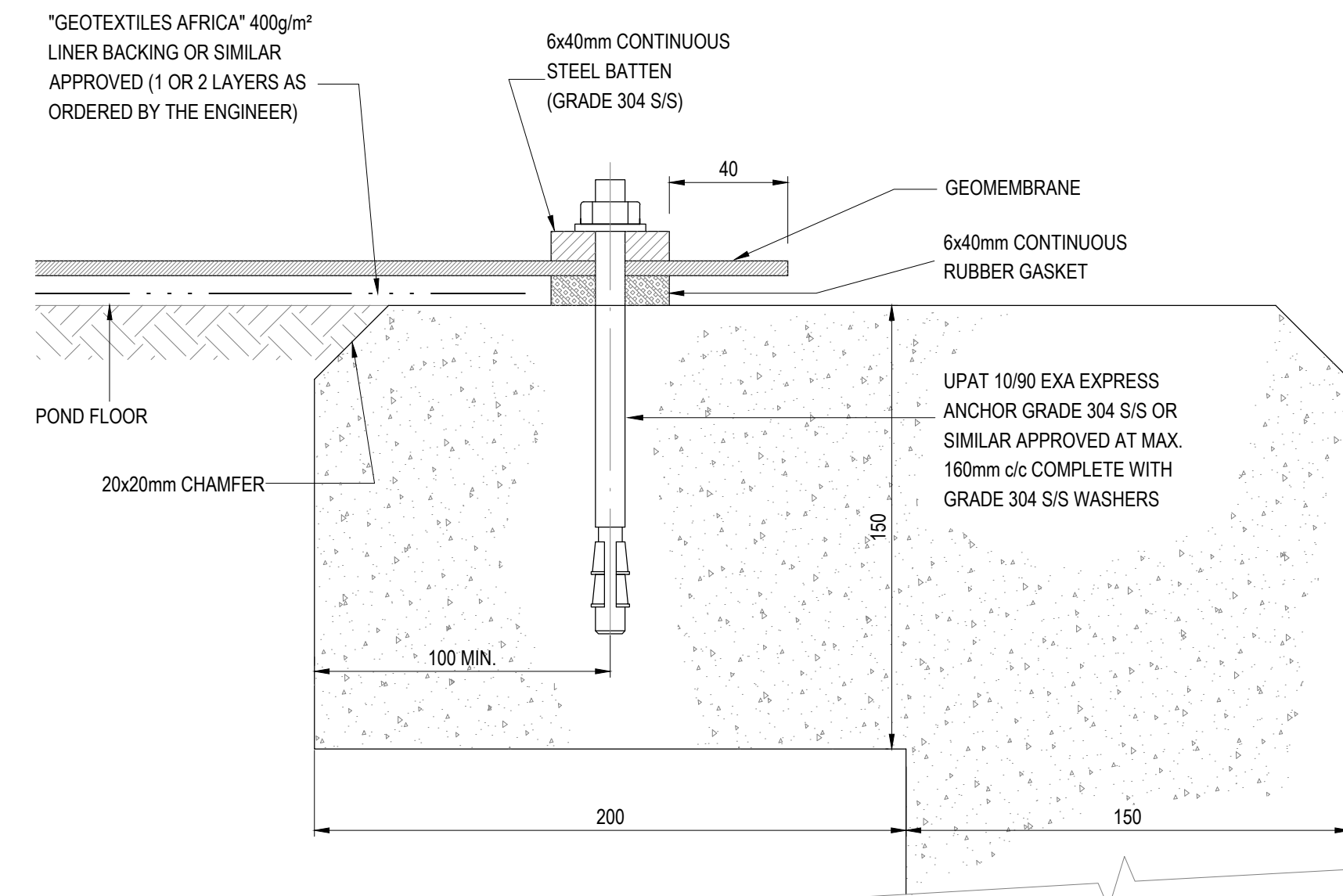
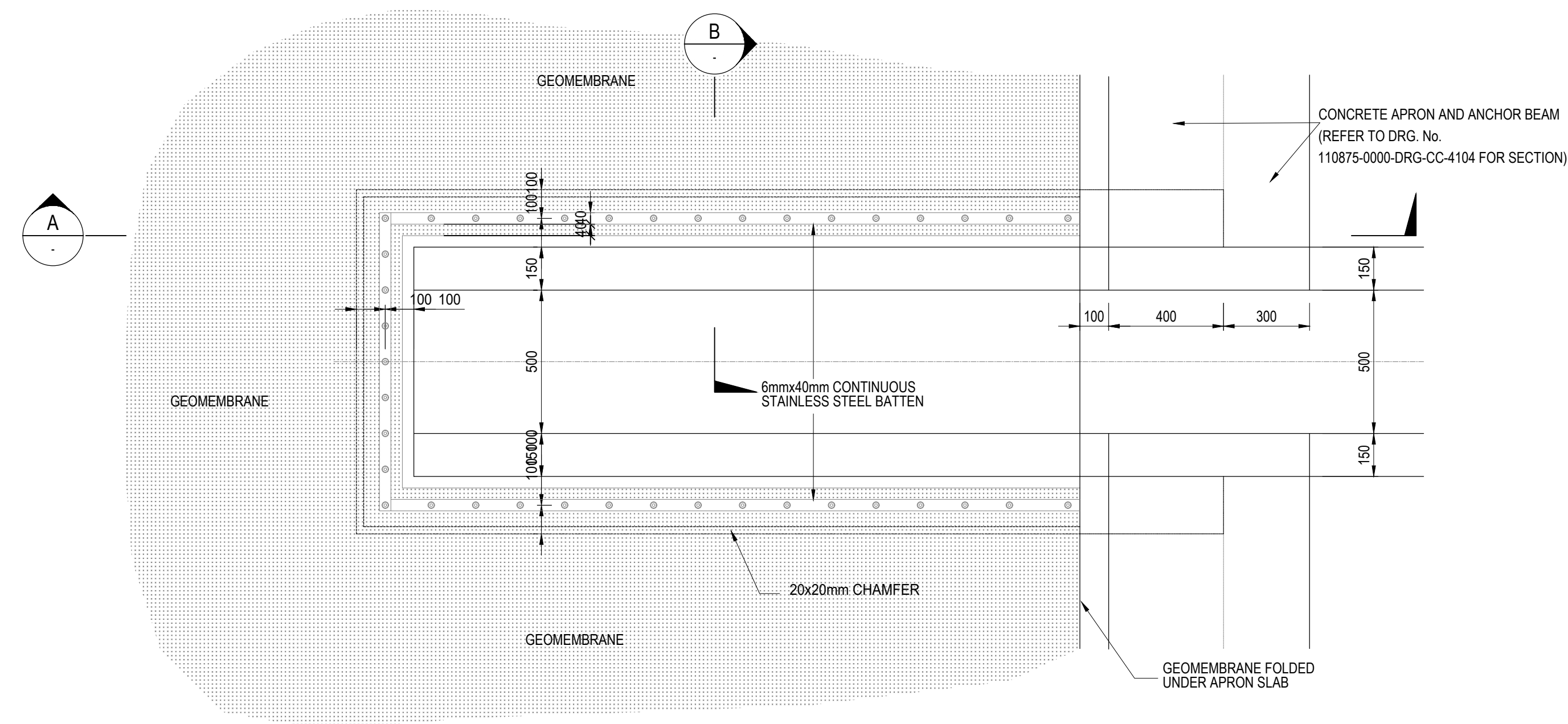
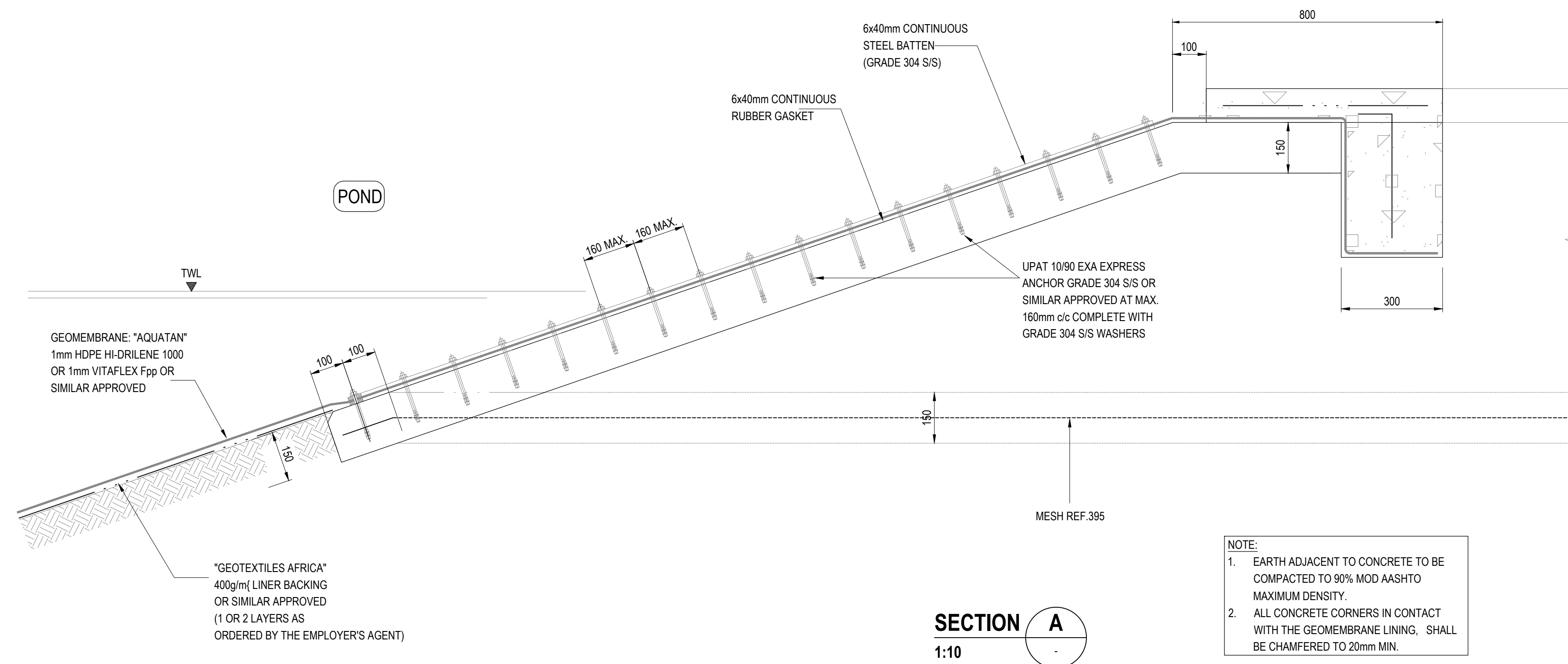
DESIGNED:	A.MAYEKISO	DRAWN:	Q.MABUSELA
DESIGNED CHECKED:	S.XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		

DESIGN COORDINATOR APPROVAL

ROMH CONSULTING (Pty) Ltd DATE

CLIENT APPROVAL DATE

CONTRACT No.	AW2023/24/06	ORIGINAL DRAWING SIZE:	A1
PROJECT No.	ROM-131-07-076-04-12	DRAWING No.	A1
		REV No.	0



GENERAL NOTES

No.	DATE	DESCRIPTION	CHECKED

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: Indubela@amatolawater.co.za
Web: www.amatolwater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA SENIOR SECONDARY SCHOOL

DRAWING TITLE:

SEWER: POND LINING DETAILS
(SHEET 2 OF 3)

DESIGNED:	A.MAYEKISO	DRAWN:	Q.MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		


DESIGN COORDINATOR APPROVAL

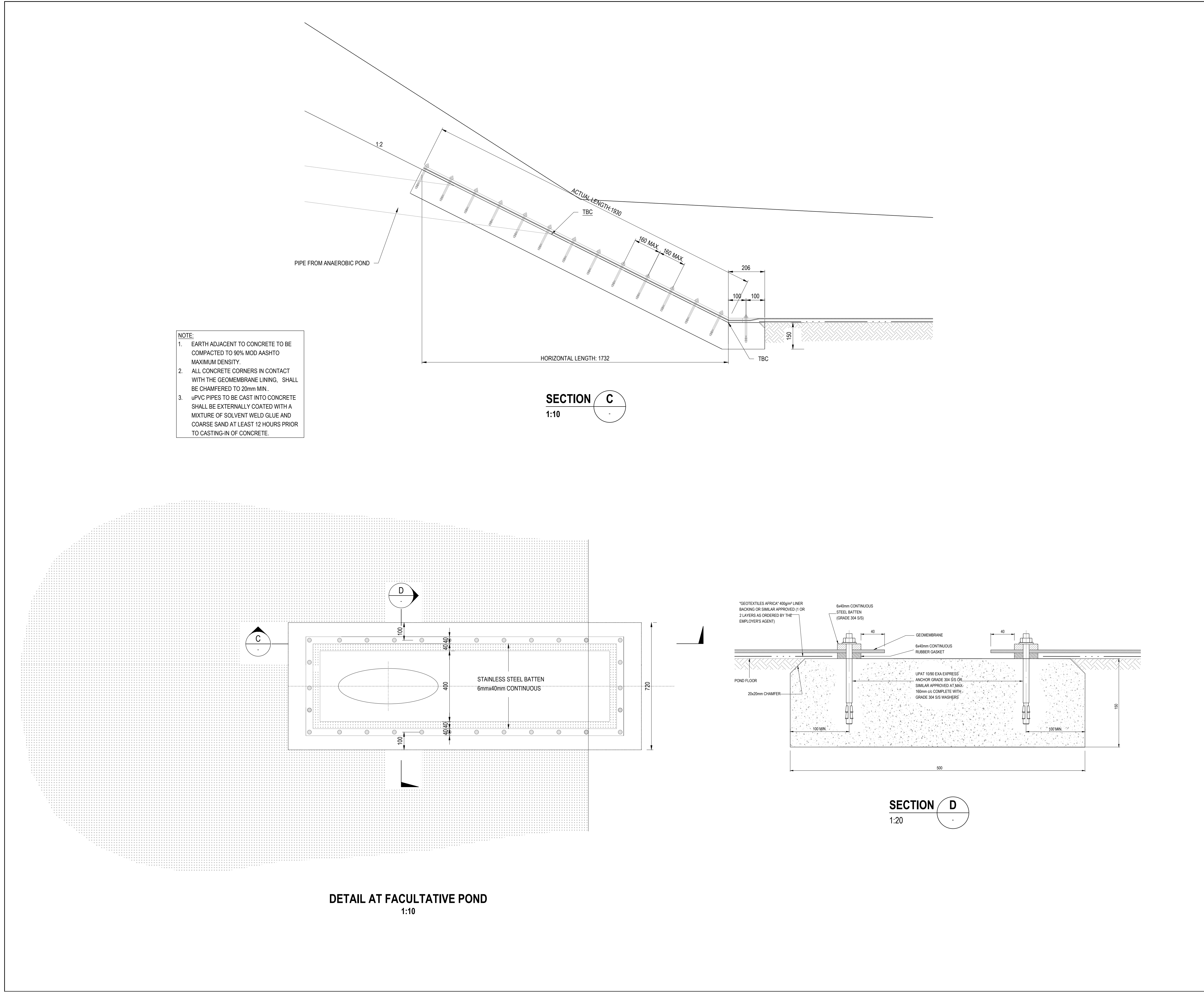
ROMH CONSULTING (Pty) Ltd

DATE _____

CLIENT APPROVAL

DATE _____


CONTRACT No. AW2023/24/06	ORIGINAL DRAWING SIZE: A1
PROJECT No. ROM-131-07-076-04-15	DRAWING No. A1
	REV No. 



GENERAL NOTES

No.	DATE	DESCRIPTION	CHECKED

CLIENT:




AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL

DRAWING TITLE:

SEWER: POND OVERFLOW
CHANNEL DETAILS

DESIGNED:	A.MAYEKISO	DRAWN:	Q.MABUSELA
DESIGNED CHECKED:	S.XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		

DESIGN COORDINATOR APPROVAL

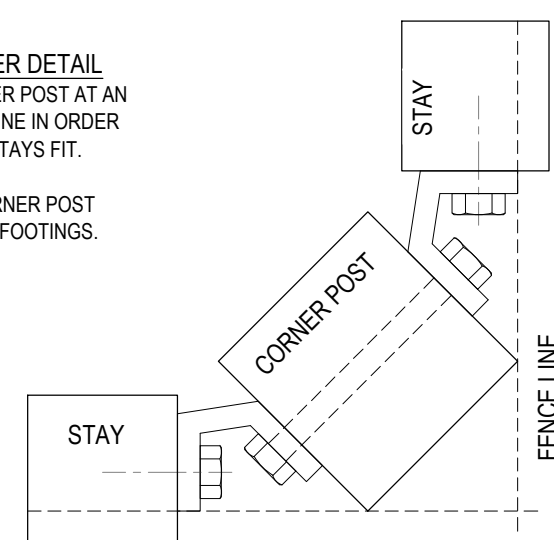
ROMH CONSULTING (Pty) Ltd

DATE

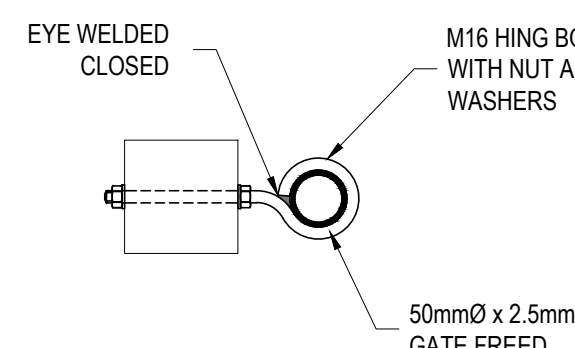
CLIENT APPROVAL

DATE

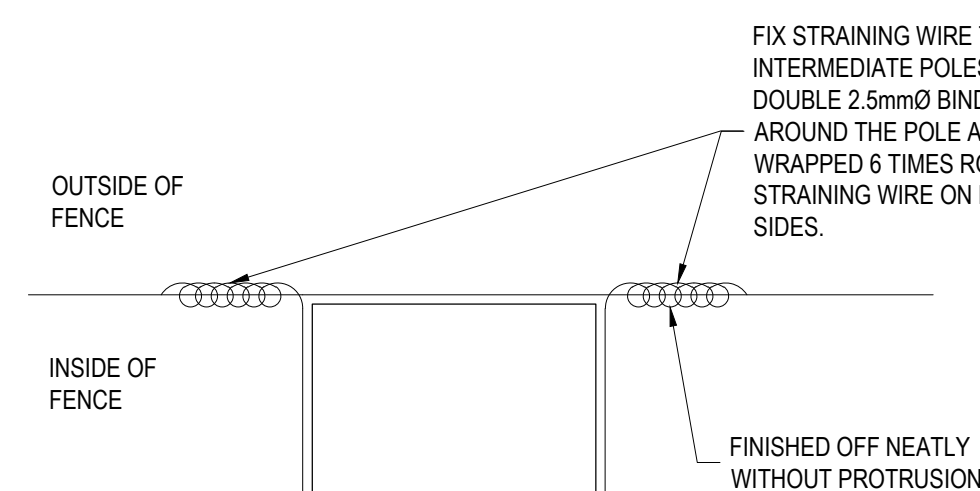
CONTRACT No.	ORIGINAL DRAWING SIZE:	
AW2023/24/06	A1	
PROJECT No.	DRAWING No.	REV No.
ROM-131-07-076-04-16	A1	0



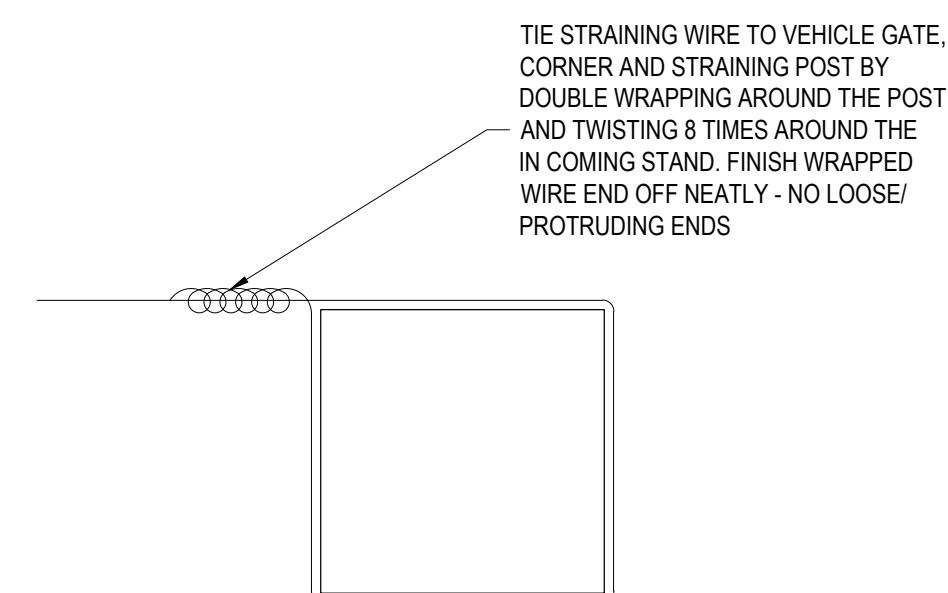
PLAN VIEW
NOT TO SCALE



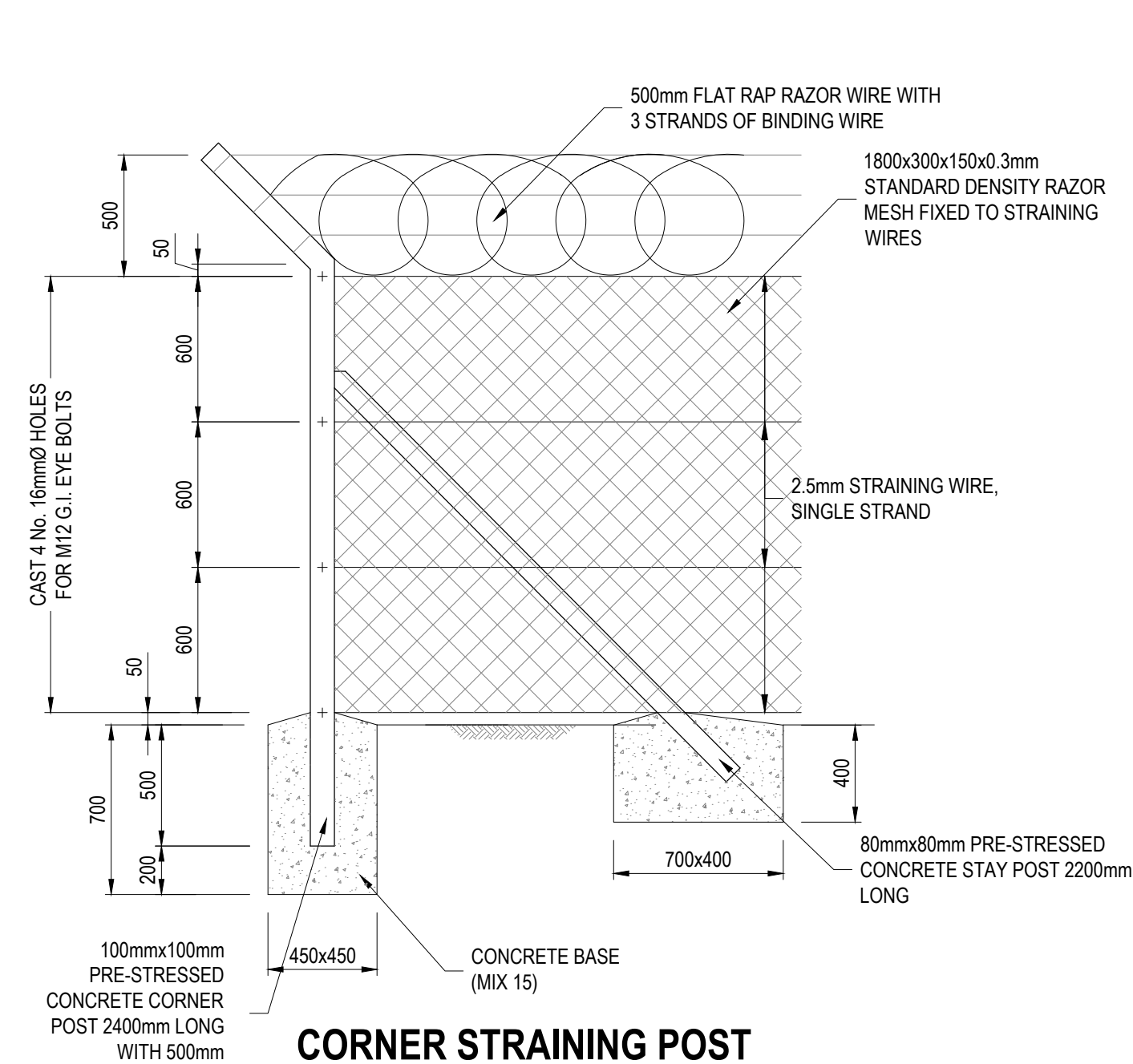
TYPICAL HINGE BOLT FOR GATE
1:25



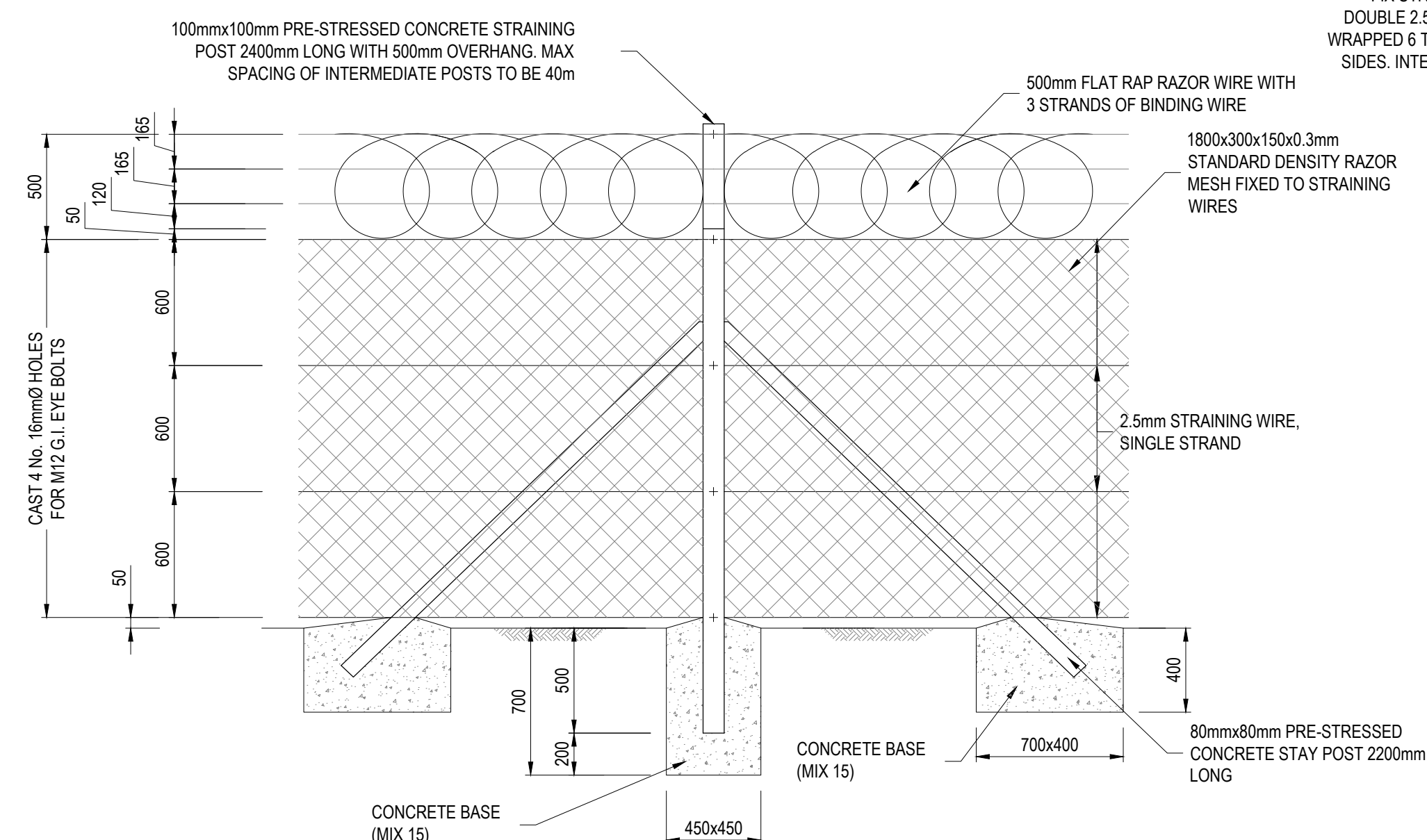
INTERMEDIATE POST
1:5



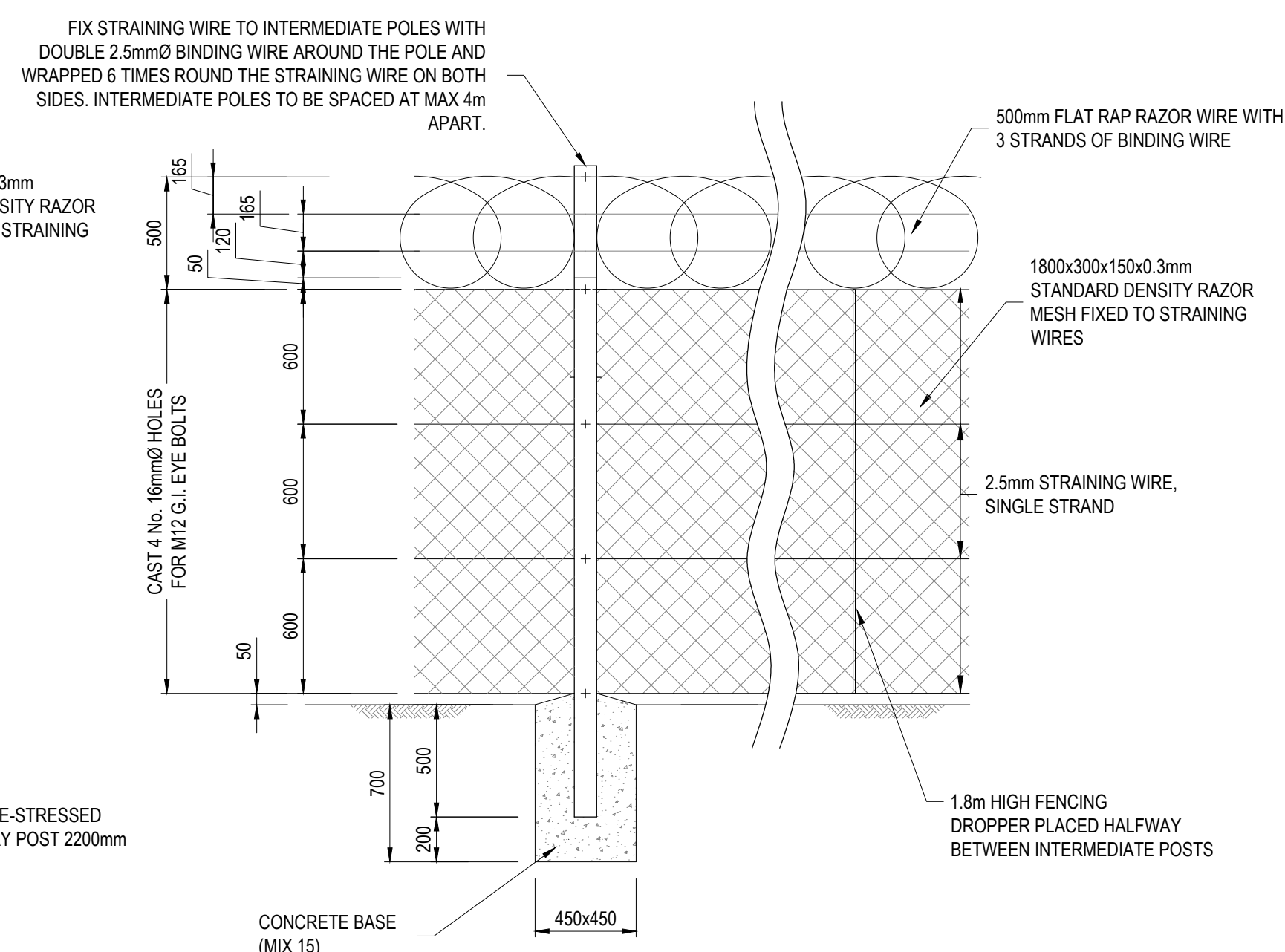
CORNER STRAINING POST
1:5



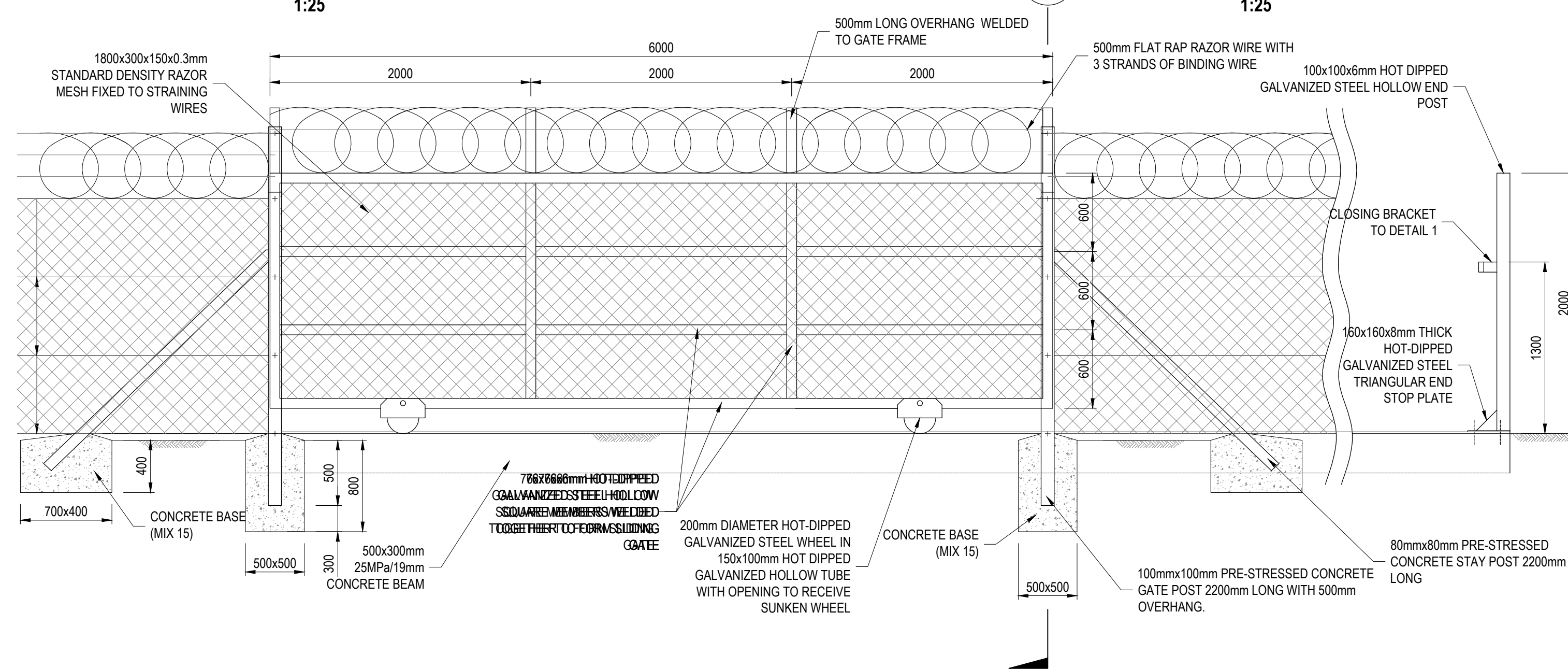
CORNER STRAINING POST
1:25



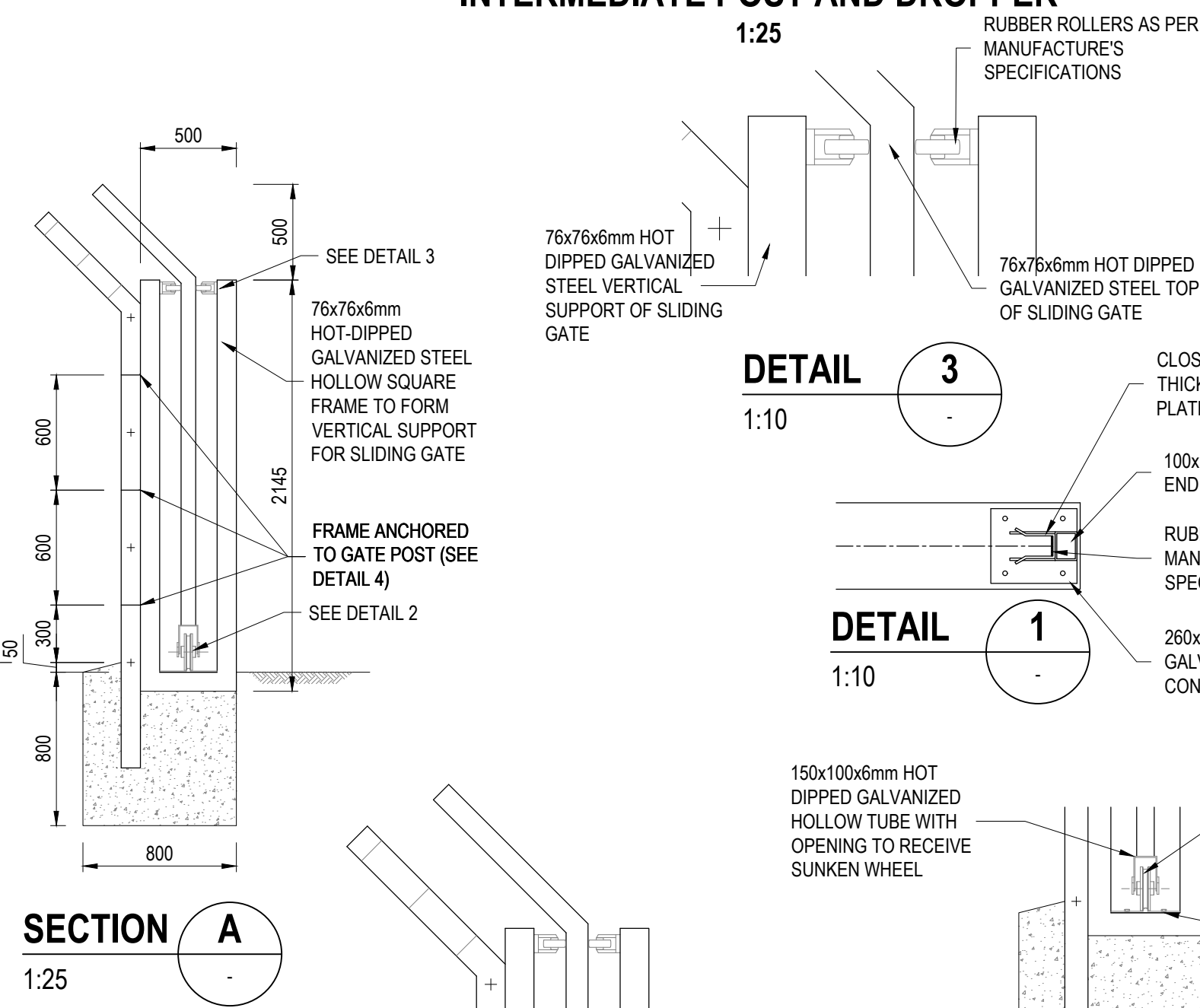
STRAINING POST
1:25



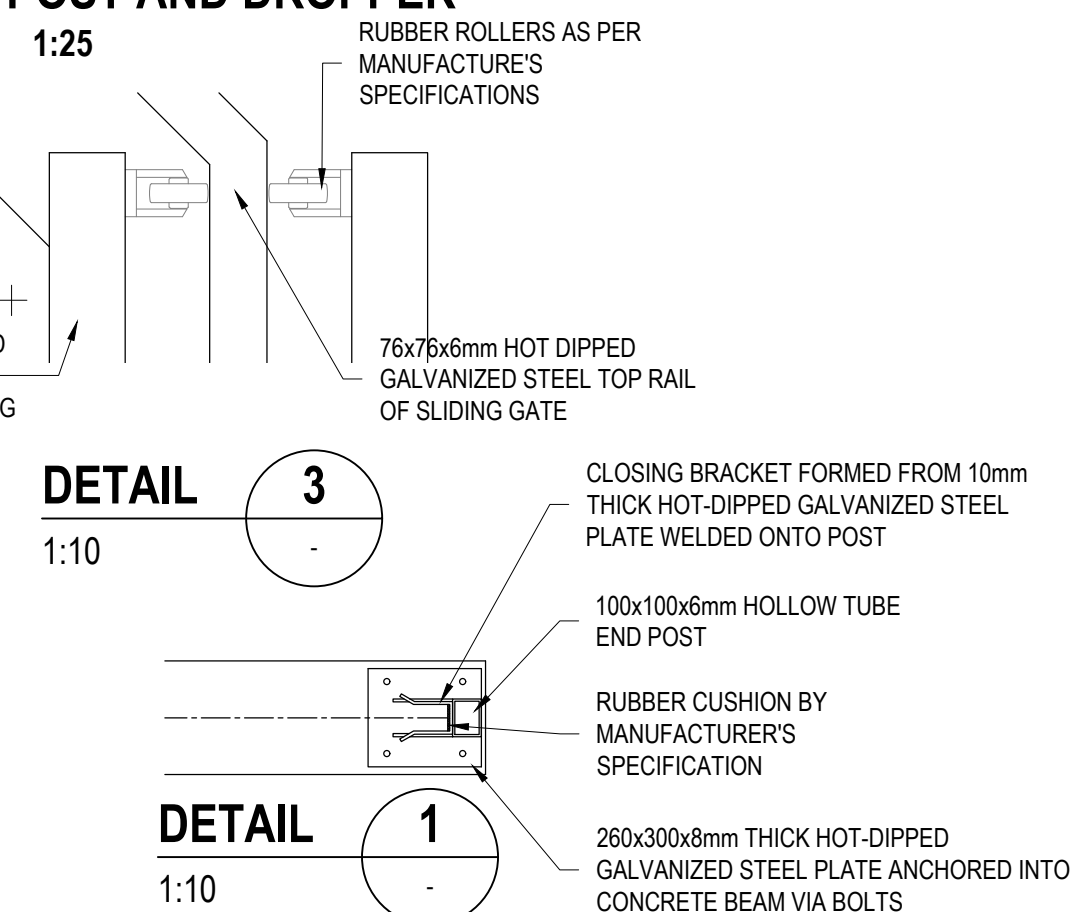
INTERMEDIATE POST AND DROPPER
1:25 RUBBER



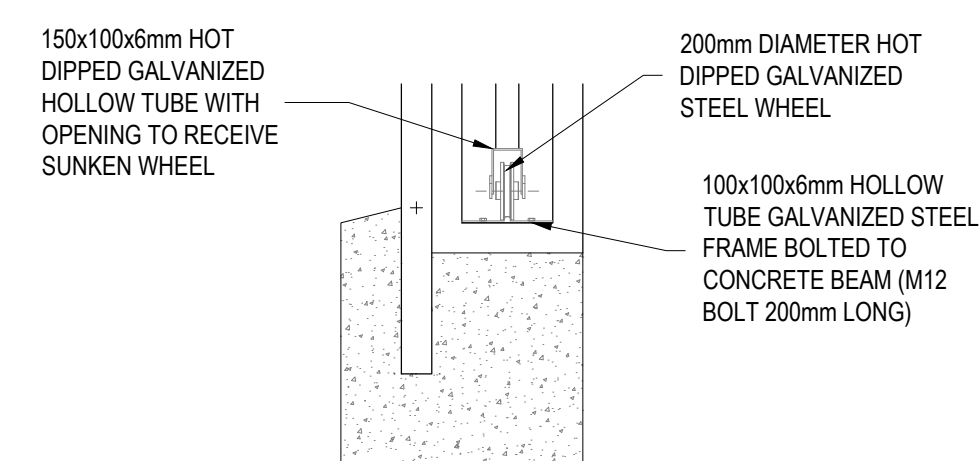
6M LONG SLIDING GATE INCLUDING GATE POSTS
1:25



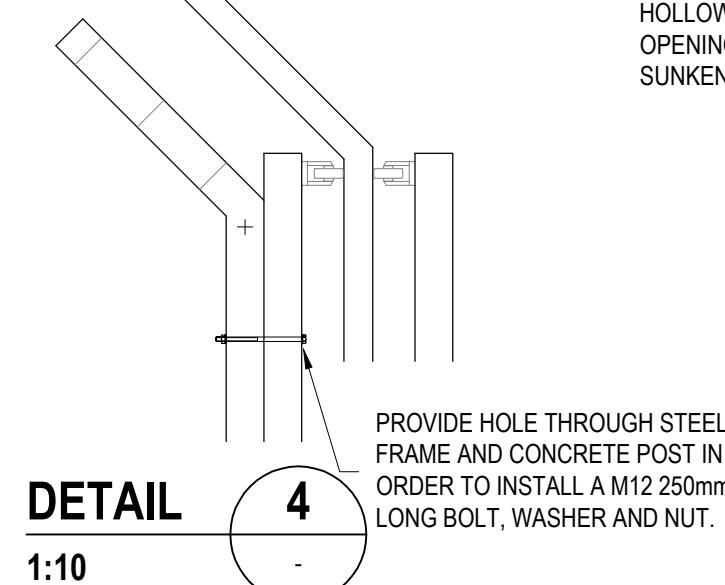
SECTION **A**
1:25



DETAIL **3**
1:10 -



DETAIL **2**
1:10



DETAIL **4**
1:10

	<u>SPECIFICATIONS</u>	<u>GENERAL NOTES</u>
	<p>CLEAN THE AREA 500mm ON EACH SIDE OF THE FENCE ALIGNMENT FOR THE FENCE TO BE ERECTED.</p> <p>IF THE NEW FENCE IS ERECTED IN THE SAME POSITION OF AN EXISTING FENCE, THE EXISTING FENCE MUST BE REMOVED AND THE POLE HOLE EXCAVATION MUST BE FILLED WITH CONCRETE OR THE EXCAVATION MUST BE EARTH FILLED AND COMPACTED TO THE SPECIFICATIONS OF THE EMPLOYERS.</p> <p>IF THE FENCE IS ERECTED IN A ROCKY AREA THE POSTS MAY NOT BE SHORTENED. THE BOLDERS MUST BE REMOVED UNLESS OTHERWISE SPECIFIED BY THE EMPLOYER'S AGENT</p> <p>IN THE CASE WHERE THE CORNERS OF THE FENCE ARE GREATER THAN 90°, THE OPTION OF AN EXTRA STAY MUST BE CONSIDERED ON THE INSIDE OF FENCE.</p> <p>5. THE CONTRACTOR MAY NOT PROCEED WITH THE ERECTION OF THE FENCE WITHOUT THE WRITTEN APPROVAL OF THE EMPLOYERS AGENT THAT THE POLE HOLE EXCAVATIONS AND FENCE MATERIALS HAVE BEEN INSPECTED AND APPROVED</p> <p>6. ALL CONCRETE FOOTINGS MUST BE 150MPa IN STRENGTH AND MUST END 50mm ABOVE GROUND LEVEL AND SHAPED</p> <p>7. ONLY USE 2.5mm GALVANIZED BINDING WIRE TO FIX FLAT WRAP TO STRAINING WIRE AND STRAINING WIRE TO INTERMEDIATE POSTS.</p> <p>MECHANICALLY STRAIN 4 STRANDS OF GALVANIZED STRAINING WIRE BETWEEN STRAINER POSTS. FIX THE STRAINING WIRE TO THE INTERMEDIATE POSTS WITH 2.5mmØ GALVANIZED BINDING WIRE.</p> <p>STRAINING WIRES TO BE 2.5mmØ HIGH STRAIN 1600MPa TENSILE STRENGTH STEEL FENCING WIRE GALVANIZED IN ACCORDANCE WITH SABS 675/SABS 935 TO CLASS A GRADE.</p> <p>FLAT WRAP PLACED ON THE OUTSIDE AND FIXED TO THE STRAINING WIRE WITH 2.5mmØ GALVANIZED BINDING WIRE TIED ON THE INSIDE OF THE FENCE @ 1.0m C/C TOP, MIDDLE AND BOTTOM OF EACH LAYER OF FLAT WRAP.</p> <p>THE FLAT WRAP MUST BE IN ACCORDANCE WITH BTO -10 SPECIFICATIONS. THE COIL FOR THE FLAT WRAP MUST BE 500mm TOP TO BOTTOM.</p> <p>TIE STRAINING WIRE TO DOUBLE GATE, CORNER AND STRAINING POST BY VEHICLE WRAPPING AROUND THE POST AND TWISTING 8 TIMES AROUND THE INCOMING STRAND. FINISH WRAPPING WIRE END OFF NEATLY - NO LOOSE/PROTRUDING ENDS.</p> <p>PROVIDE 1 x ABUS 500mm PADLOCK AND 500mm MILD STEEL GATE CHAIN OR SIMILAR APPROVED.</p> <p>THE LENGTH OF THE CHAIN IS TO BE MEASURED ON SITE AND MUST BE SUCH THAT IT FITS SNUGLY THROUGH THE SECURING HOLES.</p>	

No.	DATE	DESCRIPTION	CHECKED
-----	------	-------------	---------

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: Indubela@amatolawater.co.za
Web: www.amatolwater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 707 3700
Email: Indubela@amatolawater.co.za
Web: www.amatolwater.co.za

PROJECT:

COMPLETION WORKS AT NYANGA SENIOR SECONDARY SCHOOL

DRAWING TITLE:

SECURITY FENCING DETAILS


DESIGNED:	A.MAYEKISO	DRAWN:	Q.MABUSELA
DESIGNED CHECKED:	S. XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		

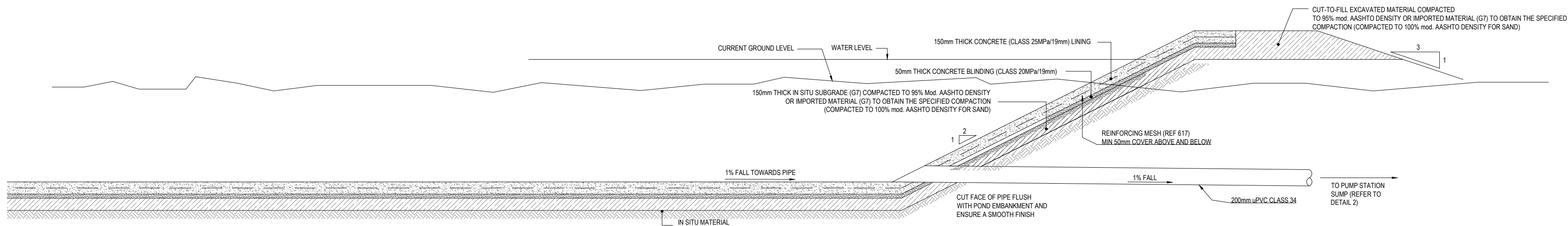
DESIGN COORDINATOR APPROVAL

ROMH CONSULTING (Pty) Ltd DATE

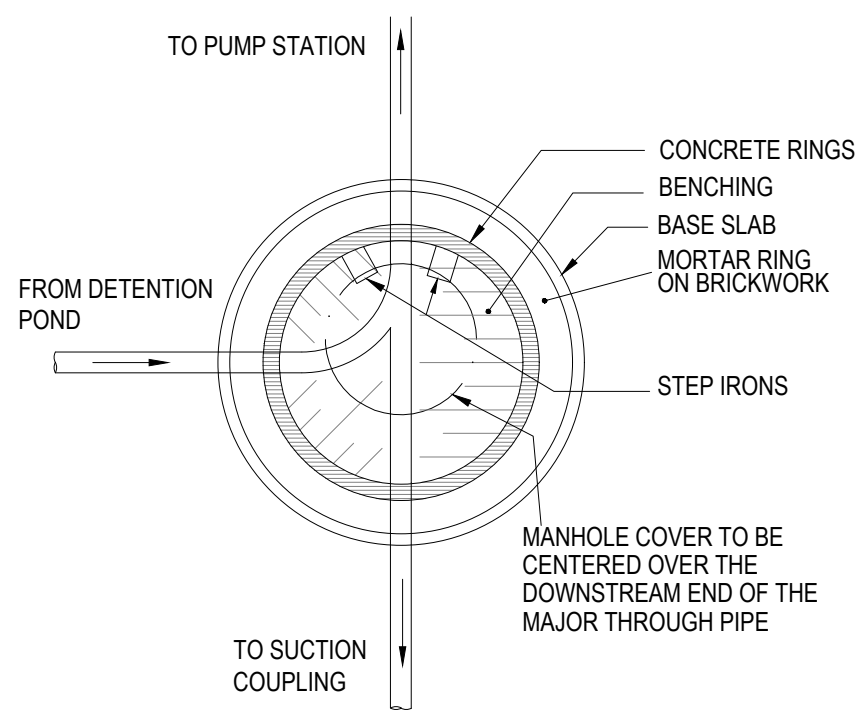
CLIENT APPROVAL _____ DATE _____

CONTRACT No. AW2023/24/06	ORIGINAL DRAWING SIZE: A1
------------------------------	------------------------------

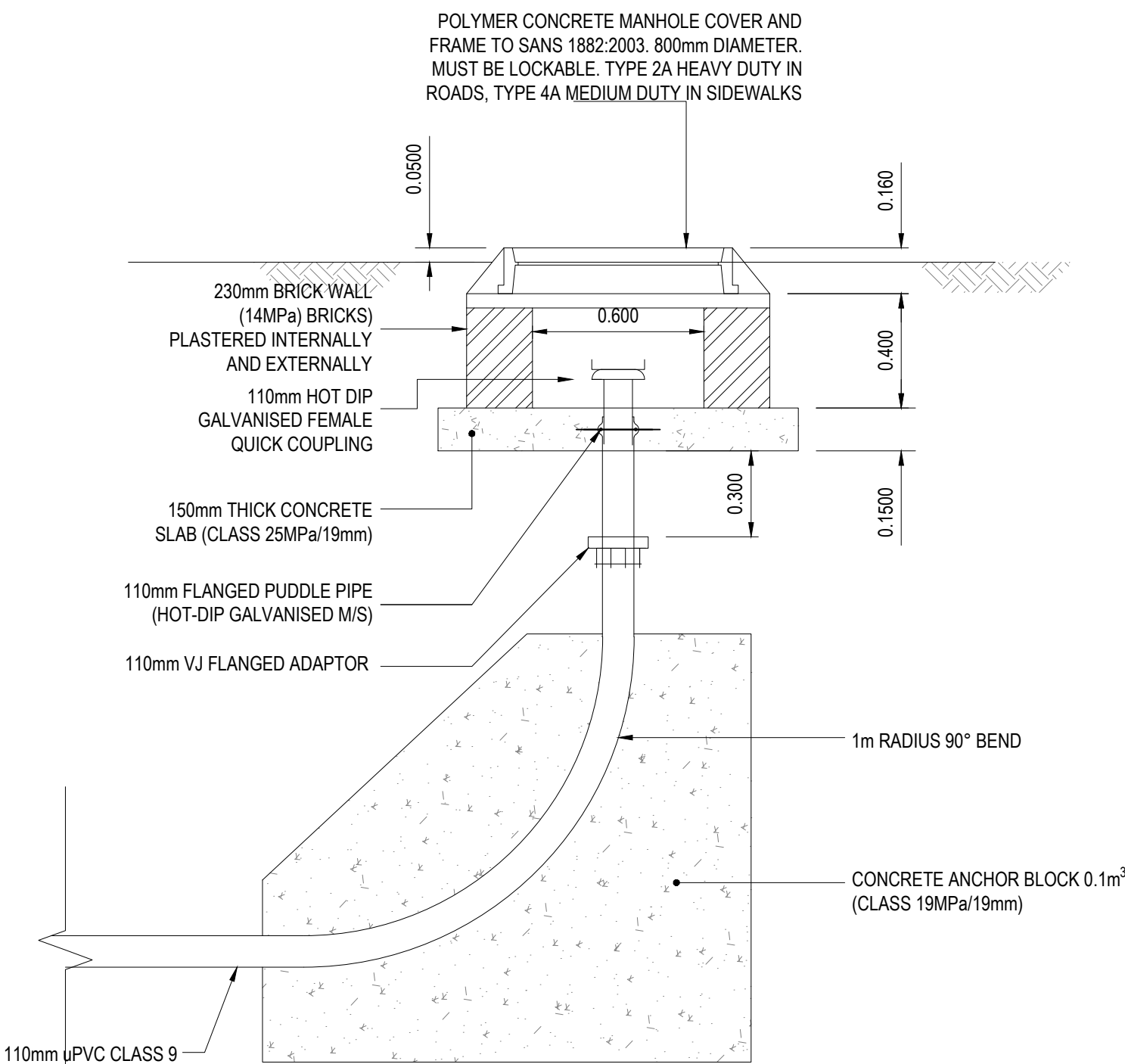
PROJECT No. ROM-131-07-076-04-17	DRAWING No. A1	REV No. 
-------------------------------------	-------------------	---



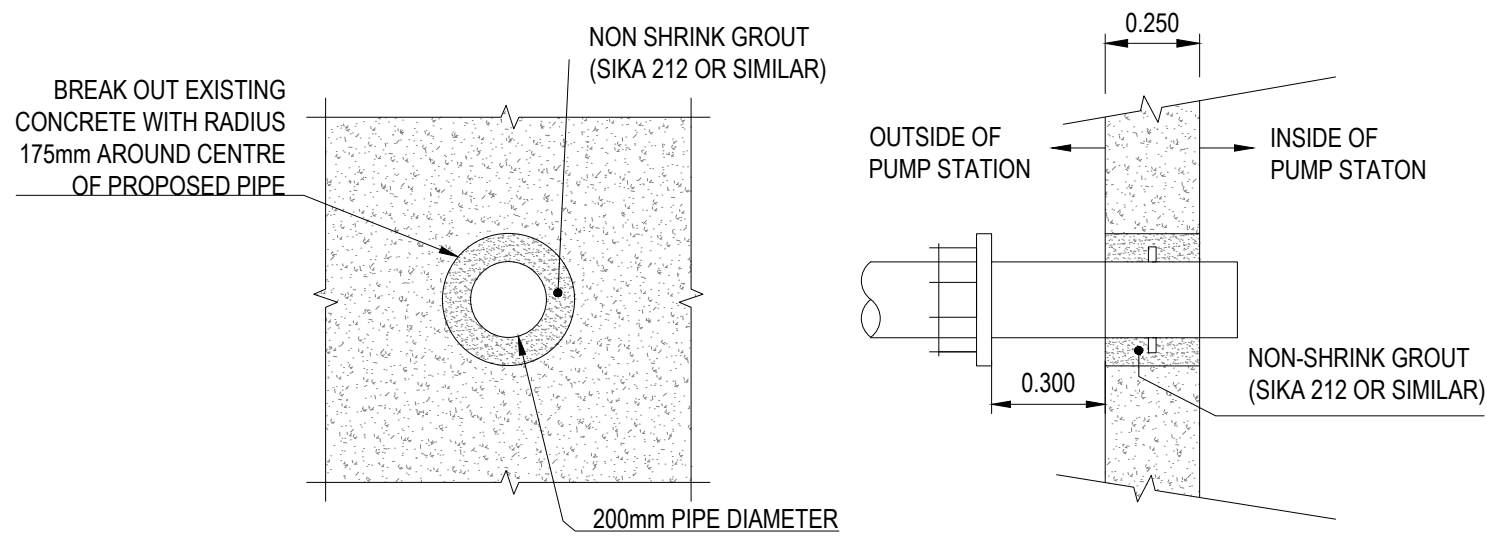
SECTION A
1:25



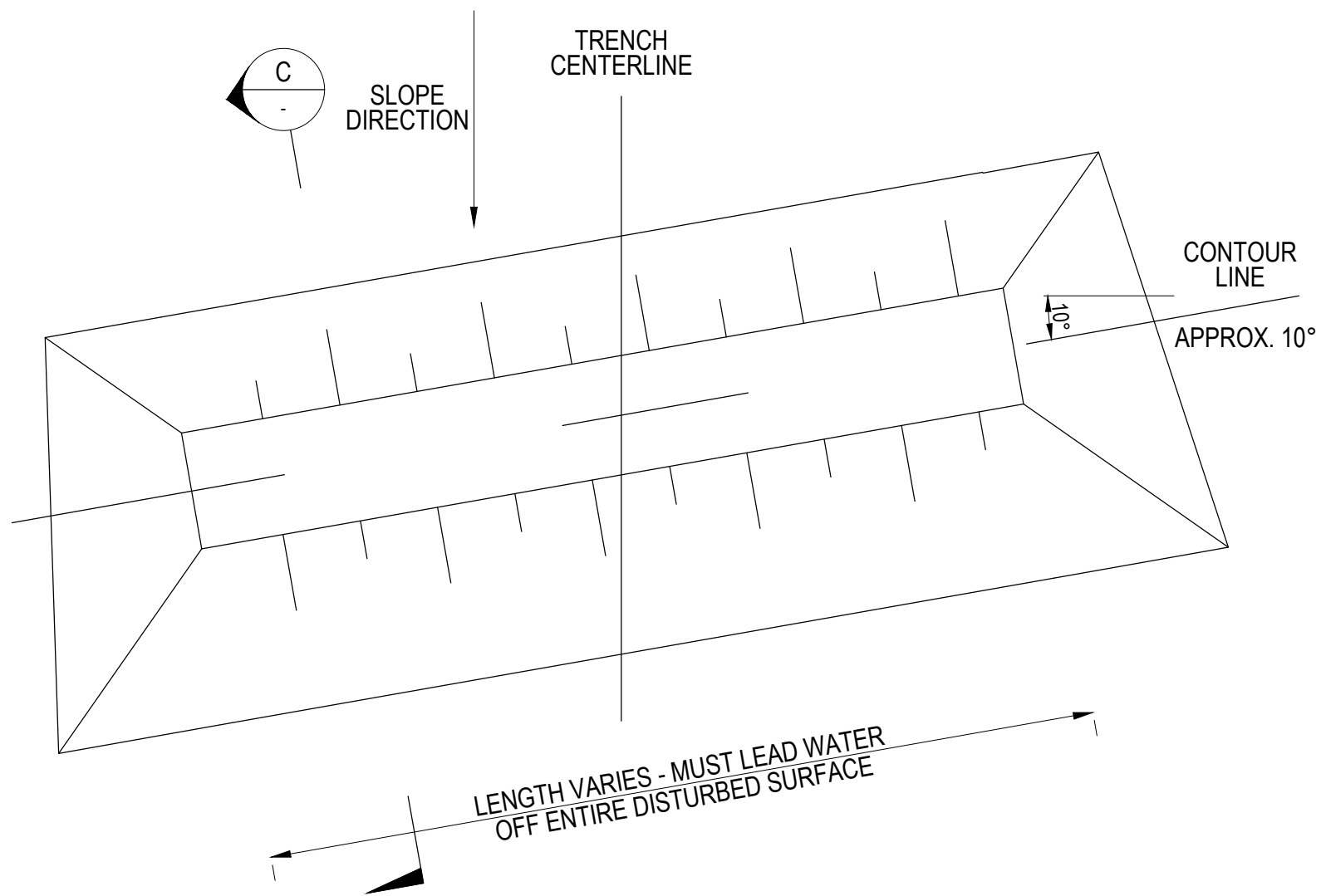
DETAIL 3
1:40



DETAIL 1
1:20

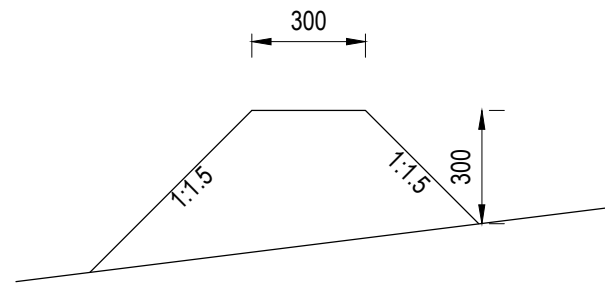


DETAIL 2
1:20



PLAN
1:20

DIVERSION PROTECTION BERM DETAIL



DIVERSION PROTECTION BERM DETAILS
SECTION C
1:20

GENERAL NOTES

- ALL WORK MUST BE DONE IN ACCORDANCE WITH THE STANDARD SABS 1200 SPECIFICATION AND THE GENERAL CONDITIONS AS SPECIFIED IN THE MAIN CONTRACT DOCUMENTS.
- CO-ORDINATES ARE BASED ON WGS 84.
- THE CONTRACTOR IS TO SUBMIT RECORD INFORMATION OF ALL CIVIL SERVICES INFRASTRUCTURE AS WELL AS INVERT AND FINAL COVER LEVELS OF ALL CIVIL SERVICES STRUCTURES.
- THE CONTRACTOR HAS TO CHECK ALL SETTING OUT INFORMATION ON SITE AND NOTIFY THE ENGINEER OF ANY IRREGULARITIES PRIOR TO CONSTRUCTION.
- ALL MODIFICATIONS TO EXISTING SERVICES AND DEVIATIONS FROM THE DESIGN TO BE AS PER INSTRUCTION FROM THE ENGINEER ONLY.
- THE ENGINEER'S DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S, CONSULTANTS AND SPECIALIST'S DRAWINGS - ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER PRIOR TO CONSTRUCTION.
- ALL MATERIAL SUPPLIED AND TESTING THEREOF SHALL COMPLY WITH THE RELEVANT SABS STANDARDS AND SPECIFICATIONS.
- THE POSITION OF EXISTING SERVICES ON THIS DRAWING IS GIVEN IN GOOD FAITH AND NO GUARANTEE CAN BE GIVEN THAT THEY ARE CORRECT.
- THE CONTRACTOR SHALL LIAISE WITH THE RELEVANT LOCAL AUTHORITIES FOR POINTING OUT UNKNOWN EXISTING SERVICES AND OBTAIN NECESSARY APPROVALS IN WRITING.
- THE CONTRACTOR IS TO LOCATE AND IDENTIFY EXISTING SERVICES ON THE SITE AND TO PROTECT THESE FROM DAMAGE THROUGHOUT THE DURATION OF THE CONTRACT (UNLESS SPECIFIED OTHERWISE).
- ALL MANHOLE COVERS AND TOP SLABS TO BE CONSTRUCTED TO CONFORM WITH FINAL LEVELS AND SLOPES:
 - 11.1. IN ROADS, SIDEWALKS AND WALKWAYS, FLUSH WITH FINAL LEVELS.
 - 11.2. IN OTHER AREAS 100mm ABOVE FINAL GROUND LEVELS.
 - 11.3. LEVELS TO BE CONFIRMED PRIOR TO FIXING OF COVERS.
- ENSURE 300mm OVERLAPPING OF STEEL MESH AT ALL END POINTS.
- HOT DIP GALVANISING SPEC.
- SEE DWG 02A-EL1-SPS-C1-107 FOR SETTING OUT DATA.

No.	DATE	DESCRIPTION	CHECKED
-----	------	-------------	---------

CLIENT:



Amatola
Water-Amanzi
AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROYAL MINDAWE HOLDINGS (PTY) LTD TA ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

**COMPLETION WORKS AT NYANGA
SENIOR SECONDARY SCHOOL**

DRAWING TITLE:

**SEWAGE DETENTION POND AND
PROTECTIN BERM DETAIL**

DESIGNED:	A.MAYEKISO	DRAWN:	L.JACOBS
DESIGNED CHECKED:	S.XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:		AS SHOWN	

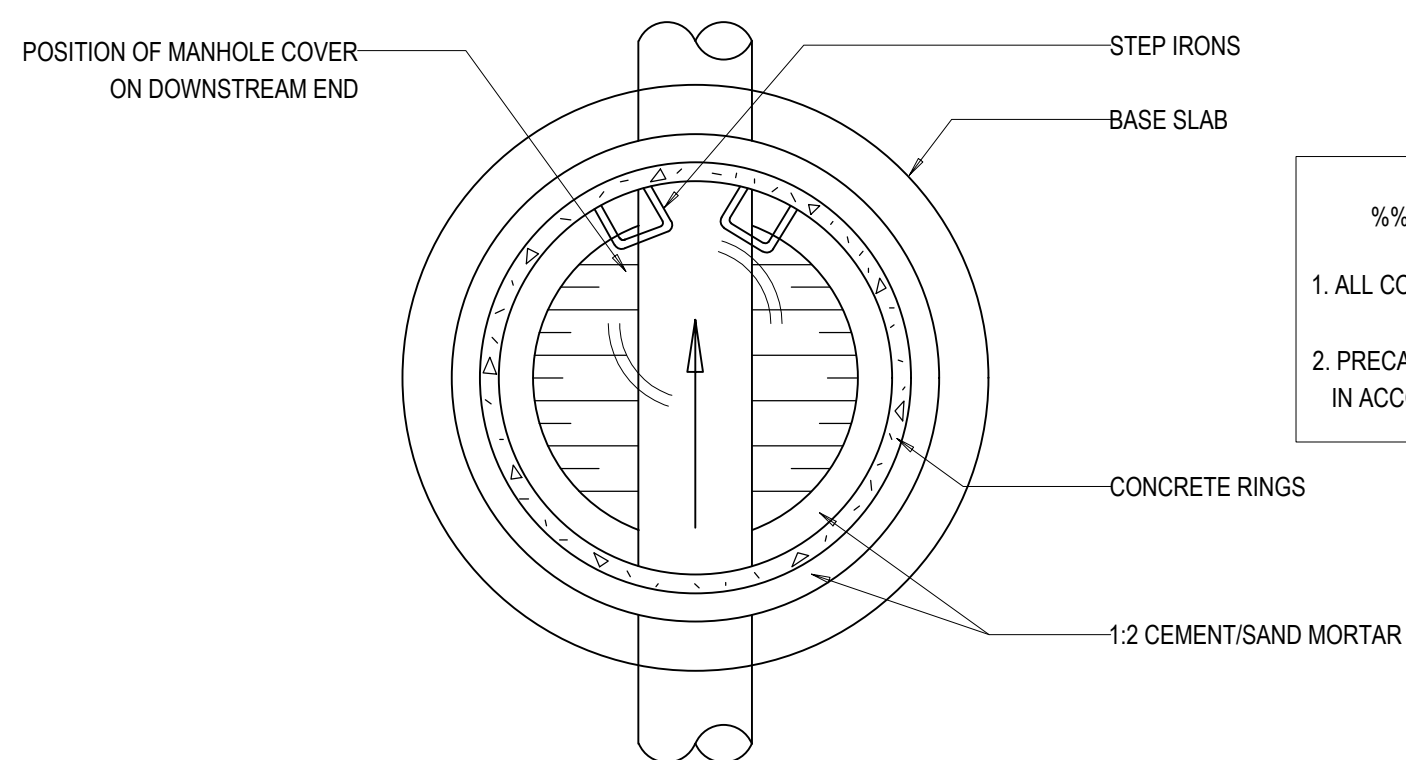
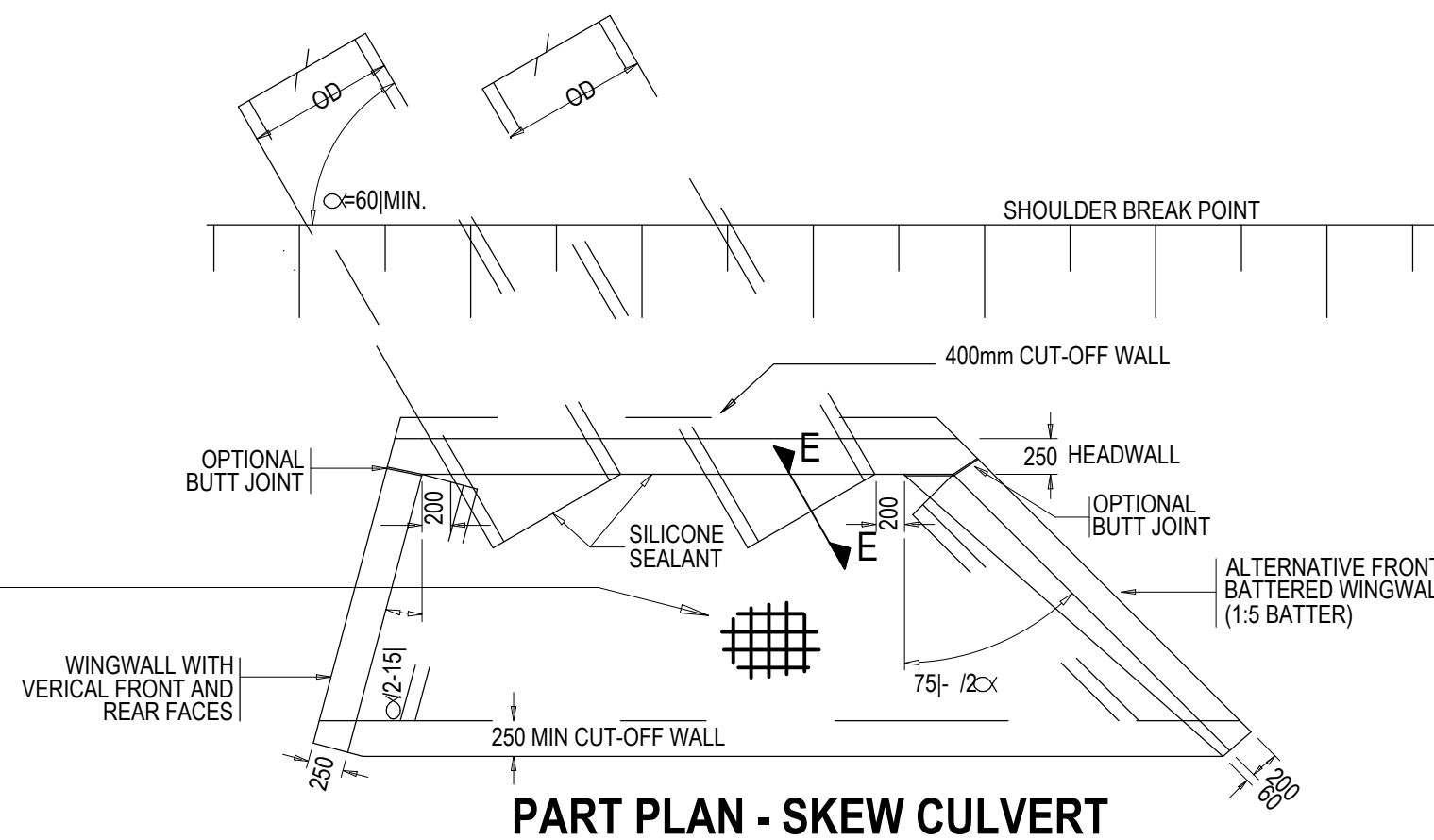
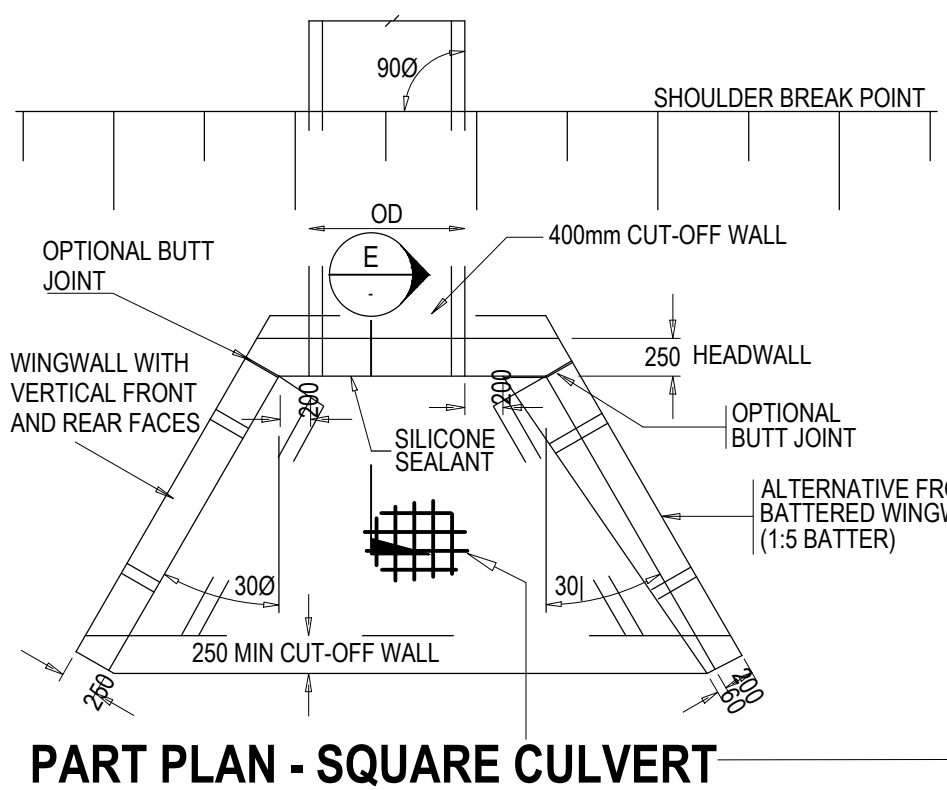
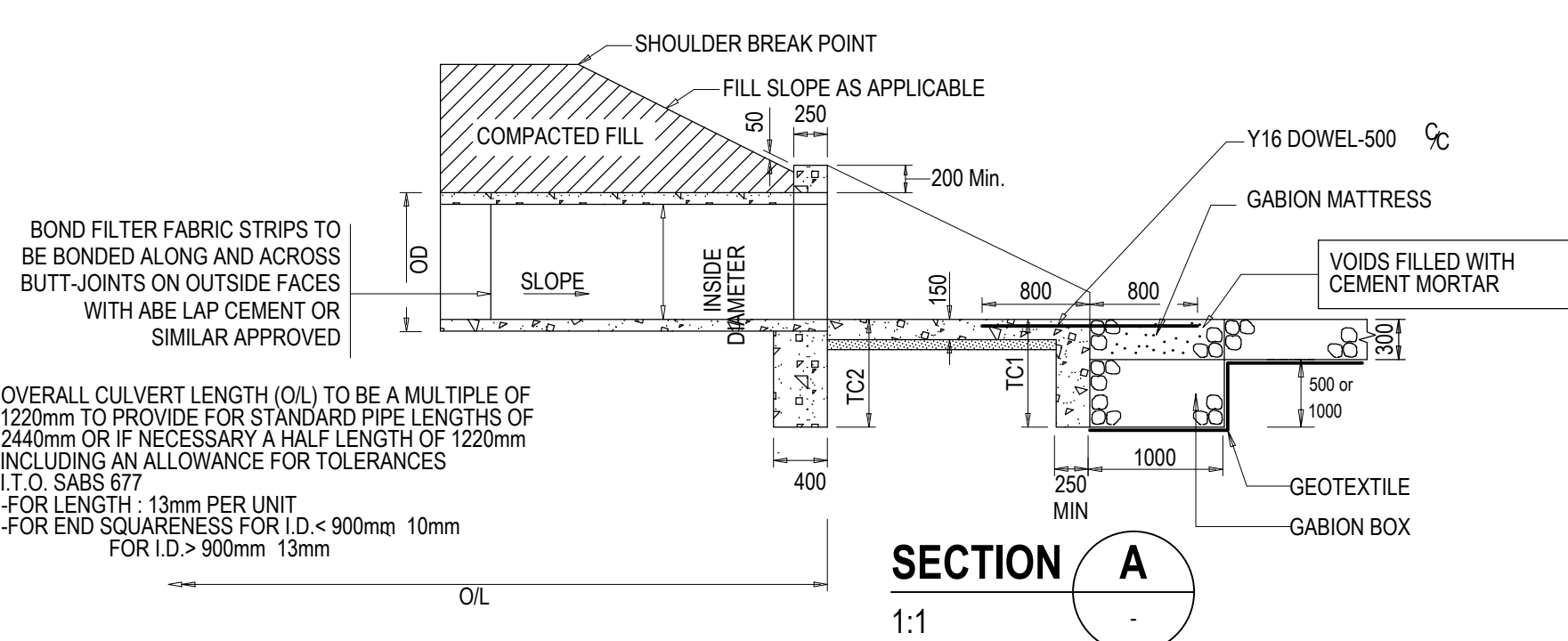
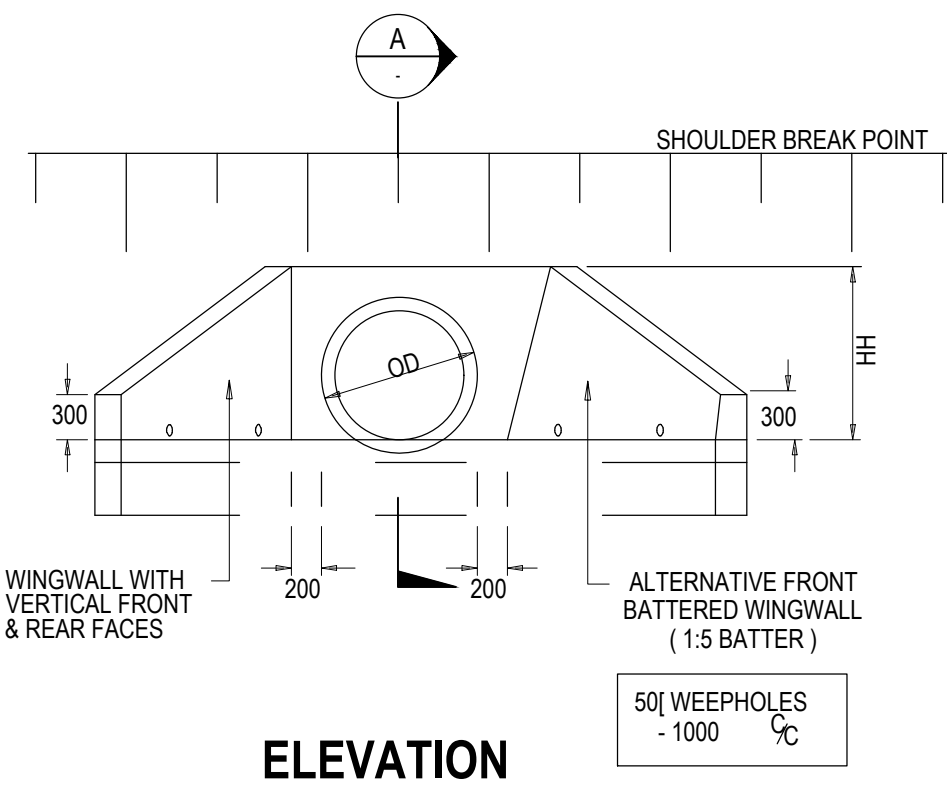
DESIGN COORDINATOR APPROVAL

ROMH CONSULTING (Pty) Ltd DATE

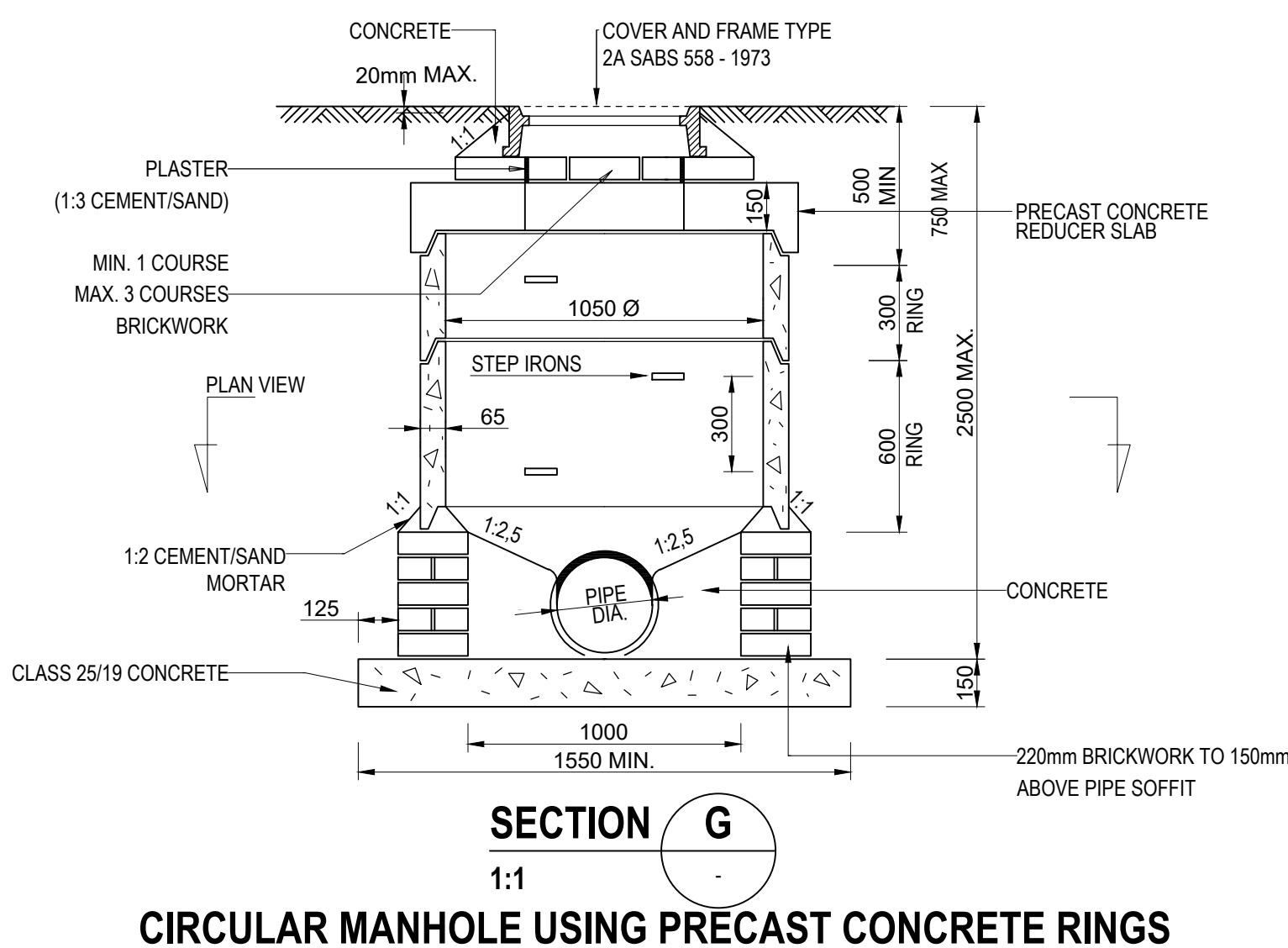
CLIENT APPROVAL DATE

CONTRACT No.	ORIGINAL DRAWING SIZE:
AW2023/24/06	A1

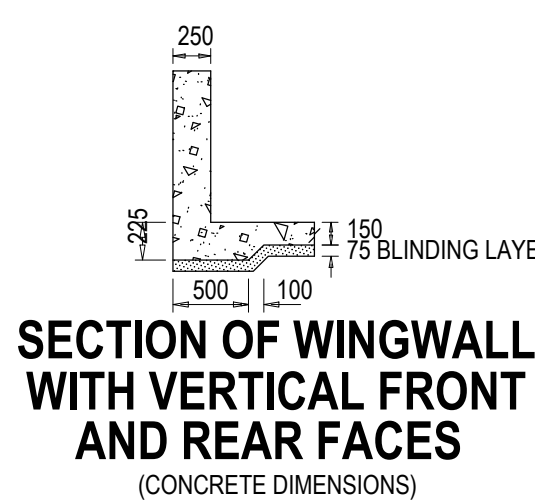
PROJECT No.	DRAWING No.	REV No.
ROM-131-07-076-04-18	A1	0



STORMWATER MANHOLES FOR PIPE DIAMETER < 675mm



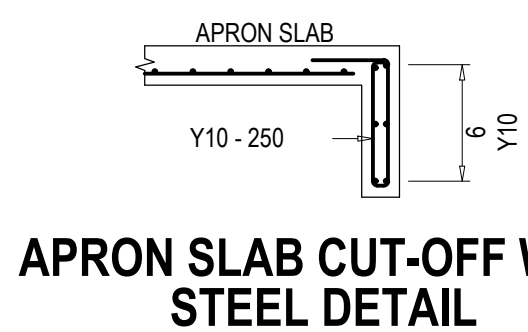
CIRCULAR MANHOLE USING PRECAST CONCRETE RINGS



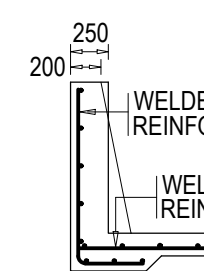
STEEL DETAIL FOR WINGWALLS
(ORDINARY REINFORCEMENT)

SECTION OF ALTERNATIVE FRONT BATTERED WINGWALL

SPAN (N.I.D.)	MESH "A" REF. NO.	MESH "B" REF. NO.
450	289	289
600	289	289
750	289	289
900	341	341
1200	517	433
1500	772	517
1800	1085	772

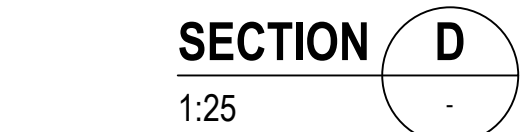
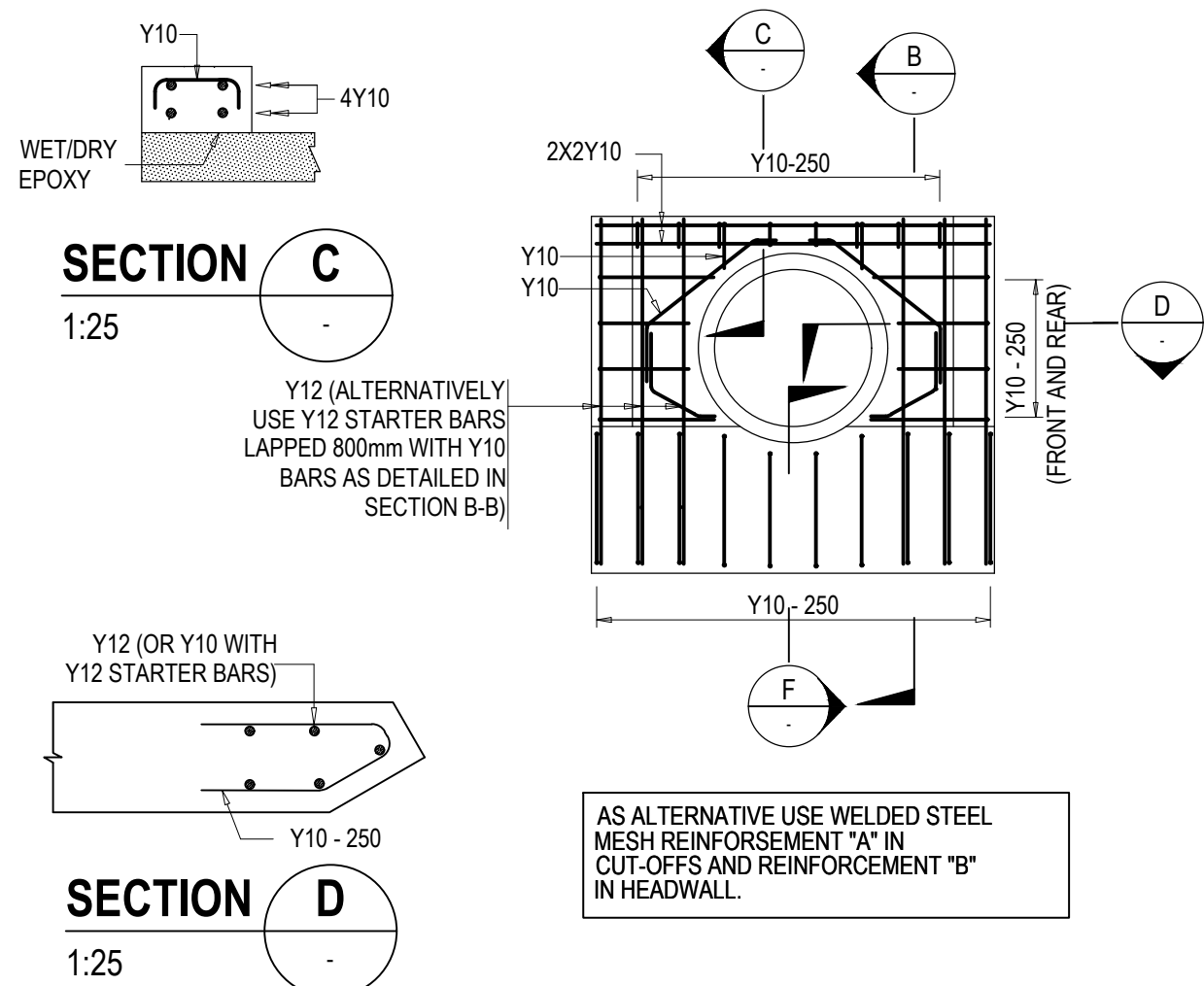


PRECAST CONCRETE PIPE CULVERTS CONCRETE INLET AND OUTLET DETAILS (TYPE 1)



STEEL DETAIL FOR WINGWALLS

- %%UNOTES:
1. PRECAST PIPE CULVERTS TO COMPLY TO SABS 677.
 2. ALL EXPOSED SHARP EDGES TO HAVE 25X25 CHAMFERS.
 3. DESIGN CODE: TMH 7 PARTS 1-3.
 4. MATERIAL SPECIFICATIONS:
 - CONCRETE CLASS : 25/26 THROUGHOUT
 - MINIMUM CEMENTITIOUS CONTENT IN FOOTINGS = 300 kg/m
 - STEEL REINFORCEMENT : HIGH TENSILE STEEL 450 MPa
 - WELDED STEEL MESH : HIGH TENSILE STEEL 485 MPa
 - WELDED STEEL MESH REINFORCEMENT TO CONFORM TO SABS 1024
 5. CONCRETE COVER = 50mm.
 6. HEADWALL NOT TO EXTEND 50mm MAXIMUM ABOVE SHOULDER BREAK POINT.
 7. Y16 DOWELS IN APRON SLAB TO BE BENT TO AVOID OBSTRUCTING PLACEMENT OF GABIONS. Y16 DOWELS THEN TO BE BENT HORIZONTALLY AND COATED WITH ABECOTE 352 OR SIMILAR BEFORE PLACEMENT OF MATTRESS.
 9. CUT-OFF WALL TO BE CAST INTEGRALLY WITH APRON SLAB.




HEADWALL AND CUT-OFF WALL STEEL DETAIL

GENERAL NOTES

1. ALL WORK MUST BE DONE IN ACCORDANCE WITH THE STANDARD SABS 1200 SPECIFICATION AND THE GENERAL CONDITIONS AS SPECIFIED IN THE MAIN CONTRACT DOCUMENTS.
2. CO-ORDINATES ARE BASED ON WGS 84.
3. THE CONTRACTOR IS TO SUBMIT RECORD INFORMATION OF ALL CIVIL SERVICES INFRASTRUCTURE AS WELL AS INVERT AND FINAL COVER LEVELS OF ALL CIVIL SERVICES STRUCTURES.
4. THE CONTRACTOR HAS TO CHECK ALL SETTING OUT INFORMATION ON SITE AND NOTIFY THE ENGINEER OF ANY IRREGULARITIES PRIOR TO CONSTRUCTION.
5. ALL MODIFICATIONS TO EXISTING SERVICES AND DEVIATIONS FROM THE DESIGN TO BE AS PER INSTRUCTION FROM THE ENGINEER ONLY.
6. THE ENGINEER'S DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT'S, CONSULTANTS AND SPECIALIST'S DRAWINGS - ANY DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER PRIOR TO CONSTRUCTION.
7. ALL MATERIAL SUPPLIED AND TESTING THEREOF SHALL COMPLY WITH THE RELEVANT SABS STANDARDS AND SPECIFICATIONS.
8. THE POSITION OF EXISTING SERVICES ON THIS DRAWING IS GIVEN IN GOOD FAITH AND NO GUARANTEE CAN BE GIVEN THAT THEY ARE CORRECT.
9. THE CONTRACTOR SHALL LIAISE WITH THE RELEVANT LOCAL AUTHORITIES FOR POINTING OUT UNKNOWN EXISTING SERVICES AND OBTAIN NECESSARY APPROVALS IN WRITING.
10. THE CONTRACTOR IS TO LOCATE AND IDENTIFY EXISTING SERVICES ON THE SITE AND TO PROTECT THESE FROM DAMAGE THROUGHOUT THE DURATION OF THE CONTRACT (UNLESS SPECIFIED OTHERWISE).
11. ALL MANHOLE COVERS AND TOP SLABS TO BE CONSTRUCTED TO CONFORM WITH FINAL LEVELS AND SLOPES:
 - 11.1. IN ROADS, SIDEWALKS AND WALKWAYS, FLUSH WITH FINAL LEVELS.
 - 11.2. IN OTHER AREAS 100mm ABOVE FINAL GROUND LEVELS.
 - 11.3. LEVELS TO BE CONFIRMED PRIOR TO FINISH OF COVERS.
12. ENSURE 300mm OVERLAPPING OF STEEL MESH AT ALL END POINTS
13. HOT DIP GALVANISING SPEC.
14. SEE DWG 02A-EL-SPS-CI-107 FOR SETTING OUT DATA

No.	DATE	DESCRIPTION	CHECKED
-----	------	-------------	---------

CLIENT:



AMATOLA WATER BOARD

AMATOLA WATER BOARD
6 LANCASTER ROAD
VINCENT
EAST LONDON

Tel: (043) 707 3700
Email: info@amatolawater.co.za
Web: www.amatolawater.co.za

CONSULTANT:



ROMH

ROYAL MINDA HOLDINGS (PTY) LTD T/A ROMH CONSULTING
LEADWOOD HOUSE, CEDAR SQUARE
BONZA BAY ROAD
BEACON BAY
EAST LONDON

Tel: (043) 748 0018
Email: info@romh.co.za
Web: www.romh.co.za

PROJECT:

COMPLETION WORKS AT NYANGA SENIOR SECONDARY SCHOOL

DRAWING TITLE:

STANDARD DETAILS: MANHOLES, HEADWALL AND OUTLET STRUCTURE

DESIGNED:	A.MAYEKISO	DRAWN:	Q.MABUSELA
DESIGNED CHECKED:	S.XAWUKA	DRAWING CHECKED:	A.MAYEKISO
SCALE:	AS SHOWN		

DESIGN COORDINATOR APPROVAL

ROMH CONSULTING (Pty) Ltd DATE

CLIENT APPROVAL DATE

CONTRACT No. AW2023/24/06	ORIGINAL DRAWING SIZE: A1	
PROJECT No. ROM-131-07-076-04-19	DRAWING No. A1	REV No. 0