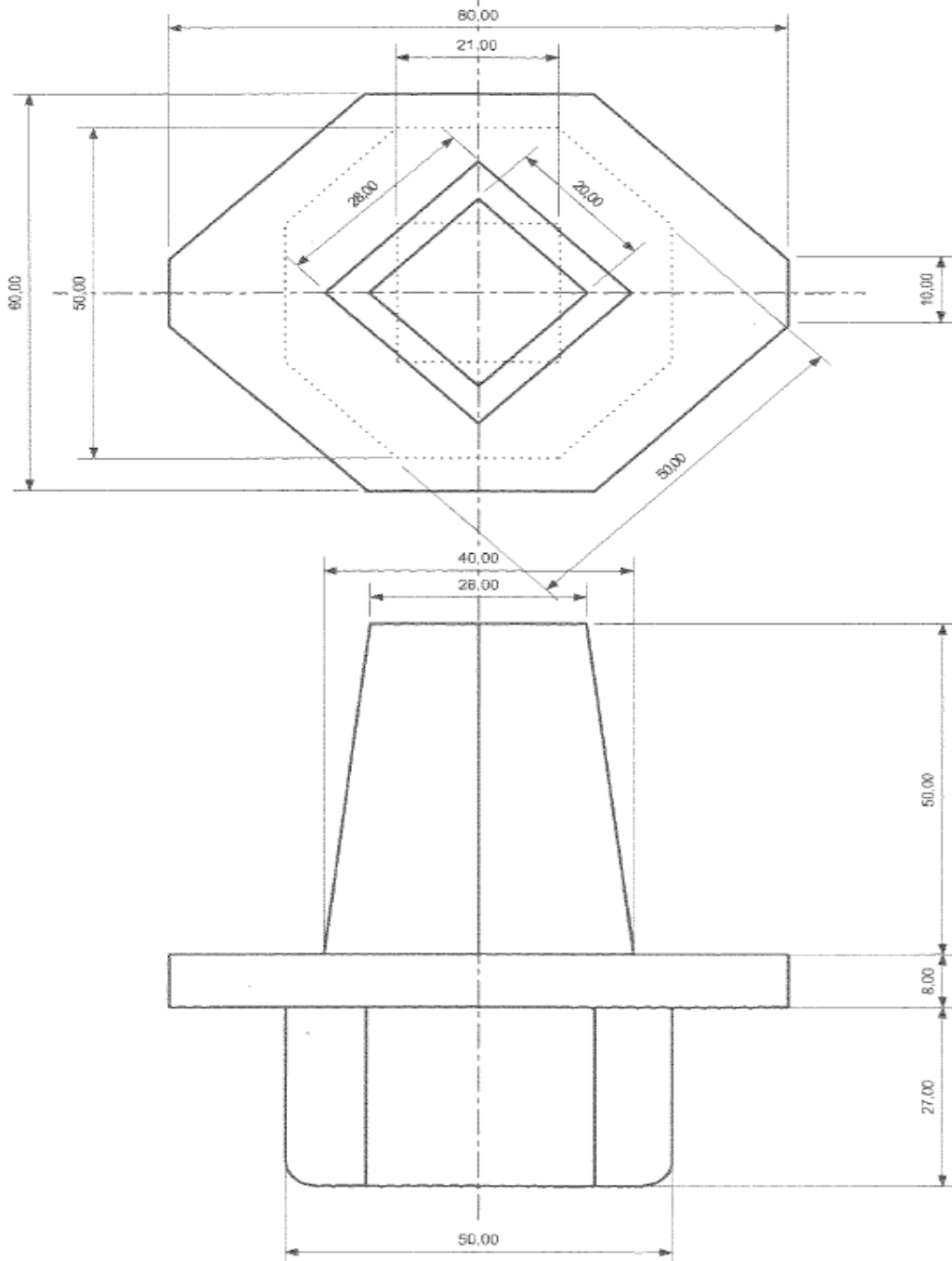


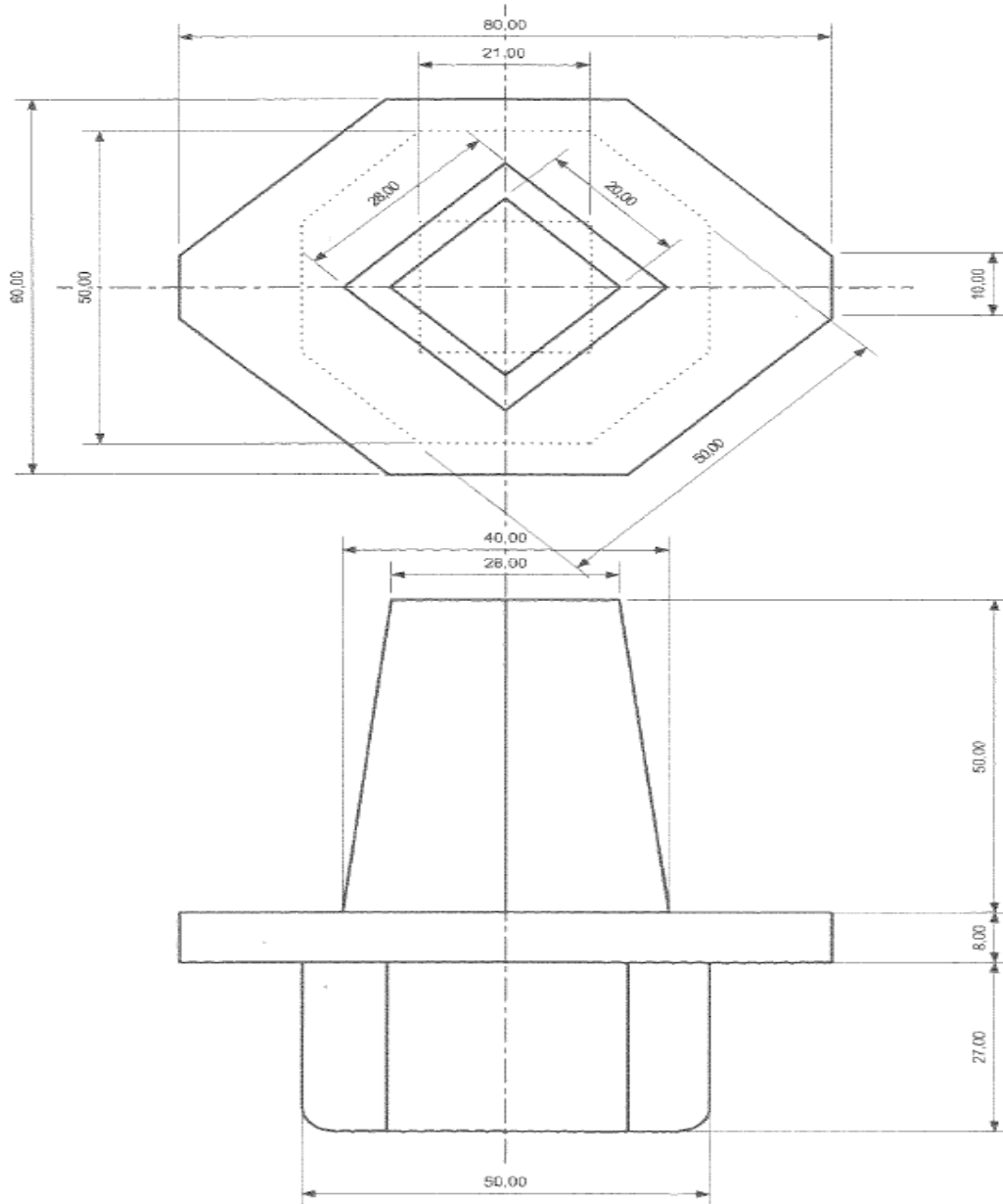
ANNEX C

Dimensions of the operating cap Type B



ANNEX D

Dimensions of the operating cap Type C





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QUALITY CONTROL TABLE
PE FITTINGS




S.No.	COMPONENTS/OPERATIONS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	CA/TPI	REMARKS
1	Review of test certificate for Raw material		Each Batch certificate	Raw Material manufacturer's test certificate	Raw Material manufacturer's test certificate	Test Certificate	R	R	
2	Hydrostatic strength								
2.1	At 20° C	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
2.2	At 80° C	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
3	Cohesive Resistance								
3.1	Length of Initial rupture \leq L2/3 in brittle failure	Mechanical properties	As per EN 1555-7	ISO 13954 / ISO 13955 / PTS / GTS	EN 1555 - 3	Inspection report	P	R	This test is applicable only for Electrofusion socket fittings
3.2	Surface of rupture \leq 25% brittle failure	Mechanical properties	As per EN 1555-7	ISO / DIS 13956 / PTS / GTS	EN 1555 - 3	Inspection report	P	R	This test is applicable only for Electrofusion saddle fittings
4	Tensile strength for butt fusion	Mechanical properties	As per EN 1555-7	ISO / DS 13953/PTS	ISO / DS 13953/PTS		P	R	This test is applicable only for Spigot end fittings
5	Impact strength	Mechanical properties	As per EN 1555-7	EN 1716 / PTS / GTS	EN 1716 / PTS / GTS	Inspection report	P	R	This test is applicable only for Electrofusion saddle fittings
6	Pressure Drop	Air flow rate	As per EN 1555-7	EN 12117 / PTS	EN 12117 / PTS	Inspection report	P	R	This test is applicable only for Electrofusion saddle fittings
7	Electrical Resistance test		As per EN 1555-7	EN 1555 - 3 / PTS / GTS	EN 1555 - 3 / PTS	Inspection report	P	W	
8	Oxidation induction time(Thermal stability)		As per EN 1555-7	EN 1555 - 3 / EN 728 / PTS / GTS	> 20 min	Inspection report	P	W	
9	Meltmass/ Flow rate (MFR)		As per EN 1555-7	EN 1555 - 3 / ISO 4440 / GTS / PTS	(0.2 \leq MFR \leq 1.4) g / 10 min and after processing maximum deviation of \pm 20 % of the nominated value declared by manufacturer.	Inspection report	P	W	
10	Dimensional Check	Dimensions	100%	As per EN 1555 -3 / PTS / GTS	As per EN 1555 -3 / PTS / GTS	Inspection report	P	RW	

11	Storage	Visual	All materials	-	Manufacturer Recommendation	Stock register	H	M		
12	Marking	Visual	100%	EN 1555 / PTS / GTS	EN 1555 -3	Inspection report	P	RW		
13	Documentation	All Inspection Reports and Certificates	-	EN 1555	All Inspection Reports and Certificates	Inspection Report	P	R		
LEGENDS:		H-HOLD, P-PERFORMANCE, W-WITNESS, RW - RANDOM WITNESS, TC-TEST CERTIFICATE, MTR-MANUFACTURER TEST REPORT, TPIA-THIRD PARTY INSPECTION AGENCY, CA - OWNER/OWNER'S REPRESENTATIVE								
Notes :		<p>1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)</p> <p>2 Vendor shall in coordination with supplier/ sub vendor issue detailed Production and inspection schedule indicating the dates and the locations to facilitate Owner/ Owner's representative and TPIA to organize inspection.</p> <p>3 Owner/ Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.</p> <p>4 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/CA at the time of Inspection</p> <p>5 Only calibrated instruments shall be used for inspection.</p> <p>6 Before dispatch of the materials to the contractors, manufacturer shall submit copy of all related document of inspection along with release note and MTC to the owner /PMC for the dispatch clearance.</p> <p>7 Sampling Frequency of the testing shall be done as per EN 1555-7</p>								



 		QUALITY CONTROL TABLE MDPE VALVES					Document No. P.014714 G 11013 028 Rev.0			
							Date	18.11.2020	Prepared by :	PM
SR. No		DESCRIPTION	TYPE OF CHECK	QUANTUM OF CHECK	REF. DOC.	ACCEPTANCE NORMS	DOCUMENTATION	INSPECTION		REMARKS
								MANUF.	CA / TPIA	
1	Review of mill test certificate for Raw material		Each Batch certificate	Raw Material manufacturer's test certificate	Raw Material manufacturer's test certificate		R	R		
2	Test of Raw Material Inspection		Each Batch		As per material test certificate	Test report	H	R		
3	Hydrostatic strength @ 80 degree C		100%	EN 917/ISO 5208/PTS/GTS	EN 917/ISO 5208/PTS/GTS	Inspection report	P	W		
4	Leak Tightness test @ 11 bar and 25 mbar	External & internal leak testing	100%	EN 1555-4 / PTS / GTS	EN 1555-4 / PTS / GTS	Inspection report	P	R		
5	Running torque	Mechanical properties	100%	EN 1555-4 / PTS / GTS	EN-28233/PTS/GTS	Inspection report	P	R		
6	Initiating Torque	Mechanical properties		EN 1555-4 / PTS / GTS	EN 1555-4 / PTS / GTS	Inspection report	P	R		
7	Impact strength	Mechanical properties		As per standard	GTS /PTS	Inspection report	P	R		
8	Pressure Drop	Air flow rate		As per standard	GTS /PTS	Inspection report	P	R		
9	Oxidation induction time(Thermal stability)			EN 728/ GTS/PTS	EN 728/GTS/PTS	Inspection report	P	W		
10	Meltmass/ Flow rate (MFR)			ISO 1133/ GTS/PTS	ISO 1133/GTS/PTS	Inspection report	P	W		
11	Dimensional Check		Each Batch	ISO 1183/ GTS/PTS	ISO 1183/ GTS/PTS	Inspection report	P	RW		
11	Storage		All materials		Manufacturer Recommendation	Stock register	H	M		

**QUALITY CONTROL TABLE
TRANSITION FITTINGS**

S.No.	COMPONENTS/OPERATIONS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	TPI	REMARKS
1	Review of test certificate for Raw material		Each Batch certificate	Raw Material manufacturer's test certificate	Raw Material manufacturer's test certificate	Test Certificate	R	R	
2	Hydrostatic strength								
2.1	At 20° c	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
2.2	At 80° c	Strength test	As per EN 1555-7	EN 1555 - 3/ EN 921 / PTS / GTS	No leakage through the fittings during the test	Inspection report	P	W	
3	Electrical Resistance test		As per EN 1555-7	EN 1555 - 3 / PTS / GTS	EN 1555 - 3 / PTS	Inspection report	P	W	
4	Oxidation induction time(Thermal stability)		As per EN 1555-7	EN 1555 - 3 / EN 728 / PTS / GTS	> 20 min	Inspection report	P	W	
5	Meltmass/ Flow rate (MFR)		As per EN 1555-7	EN 1555 - 3 / ISO 4440 / GTS / PTS	(0.2 ≤ MFR ≤ 1.4) g / 10 min and after processing maximum deviation of ± 20 % of the nominated value declared by manufacturer.	Inspection report	P	W	
6	Dimensional Check	Dimensions	100%	As per EN 1555 -3 / PTS / GTS	As per EN 1555 -3 / PTS / GTS	Inspection report	P	RW	
7	Storage	Visual	All materials	-	Manufacturer Recommendation	Stock register	H	M	
8	Marking	Visual	100%	EN 1555 / PTS / GTS	EN 1555 -3	Inspection report	P	RW	
9	Documentation	All Inspection Reports and Certificates	-	EN 1555	All Inspection Reports and Certificates	Inspection Report	P	R	
LEGENDS:		H-HOLD, P-PERFORMANCE, W-WITNESS, RW - RANDOM WITNESS, TC-TEST CERTIFICATE, MTR-MANUFACTURER TEST REPORT, TPIA-THIRD PARTY INSPECTION AGENCY							
Notes :		<ol style="list-style-type: none"> 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS) 2 Vendor shall in coordination with supplier/ sub vendor issue detailed Production and inspection schedule indicating the dates and the locations to facilitate Owner/ Owner's representative and TPIA to organize inspection. 3 Owner/ Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time. 4 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection 5 Only calibrated instruments shall be used for inspection. 6 Before dispatch of the materials to the contractors, manufacturer shall submit copy of all related document of inspection along with release note and MTC to the owner /PMC for the dispatch clearance. 7 Sampling Frequency of the testing shall be done as per EN 1555-7 							

   Central U.P. Gas Limited		QUALITY CONTROL TABLES GI PIPES CONFORMING TO IS:1239 (PART-1):2004 (Latest edition)						Document No. P.014714 G 11013 030 Date: 18.11.2020 Prepared by: PM Checked by NN Approved by: NN		
INSPECTION										
S.No.	COMPONENTS/OPERATIONS	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	TPIA/CA
1	2	3	4	5	6	7	8	9	10	11
1.0	Raw Material Inspection									
1.1	RAW MATERIAL	IDENTIFICATION	Major	Co-relation with MTC.	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	T.C.	P	R
		CHEMICAL COMPOSITION	Major	Chem. Analysis	One / Heat	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		PHYSICAL PROPERTIES (T.S., Y.S., %Elong.)	Major	Lab. Test	One / Heat	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		VISUAL & DIMENSIONS	Major	Visual & Measur.	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.0	IN PROCESS INSPECTION									
2.1	PIPE MANUFACTURING	SURFACE DEFECT	Major	Visual	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		DIMENSIONS (O.D., THK., LENGTH etc.)	Major	Measur.	As Per Relevant Std.	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
		MASS (Kg/Mtr.)	Major	Measur.	As Per Relevant Std.	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.2	END PREPARATION	END TYPE & DIMENSIONS	Major	Visual & Measur.	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.3	PHYSICAL PROPERTIES	TENSILE, ELONGATION & BEND / FLATTENING TEST AS APPLICABLE	Major	Lab. Test	As Per Relevant Std.	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R
2.4	LEAK TEST	HYDRAULIC	Critical	Leak Test	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	W
2.5	GALVANIZING	ZINC COATING UNIFORMITY & MASS	Major	Mass of Zinc Coating & Uniformity	2 Sample / Shift	IS: 4736	IS: 4736	IIR	P	W
2.6	FINISH, PAINTING & MARKING	OVERALL FINISH, PAINTING & MARKING	Major	Visual	100%	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IIR	P	R



S.No.		COMPONENTS/OPERATIONS	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF RECORD	VENDOR	TPIA/CA
1	2	3	4	5	6	7	8	9	10	11	
3.0		FINAL INSPECTION									
3.1	FINISHED PRODUCT	FINISH DIMENSIONS	Major	Visual & Measur.	Random As Per IS:4711	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IR	P	W	
		PHYSICAL PROPERTIES (TENSILE, ELONGATION & BEND / FLATTENING TEST AS APPLICABLE)	Major	Lab. Test	Random As Per IS:4711	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IR	P	W	
		LEAK TEST (HYDRAULIC TEST)	Critical	Leak Test	Randomly (10% of lot qty)	IS:1239 / P.O. Spec.	IS:1239 / P.O. Spec.	IR	P	W	
		REVIEW OF ALL TEST CERTIFICATE / REPORTS & VENDOR'S IIR	Major	Review	--	IS:1239 / P.O. Spec., EN10204	IS:1239 / P.O. Spec., EN10204	IR	P	R	
LEGENDS:		H-HOLD	P-PERFORMANCE	R-REVIEW	W-WITNESS	TC-TEST CERTIFICATE	IIR-INTERNAL INSPECTION REPORT	TPIA-THIRD PARTY INSPECTION AGENCY	CA - CONTROL AUTHORITY		
1	The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)										
2	The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.										
3	Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.										
4	Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.										
5	Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.										
6	Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.										
7	All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection										
8	At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.										

 		QUALITY CONTROL TABLES - GI FITTINGS						Document No. P.014714 G 11013 031 Date : 18.11.2020 Prepared by : PM Checked by : NN Approved by : NN			
SR. No	DESCRIPTION	COMPONENT	CHARACTERISTICS	QUANTUM OF CHECK	REF. DOC.	ACCEPTANCE NORMS	RECORD	INSPECTION			REMARKS
								MANUF.	TPIA/OWNER	CA	
1	Chemical Composition of raw material	Test bar	Marking and Correlation with TC	IS 14329 Grade BM 300	PO, Material specification	IS 14329 / PO, Material specification	Mill TC	R	R	R	
2	Chemical Composition of final product	Fitting	Chemical properties	IS 14329 Grade BM 300	PO, Material specification	IS 14329 / PTS	TC	P	W	R	
3	Cleaning and Finishing	Fitting	Descaling	100%	IS 14329 / PTS	IS 14329 / PTS	Inspection Report	W	RW	R	
4	Destructive Testing (Tensile , Elongation & Hardness)	Fitting	Mechanical Properties	IS 14329	IS 14329 / PTS	IS 14329 / PTS	Lab report	W	W	RW	
5	Compression Test	-	Malleability	Three samples per Heat	IS 1879 / PTS	IS 1879 / PTS	Inspection report	P	W	RW	
6	Pressure Test	-	-	IS 1879	IS 1879 / PTS	IS 1879 / PTS	Inspection report	P	W	RW	As per sampling procedure of IS 1839
7	Alignments of thread	-	-	IS 1879	IS 1879 / PTS	IS 1879 / PTS	Inspection report	P	W	RW	
8	Galvanizing	Fitting	Integrity of galvanised coating	As listed in IS 4759	IS 4736 / PTS	PTS	Inspection / lab report	W	W	RW	
9	Final inspection	Fittings	Visual, Dimensions, Finish, weld bevel, Bore, Marking, Colour coding	IS 1879	IS 1879 / PTS	IS 1879 / PTS	Inspection report	W	W	R	
10	Marking	-	-	100%	PTS	PTS	Inspection report	P	R	R	
11	Documentation	-	-	-	As per the term & conditions of P.O. & PTS	As per the term & conditions of P.O. & PTS	Compliance certificate	-			

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative), RW - Random witness

Note:


1	The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
2	The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
3	Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
4	Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
5	Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
6	Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
7	All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
8	At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.

 		QUALITY CONTROL TABLE WARNING MAT				Document No. P.014714 G 11013 032 Date : 18.11.2020 Prepared by : PM Approved by : NN Checked by: NN			
S. No	DESCRIPTION	QUANTUM OF CHECK	REF. DOC.	ACCEPTANCE CRITERIA	DOCUMENTATION	INSPECTION			REMARKS
						MANUF.	TPIA	CA	
1	Raw Material Inspection	Each Batch		As per material test certificate	Test report	R	R	R	
2	Final Inspection								
2.1	Width	Four sample per Lot	As per PTS	300 ± 5 mm	Inspection report	P	W	R	
2.2	Thickness	Four sample per Lot	As per PTS	Minimum 1 mm	Inspection report	P	W	R	
2.3	Tests								
2.3.1	Colouring	Four sample per Lot	PTS, EN 12613 & EN ISO 175	No discolouration or change of initial colour of test sample after test.	Inspection report	P	W	RW	
2.3.2	Tensile withstand Strength (in the longitudinal direction)	Four sample per Lot	PTS, EN 12613	minimum tensile withstand load not less than 200 N	Inspection report	P	W	RW	
2.3.3	Visual Warning Characteristics	Four sample per Lot	EN 12613	As per normative annex A of EN 12613	Inspection report	P	W	RW	
2.3.4	Permanence of Printing	Four sample per Lot	PTS, EN 12613 & IEC 60898:1995	Marking shall be easily legible after the test	Inspection report	P	W	RW	
2.3.5	Test of laying characteristics	Four sample per Lot	EN 12613	As per EN 12613	Inspection report	P	W	RW	
2.3.6	Test of Virginity	Four sample per Lot	PTS	As per Cl. 4.6.6 of PTS	Inspection report	P	W	RW	
3	Colour	Each	As per PTS	Bright Yellow Colour	Inspection report	P	W	RW	
4	Marking / Art Work	Per Meter	PTS	As per PTS	Inspection report	P	W	R	
5	Documentation	-	PO / PTS	PO / PTS	Compliance certificate	P	R	R	

LEGENDS: R - Review, W - Witness, RW - Random Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / owner's representative), P.O. - Purchase order

Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed QAP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to QAP/Quality manuals/Drawings etc.submitted by supplier.
- Supplier/ Vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.

  		QUALITY CONTROL TABLE ISOLATION BALL VALVE				Document No. P.014714 G 11013 033 Date : 18.11.2020 Prepared : PM Checked : NN Approved : NN		
SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION		
						Vendor	TPIA	REMARKS
1	Raw material Testing:							
1.1	Metallic materials (Chemical / Physical Requirement)	One in each heat	As per ASTM B 283 (ALLOY UNS C37700)	As per ASTM B 283 (ALLOY UNS C37700)	INSPECTION TEST REPORT	P	R	
1.2	Seat & Stem Seal Material	One in each heat	As per ASME B 16.33	As per ASME B 16.33	INSPECTION TEST REPORT	P	R	
2	Final product :							
2.1	- Gas Tightness Test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.2	As per EN 331 /ASME B 16.33 Cl no. 4.2	INSPECTION TEST REPORT	P	W	Preferably witness by CA
	- Twist (Torque) Test	1%	As Per PTS	As Per PTS	INSPECTION TEST REPORT	P	W	
	- Bending Test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.4.4	As per EN 331 /ASME B 16.33 Cl no. 4.4.4	INSPECTION TEST REPORT	P	W	
	- Impact Test	One in each heat	As Per PTS	As Per PTS	INSPECTION TEST REPORT	P	W	
	- Turning Torque Test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.4.6	EN 331 /As per ASME B 16.33 Cl no. 4.4.6	INSPECTION TEST REPORT	P	W	
2.2	- Physical Test (Impact / Tensile test)	One in each heat	As per ASME B 16.33 Cl no. 4.4.5 / PTS	As per ASME B 16.33 Cl no. 4.4.5 / PTS	INSPECTION TEST REPORT	P	W	
2.3	Temperature Resistance test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.3	As per EN 331 /ASME B 16.33 Cl no. 4.3	INSPECTION TEST REPORT	P	W	
2.4	Flow Capacity test	1%	As per EN 331 /ASME B 16.33 Cl no. 4.5	As per EN 331 /ASME B 16.33 Cl no. 4.5	INSPECTION TEST REPORT	P	W	
2.5	Hydrostatic pressure test	100%	As per EN 331/ASME B 16.33	As per EN 331/ASME B 16.33	INSPECTION TEST REPORT	P	RW	Preferably witness by CA
2.6	Visual inspection (Free from defects)	100%	As per EN 331 /ASME B 16.33	As per EN 331 /ASME B 16.33	INSPECTION TEST REPORT	P	RW	
2.7	Dimension tolerances (Min. length of engagement , OD , wall thk.)	100%	As per Approved Drawing	As per Approved Drawing	INSPECTION TEST REPORT	P	RW	
3	Marking	100%	As per EN 331 /ASME B 16.33 Cl no. 2.4 / PTS	As per EN 331 /ASME B 16.33 Cl no. 2.4 / PTS	INSPECTION TEST REPORT	P	RW	
4	Final Documentation		P.O. / PTS	P.O. / PTS	EN 10204 3.2 CERTIFICATE	P	H	

LEGENDS: R - Review, W - Witness, RW - Random Witness(Minimum 1 % of lot size) H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative)

Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.

**QUALITY CONTROL TABLE
APPLIANCE BALL VALVE**

Document No. P.014714 G 11013 034

Date : 18.11.2020

Prepared : PM Checked : NN

Approved : NN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION		
						Vendor	TPIA	REMARKS
1	Raw material Testing:							
1.1	Metallic materials (Chemical / Physical Requirement)	One in each heat	As per ASTM B 283 (ALLOY UNS C37700)	As per ASTM B 283 (ALLOY UNS C37700)	INSPECTION TEST REPORT	P	R	
1.2	Seat & Stem Seal Material	One in each heat	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	R	
2	Final product :							
2.1	- Gas Tightness Test	1%	As per EN 331 Cl no. 7.2	As per EN 331 Cl no. 7.2	INSPECTION TEST REPORT	P	W	Preferably witness by CA
	- Twist (Torque) Test	1%	As per EN 331 Cl no. 7.5	As per EN 331 Cl no. 7.5	INSPECTION TEST REPORT	P	W	
	- Bending Test	1%	As per EN 331 Cl no. 7.5	As per EN 331 Cl no. 7.5	INSPECTION TEST REPORT	P	W	
	- Impact Test	One in each heat	As per PTS	As per PTS	INSPECTION TEST REPORT	P	W	
	- Turning Torque Test	1%	As per EN 331 Cl no. 7.4	As per EN 331 Cl no. 7.4	INSPECTION TEST REPORT	P	W	
2.2	- Physical Test (Impact / Tensile test)	One in each heat	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	W	
2.3	Temperature Resistance test	1%	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	W	
2.4	Flow Capacity test	1%	As per EN 331 Cl no. 7.3	As per EN 331 Cl no. 7.3	INSPECTION TEST REPORT	P	W	
2.5	Hydrostatic pressure test	100%	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	RW	Preferably witness by CA
2.6	Visual inspection (Free from defects)	100%	As per EN 331	As per EN 331	INSPECTION TEST REPORT	P	RW	
2.7	Dimension tolerances (Min. length of engagement , OD , wall thk.)	100%	As per Approved Drawing	As per Approved Drawing	INSPECTION TEST REPORT	P	RW	
3	Marking	100%	As per EN 331 / PTS	As per EN 331 / PTS	INSPECTION TEST REPORT	P	RW	
4	Final Documentation		P.O. / PTS	P.O. / PTS	EN 10204 3.2 CERTIFICATE	P	H	

LEGENDS: R - Review, W - Witness, RW - Random Witness (Minimum 1 % of lot size) H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative)

Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note & MTC.

QUALITY CONTROL TABLES - COPPER TUBE

Document No. P.014714 G 11013 035

Date 18.11.2020

Prepared by :PM Checked by : NN

Approved by : NN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA (As per EN 1057 / PTS)	FORMAT OF RECORD	INSPECTION	
						Vendor	TPIA/Owner
1	Raw material : Chemical Requirement.	As per EN 1057	As per EN 1057	Material grade Cu - DHP / CW 024A Cu + Ag : Min. 99.9% P : .0015% to 0.040%	MTC	P	R
2	Final product : Chemical Requirement.	As per EN 1057	As per EN 1057			P	W
3	Physical test (Tensile , Elongation, Hardness etc.)	As per EN 1057	As per EN 1057	UTS - Min. 250 N / Sq. mm Elongation - Min. 30% Hardness - 75 to 100 HV	Inspection Report	P	W
4	Carbon film test	As per EN 1057	As per EN 1057	Maximum Residual carbon - 0.20 mg / sq. dm	Inspection Report	P	W
5	Carbon content test	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
6	Drift expanding test	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
8	Hydrostatic test	As per EN 1057	As per EN 1057	Min 35 bar @ 10 second.	Inspection Report	P	W
7	Eddy current test	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
9	Dimensional Inspection (O.D. , Wall thk. , Length , etc.)	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	W
10	Visual Inspection (Free from defect)	As per EN 1057	As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	R
11	Marking	As per EN 1057	As per EN 1057	As per EN 1057 / PTS		P	R
12	Final Documentation (All Inspection reports etc.)		As per EN 1057	As per EN 1057 / PTS	Inspection Report	P	R

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency

Note :

- 1 The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP prepared on the basis of above QCT & Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note,despatch clearance note & MTC.

QUALITY CONTROL TABLES - COPPER FITTINGS

Document No. P.014714 G 11013 036

Date 18.11.2020

Prepared by :PM Checked by : NN

Approved by : NN

S. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION	
						Vendor	TPIA/Owner
1	Raw material : Chemical Requirement.	one in each heat	As per EN 1254	Material grade Cu - DHP / CW 024A Cu + Ag : Min. 99.9% P : .0015% to 0.040%	MTC	P	R
2	Final product : Chemical Requirement.	one in each heat	As per EN 1254			P	W
3	Carbon in bore tests (Carbon film test , carbon content test)	one in each heat	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	W
4	Stress corrosion resistance test	one in each heat	As per ISO 6957	As per ISO 6957 / PTS	TEST REPORT	P	W
5	Hydrostatic pressure test	100%	As per EN 1254	Min. 37.5 bar @ 15 min.	TEST REPORT	P	W
6	Pneumatic pressure test	100%	As per EN 1254	Min. 6 bar .@ 10 second	TEST REPORT	P	W
7	Dimensional Inspection (Min. length of engagement , OD , Wall thk.)	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	W
8	Visual Inspection (Free from defect)	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	R
8	Marking	100%	As per EN 1254	As per EN 1254 / PTS		P	R
10	Final Documentation (All Inspection reports etc.)		As per EN 1254	As per EN 1254 / PTS	Inspection Report	P	R

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency

Note :

- 1 The above testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP prepared on the basis of above QCT & Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note,despatch clearance note & MTC.



QUALITY CONTROL TABLES - BRASS FITTING

Document No. P.014714 G 11013 037

Date 18.11.2020

Prepared by :PM Checked by : NN

Approved by : NN

SR. NO.	INSPECTION AND TESTING	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	FORMAT OF RECORD	INSPECTION		
						Vendor	TPIA/CLIENT	REMARKS
1	Raw material Testing: (Chemical / Physical Requirement)	One in each heat	As per EN 12164	As per EN 12164 / PTS	MTC	P	W	Preferably witness by CA
2	Final product :							
2.1	Resistance to dezincification	One in each heat	As per EN 1254	As per EN 1254	TEST REPORT	P	W	
2.2	Stress corrosion resistance test	One in each heat	As per ISO 6957	As per ISO 6957 / PTS	TEST REPORT	P	W	
2.3	carbon in bore test	One in each heat	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	W	
2.4	Hydrostatic pressure test	100%	As per EN 1254	Min 37.5 bar @ 15 min.	TEST REPORT	P	W	Preferably witness by CA
2.5	Pneumatic pressure test	100%	As per EN 1254	Min 6 bar @ 15seconds	TEST REPORT	P	W	
2.6	Visual inspection (Free from defects)	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	R	
2.7	Dimension tolerances (Min. length of engagement , OD , wall thk.)	100%	As per EN 1254	As per EN 1254 / PTS	TEST REPORT	P	RW	
2.8	Marking	100%	As per EN 1254	As per EN 1254		P	R	
3	Final Documentation		P.O. / PTS	P.O. / PTS	TEST REPORT	P	H	

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative), RW - Random witness

Notes: -

- The above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organize Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/GGL at the time of Inspection
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note , despatch clearance note & MTC.



**QUALITY CONTROL TABLES - CORRUGATED FLEXIBLE METAL HOSE
(ANACONDA)**

Document No. P.014714 G 11013 038

Date 18.11.2020

Prepared by :PM Checked by : NN



Approved by : NN

S. NO.	Item/Description	Test Parameters	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA AND CERTIFICATE	INSPECTION		Remarks
						Vendor	TPIA	
1	Raw Material							
1.1		Chemical & Mech. Test of material of SS hose	100%	SS316 BS: 1449 PART -2	SS316 BS: 1449 PART -2/ MTC	P	W	
1.2		Chemical & Mech. Test of material of end fittings (Adaptors, nuts, washer)	100%	As per PTS	As per PTS / MTC	P	W	
1.3		Heat treatment	100%	As per BS: 6501 PART 1	As per BS: 6501 PART 1	P	R	
2	Final Product							
2.1	Type test	Cyclic life/ static bend test at 1.5 x design pressure	one (1) per batch	As per Cl. No. 14 of BS: 6501 PART 1	As per BS: 6501 PART 1 No cracks permissible	P	W	Witness / Review by CA
2.2		Yield and Burst test	one (1) per batch	As per Cl. No. 14 of BS: 6501 PART 1	As per BS: 6501 PART 1	P	W	Witness / Review by CA
2.3	Production test	Pressure test (Pneumatic Test)	100%	As per Cl. No. 15 of BS: 6501 PART 1	As per BS: 6501 PART 1	P	RW	Witness / Review by CA
2.4		Visual Inspection	100%	As per BS: 6501 PART 1	As per BS: 6501 PART 1	P	R	
2.5		Dimension	100%	As per PTS	As per PTS	P	RW	
3	End fittings (Adaptors, nuts, washer)	Visual & dimensional check	100%	As per PTS	As per PTS	P	R	
4	Marking	-	100%	As per BS: 6501 PART 1	As per BS: 6501 PART 1	P	R	
5	Final Documentation	-	-	As per the term & conditions of P.O. & PTS	As per the term & conditions of P.O. & PTS	P	H	

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative), RW - Random witness

Notes: -



- 1 The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- 2 The supplier shall submit their own detailed ITP along with proposed drawing and marking details prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- 3 Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- 4 Contractor shall in coordination with Supplier/Sub vendor issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- 5 Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- 6 Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- 7 All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection
- 8 At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.

 		QUALITY CONTROL TABLE STEEL REINFORCED RUBBER HOSE					Document No. P.014714 G 11013 039 Date 18.11.2020 Prepared by :PM Checked by : NN Approved by : NN		
S. NO.	Item/Description	Test Parameters	QUANTUM OF CHECK	PROCEDURE	ACCEPTANCE CRITERIA	CERTIFICATE	INSPECTION		Remarks
							Vendor	TPIA	
1.1	Raw Material	Chemical & Mech. Test of material of Steel Reinforced Rubber Hose (Lining, Reinforcement material & Cover)	100%	IS 9573	IS 9573	MTC	P	R	
2	Final Product								
2.1	Final Inspection	Mechanical Properties	one (1) per batch	Tensile Strength = 10 Mpa (Min.) El (Lining & Cover) is 200 & 250 resp. (Min.)	PTS & IS 9573	Inspection Report	P	W	
2.2		Resistance of Lining to n-pentane	one (1) per batch	Shall not exceed 10% absorbed & 5 % extractable as per Cl.no. 5.2 of PTS	Cl 5.4.3.2 of IS 9573	Inspection Report	P	W	
2.3		Adhesion Test	one (1) per batch	Min. Adhesion shall be 2 KN/m as per Cl. No. 5.3 of PTS	Cl. no. 5.5.1 of IS 9573	Inspection Report	P	W	
2.4		Low Temperature Flexibility Test	one (1) per batch	Conditioned at -40°C for 5 hrs. & bent at 180° around mandrel of dia 12 times the Nominal Bore of hose as per Cl no. 5.4 of PTS	Cl. No. 5.5.2 of IS 9573	Inspection Report	P	W	
2.5		Flexibility of hose at 1.5 x design pressure	one (1) per batch	Bent empty to radius 95 mm without flattening & suffering structural damages.	Cl. No. 5.5.3 of IS 9573	Inspection Report	P	W	Witness by CA
2.6		Ozone Resistance Test	one (1) per batch	Cl no. 5.9 of PTS	Cl. No. 5.5.4 of IS 9573	Inspection Report	P	W	
2.7		Hydrostatic Test / Proof Pr. Test	100%	2 Mpa for 1 min. as per Cl. No. 5.7 of PTS	Cl. No. 5.5.5.1 of IS 9573	Inspection Report	P	W	Witness by CA
2.8		Burst test	one (1) per batch	Min Pressure shall be 5 MPA as per Cl. 5.8 of PTS	Cl. No. 5.5.5.2 of IS 9573	Inspection Report	P	W	Witness by CA
2.9		Grip Strength Test	4 specimen / Batch	Cl no. 5.9 of PTS	Cl no. 5.5.7 & Annex. A of IS 9573	Inspection Report	P	W	
2.10		Burning Test	one (1) per batch	Shall not burn till 45 sec. as per Cl. No. 5.10 of PTS	Cl no. 5.5.8 of IS 9573	Inspection Report	P	W	
2.11		Visual & Dimensional Inspection	100%	Cl. No. 4.0 of PTS & IS 9573	IS 9573	Inspection Report	P	R	
2.12		Cover Color - Orange	100%	Cl no. 5.2.3 of PTS	PTS & IS 9573	Inspection Report	P	R	
3	Marking	-	100%	As per Cl. No. 6.0 of PTS	PTS / IS 9573	Inspection Report	P	R	
4	Packaging	-	100%	As per Cl. No. 7.0 of PTS	PTS / IS 9573	Inspection Report	P	R	
5	Final Documentation	-	-	As per the term & conditions of P.O. & PTS	As per the term & conditions of P.O. & PTS	3.2 Certificate as per EN 10204	P	H	

LEGENDS: R - Review, W - Witness, H - Hold, P - Perform, TPIA - Third Party Inspection Agency, CA - Control Authority (Owner / Owner's representative)



Notes: -

- The Above Testing and acceptance criteria are minimum requirements, however, manufacturer shall ensure that the product shall also comply to the additional requirements as per Particular Technical specifications(PTS)
- The supplier shall submit their own detailed ITP prepared on the basis of above / Technical specification for approval of Owner/Owner's representative.
- Owner/Owner representative shall review/approve all the documents related to ITP/Quality manuals/Drawings etc.submitted by supplier.
- Contractor shall in coordination with Supplier/Sub vendor shall issue detailed Production and Inspection schedule indicating the dates and the locations to facilitate Owner/Owner's representative and TPIA to organise Inspection.
- Special manufacturing procedures have to be specially approved or only previously approved procedures have to be used, in case of conflict between specifications more stringent condition shall be applicable.
- Owner / Owner's representative including TPIA will have the right to inspect any activity of manufacturing at any time.
- All reference Codes/ Standards, Documents, P.O. Copies shall be arranged by vendor / supplier for reference of TPIA/Owner at the time of Inspection.
- At the time of delivery of material in stores, vendor will submit copy of all related document of inspection along with release note, despatch clearance note & MTC.

		RECOMMENDED VENDORS LIST LAYING OF MDPE MAIN PIPELINES AND SERVICE PIPELINE	P.014714 G 11040 005
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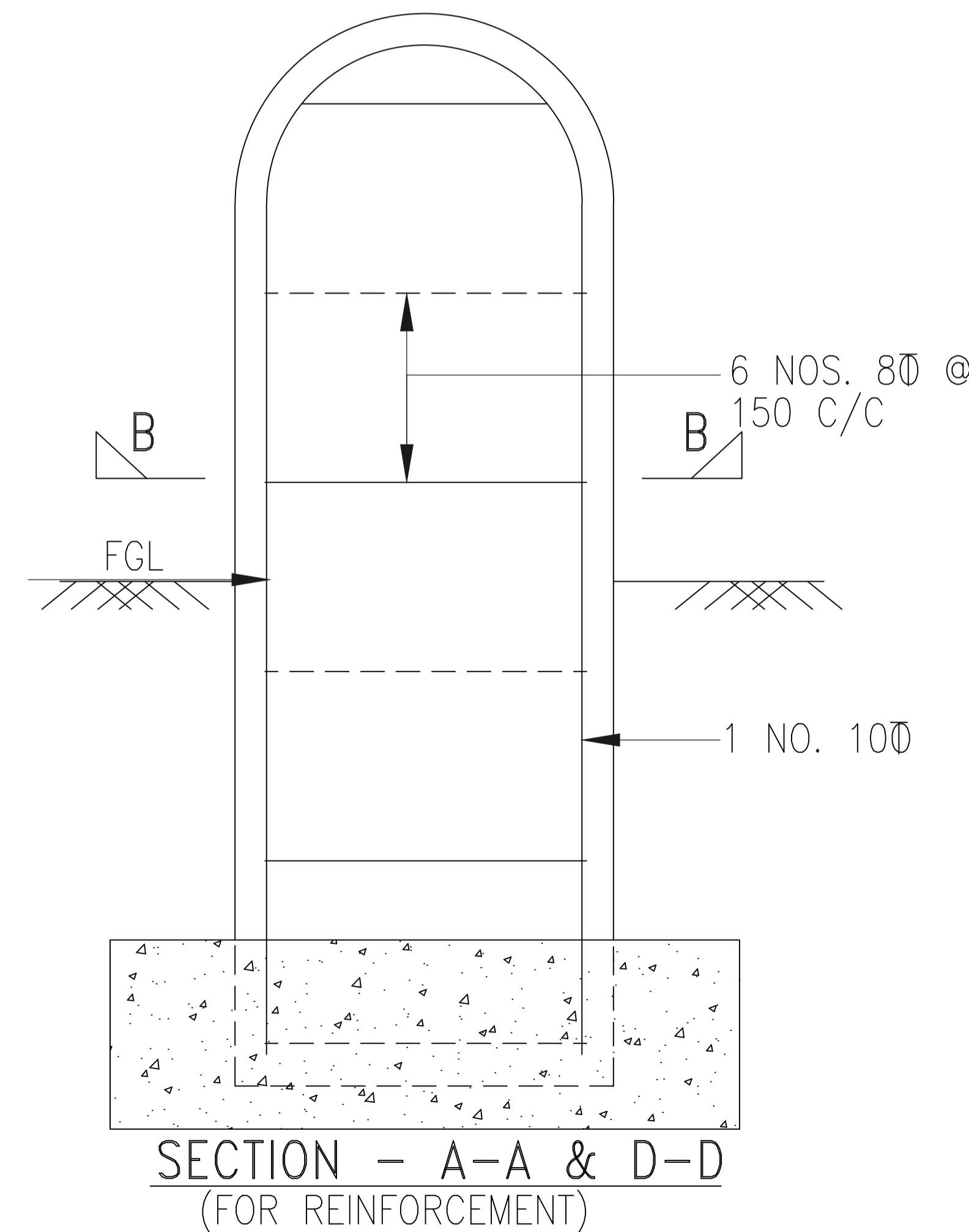
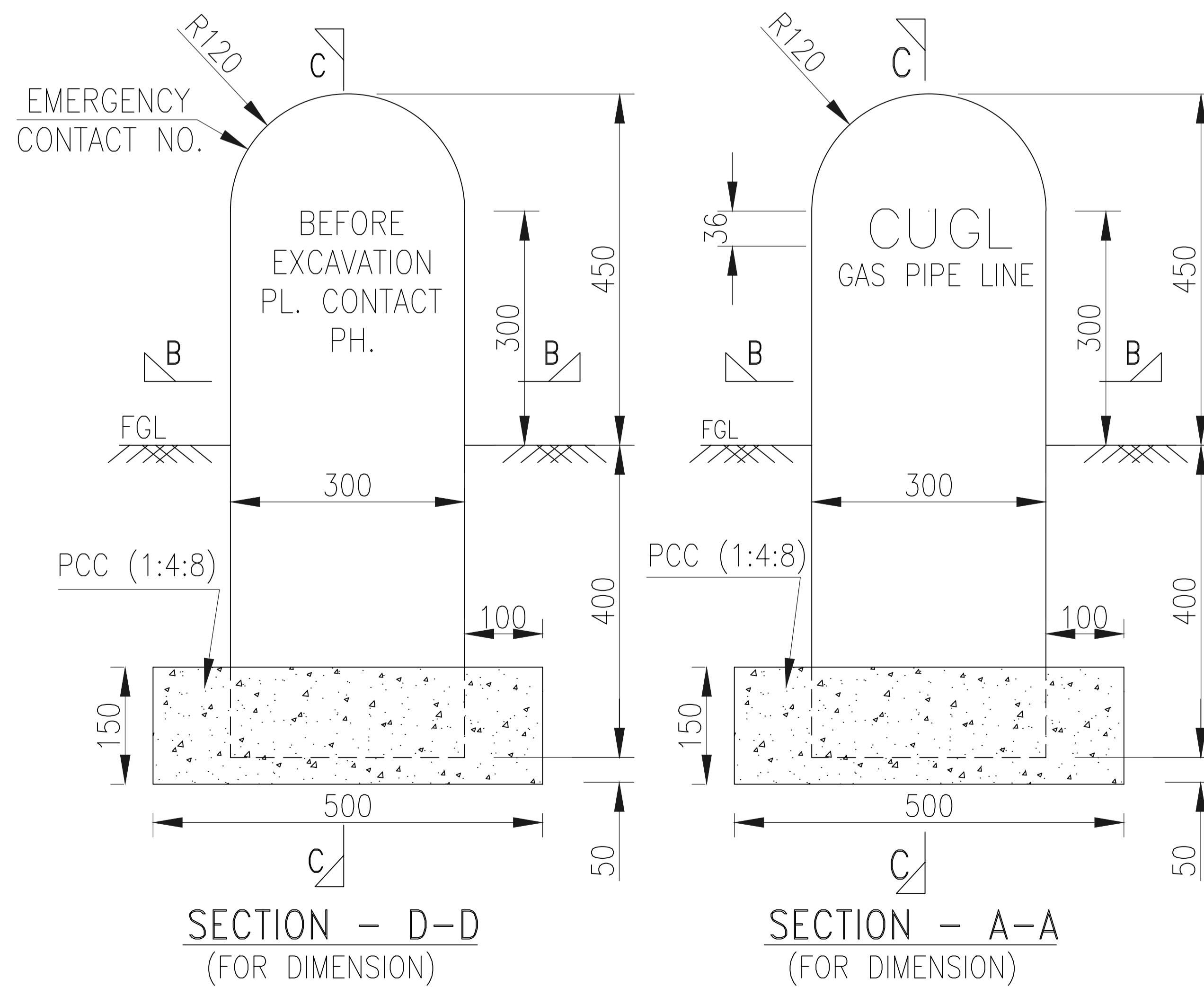
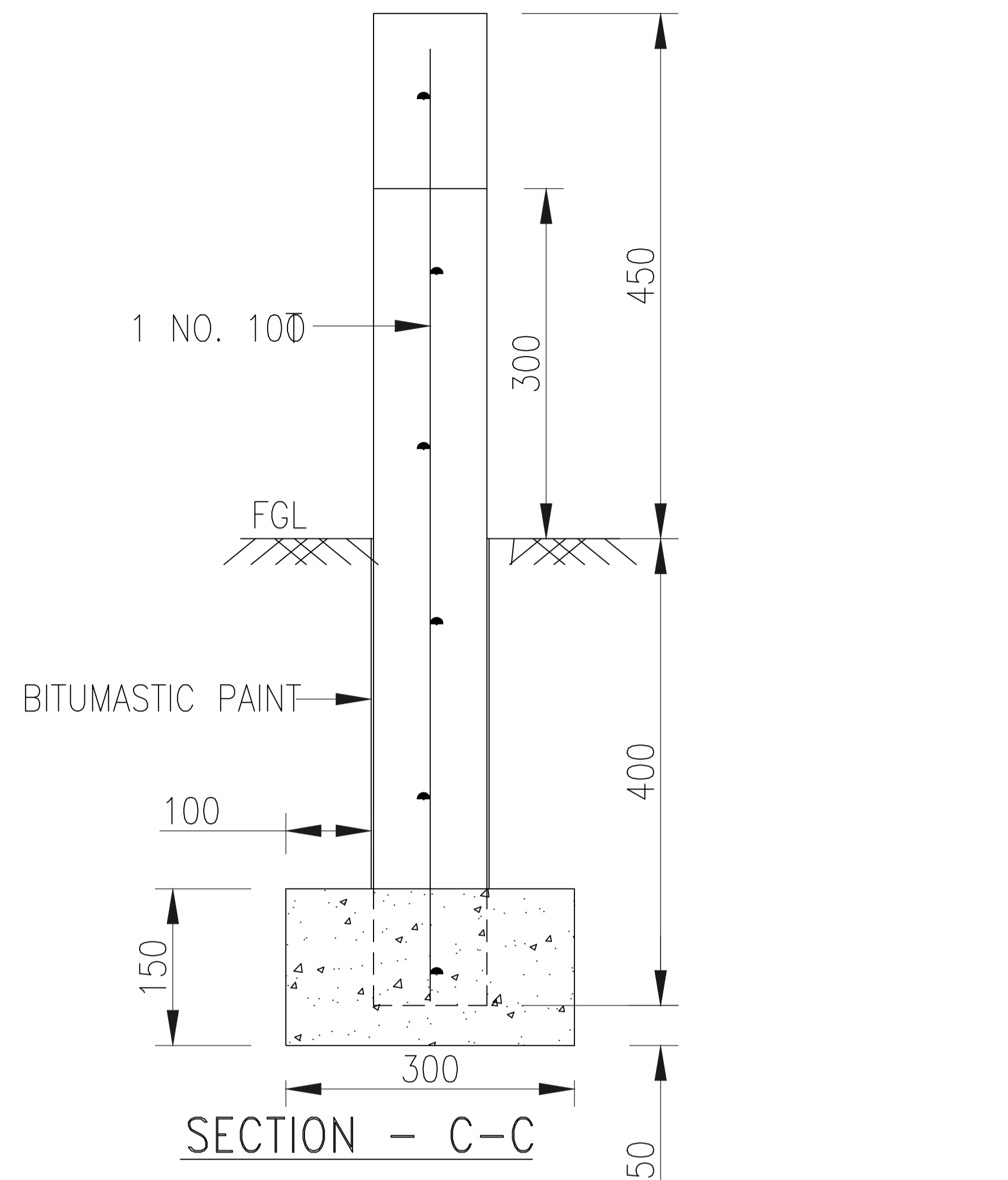
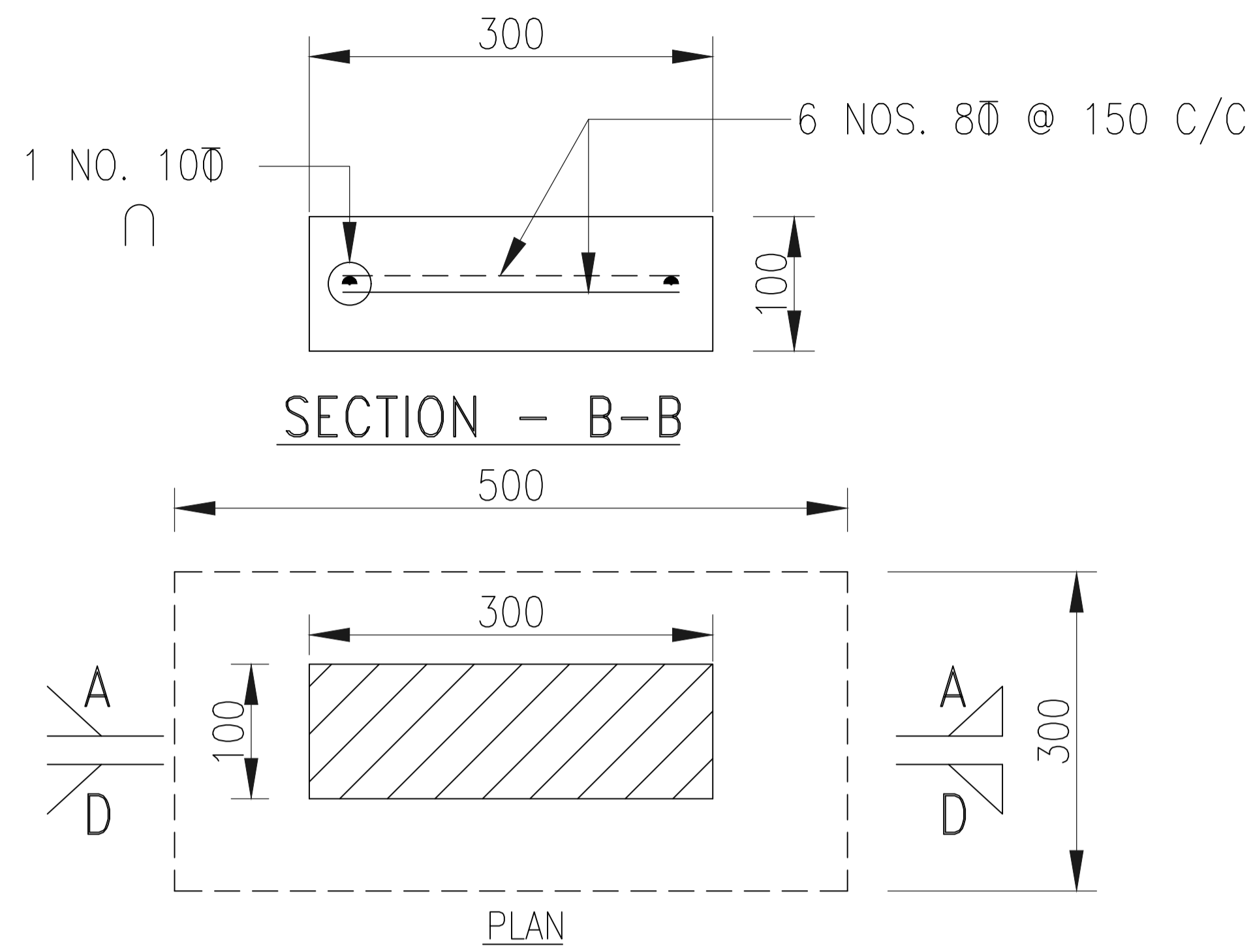
RECOMMENDED VENDOR LIST

ITEM CODE / DESCRIPTION	GI Pipe
VENDOR NAME	Remark
M/s PS Steel Tubes ltd	
M/s Swastik Pipe Ltd.	
M/s Jindal Industries Ltd.	
M/s Vishal Pipes Ltd.	
M/s Indus Tubes Ltd.	
M/s Advance steel Tubes Ltd.	
M/s Surya Roshni Limited	
M/s. Rama Steel Tubes	
ITEM CODE / DESCRIPTION	GI Fittings
VENDOR NAME	REMARKS
M/s Sarin Industries Ltd.	
M/s Jupiter Metal Industries Ltd.	
M/s Jainsons Industries Ltd.	
M/s Green Malleable Pvt Ltd	
M/s Mehta Brothers & Co.	
M/s Chokhawala Distributors	
ITEM CODE / DESCRIPTION	Isolation Ball Valve & Appliance Valve
VENDOR NAME	REMARKS
M/s Rubinetterie Utensilerie Bonomi SRL	
M/s Bugatti Valvosanit Aria S.P.A	
M/s Ningbo Zhiqing Industrial CO. Limited	
M/s Enologas Bonomi S.P.A	
M/s Umesh Enterprises (Isolation Valve & Appliance Valve)	
M/s Mehta Brothers & Co.	
M/s Chokhawala Distributors	
ITEM CODE/DESCRIPTION	Warning Mat
VENDOR NAME	REMARKS
M/s. Shree Vijay Wire & Cable Industries.	
M/s Sparco Multiplast Pvt. Ltd.	
M/s Singhal Industries Pvt Ltd.	
M/s BINA Enterprises	
ITEM CODE/DESCRIPTION	HDPE Pipe
VENDOR NAME	REMARKS

		RECOMMENDED VENDORS LIST LAYING OF MDPE MAIN PIPELINES AND SERVICE PIPELINE	P.014714 G 11040 005
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M/s Parixit Irrigation Limited	
M/s Jain Irrigation Systems Ltd.	
M/s Pennwalt Agru Plastic ltd.	
M/s Veekay PLAST	
M/s Kriti Industries India (pvt.) Ltd.	
Himalayan Pipe Industries	
M/s Dura-line India Pvt Ltd.	
ITEM CODE/DESCRIPTION	PE(Fitting/Valves/Transition Fittings)
VENDOR NAME	REMARKS
M/s. Tega Muhendislik	
M/s. Georg Fischer Piping System	
M/s. Kimplas piping Systems	
M/s. Glynwed pipe systems	
M/s. RMG Autometers gas technologies	
<p>Notes :</p> <p>1. For the vendors of items not covered in above vendor list, but required for completion of project successfully, supplier shall take approval form Owner/Owners representative for the same during project execution. Bidder shall submit the required certifications, documents, PTR and Performance letters from clients for the same.</p>	

- NOTES
1. DRAWING IS NOT TO SCALE.
 2. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 3. MARKERS SHALL BE INSTALLED IN EVERY 50 METER INTERVAL AS PER INSTRUCTIONS OF ENGINEER-IN-CHARGE.
 4. ALL BOUNDARY MARKERS SHALL BE PRECAST & INSCRIPTIONS SHALL BE ENGRAVED 5mm DEEP IN THE MOULD ON BOTH FACE.
 5. CONCRETE FOR BOUNDARY MARKER SHALL BE M - 20.

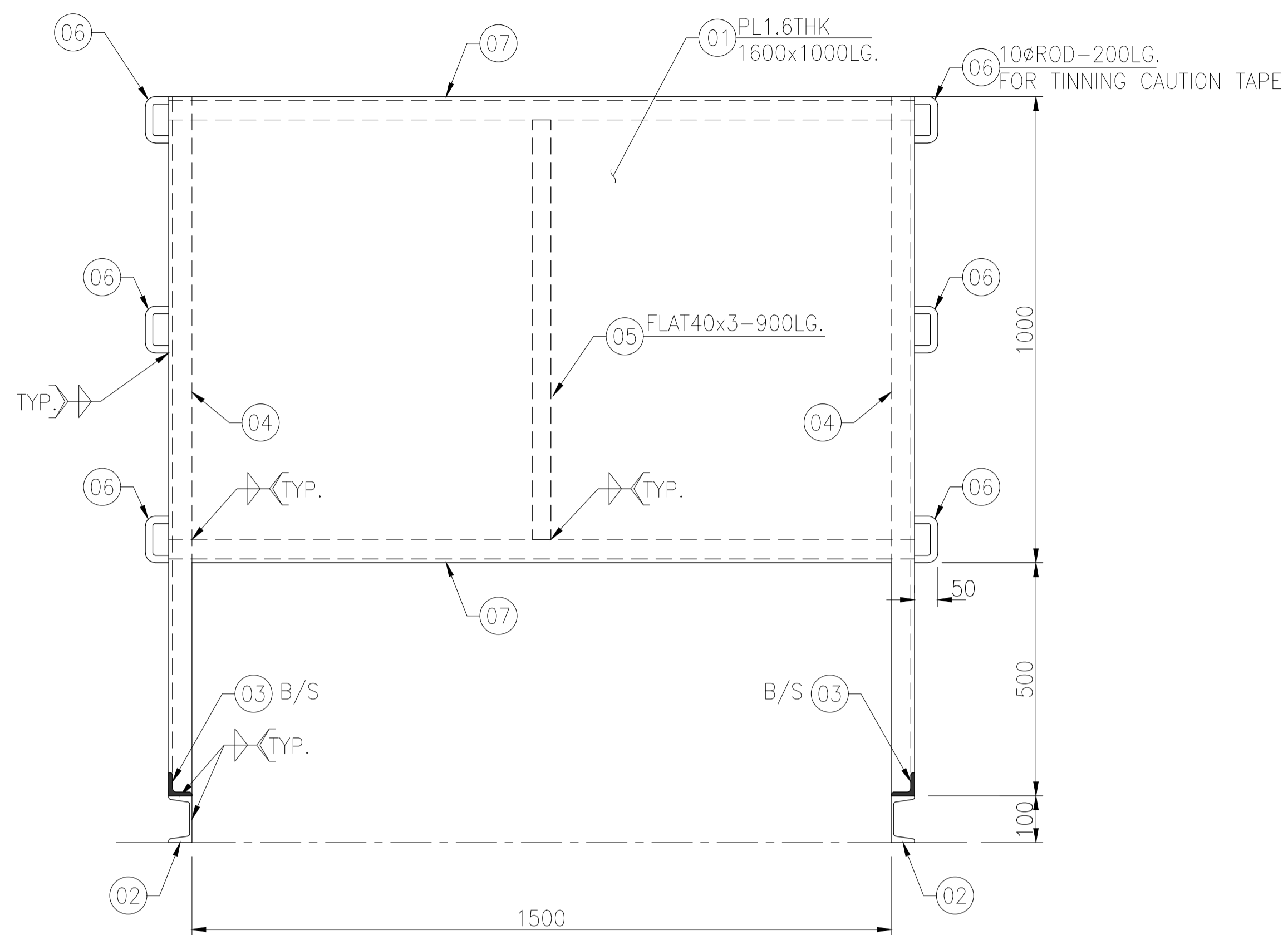


0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			TYPICAL DETAIL OF CAUTION BOARD		
TRACTEBEL		Size	Scale	Sheet	Rev.
ENGI		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		Project No.	Discipline Code	System Code	Serial No.
		P.014714	C	21028	007

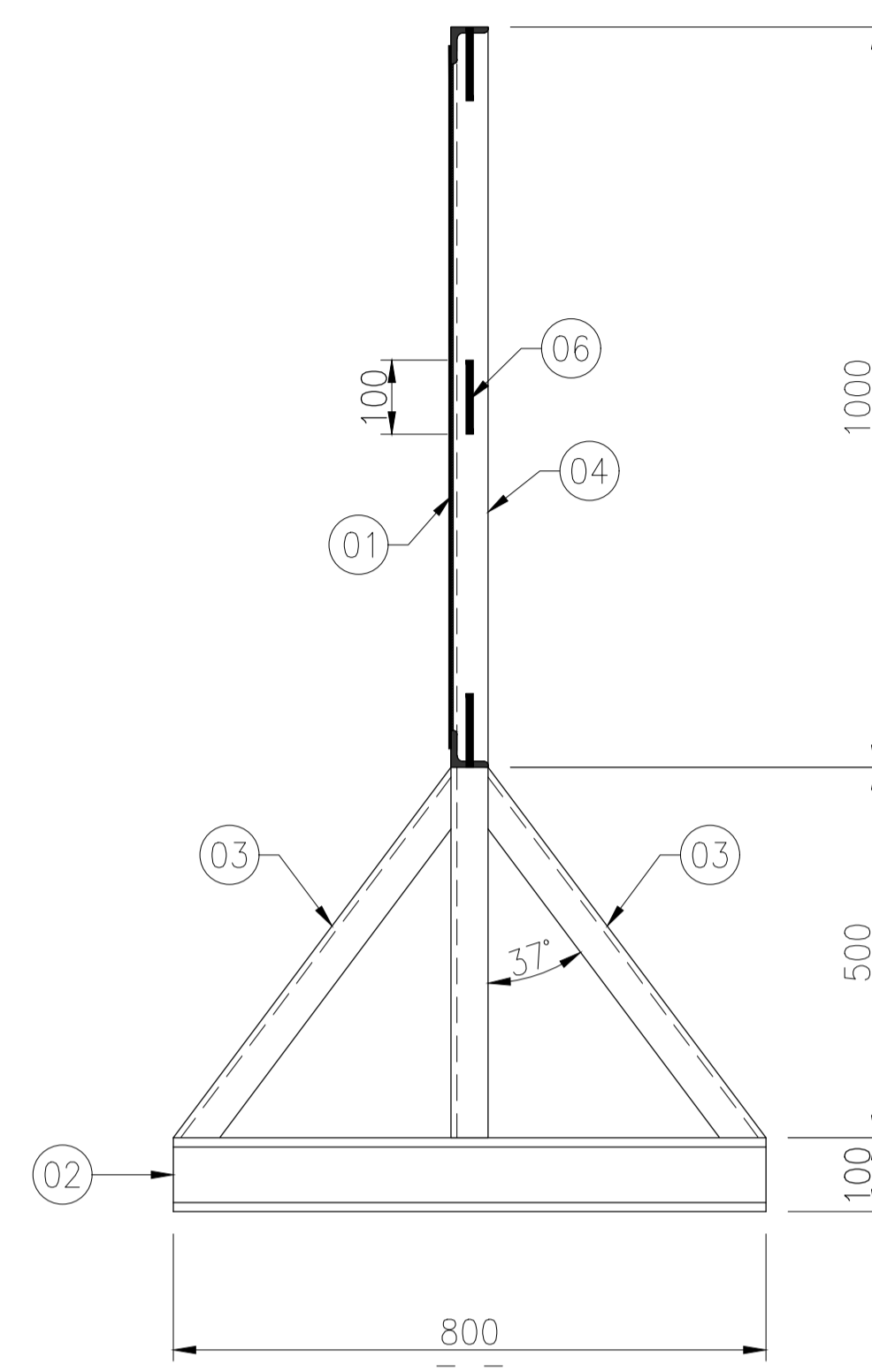
This document is the property of TRACTEBEL ENGINEERING INDIA. Any duplication or transmission to third parties is forbidden without its prior approval.

NOTES

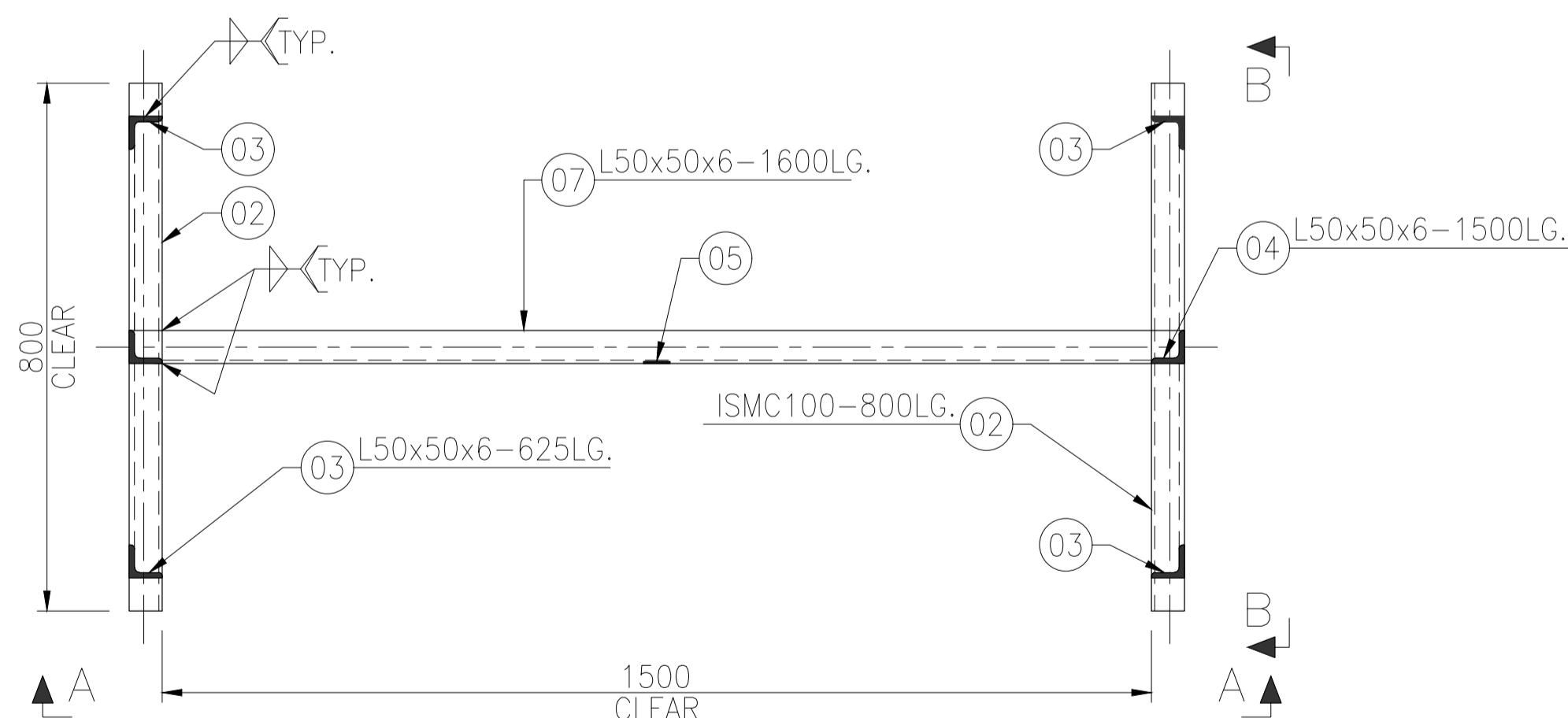
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2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.



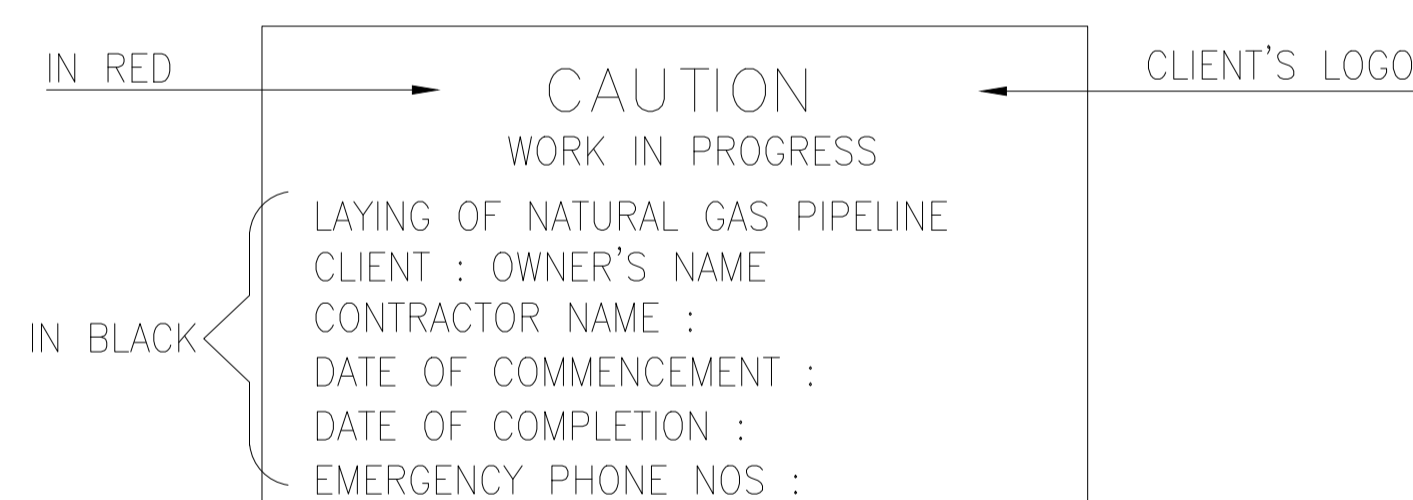
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(SCALE 1:100)



ELEVATION B-B
(SCALE 1:100)





PLAN VIEW
(SCALE 1:100)



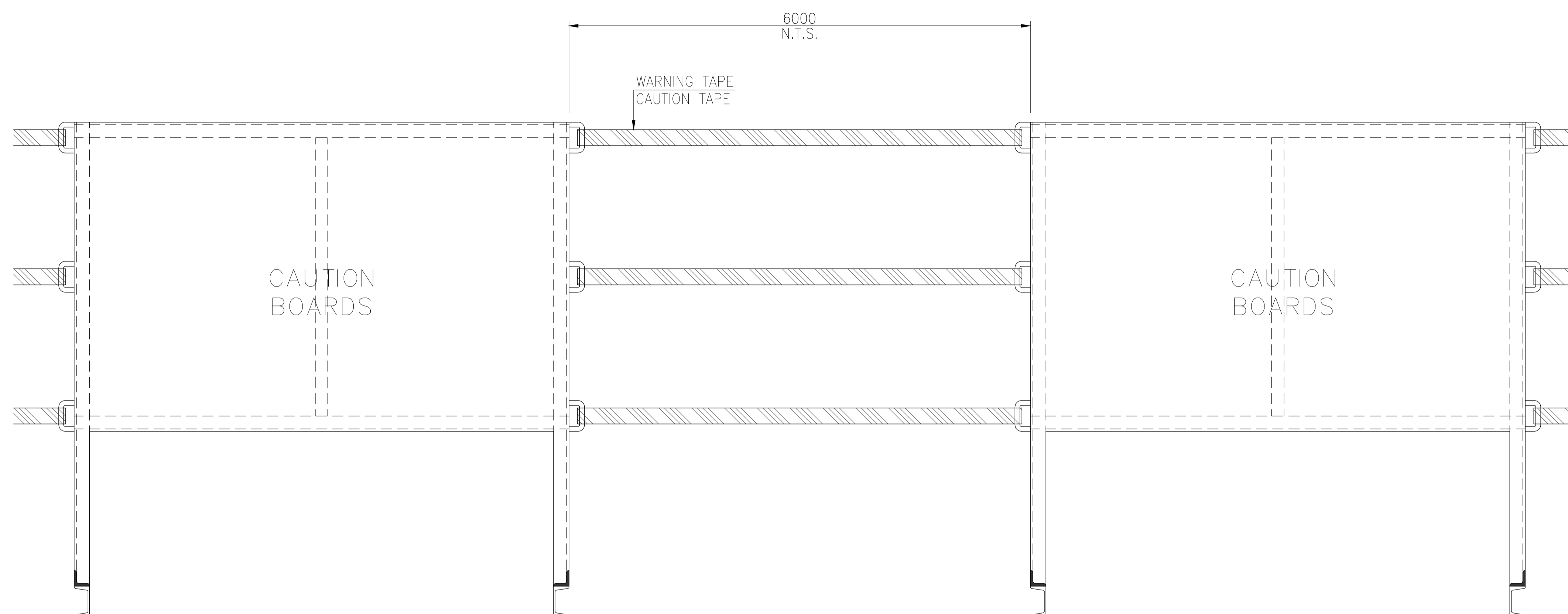
(TO BE PRINTED ON BOTH SIDE OF ITEM NO. 01)

BILL OF MATERIAL						
Item Mkd.	Section	Width	Length	item Qty.	Weight	In Kgs
				(All Marks)	Kgs./M, M2	Total Weight
1	PL 1.6 Thk.	1600	1000	1	12.56	20.10
2	ISMC 100	--	800	2	9.20	14.72
3	L50x50x6	--	625	4	4.50	11.25
4	L50x50x6	--	1500	2	4.50	13.50
5	Flat 3 Thk.	40	900	1	0.94	0.03
6	10Ø Rod	--	200	6	0.62	0.74
7	L50x50x6	--	1600	2	4.50	14.40
Grand Total (Kg)						74.74

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER		 CENTRAL UP GAS LIMITED			
PROJECT		CITY GAS DISTRIBUTION PROJECT			
SUBJECT		TYPICAL DETAIL OF CAUTION BOARD			
		Size	Scale	Sheet	Rev.
TRACTEBEL Engineering pvt. Ltd.		A1	NTS	01 of 01	0
		Project No.	Discipline Code	System Code	Serial No.
		P.014714	C	21028	008


NOTES


1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.



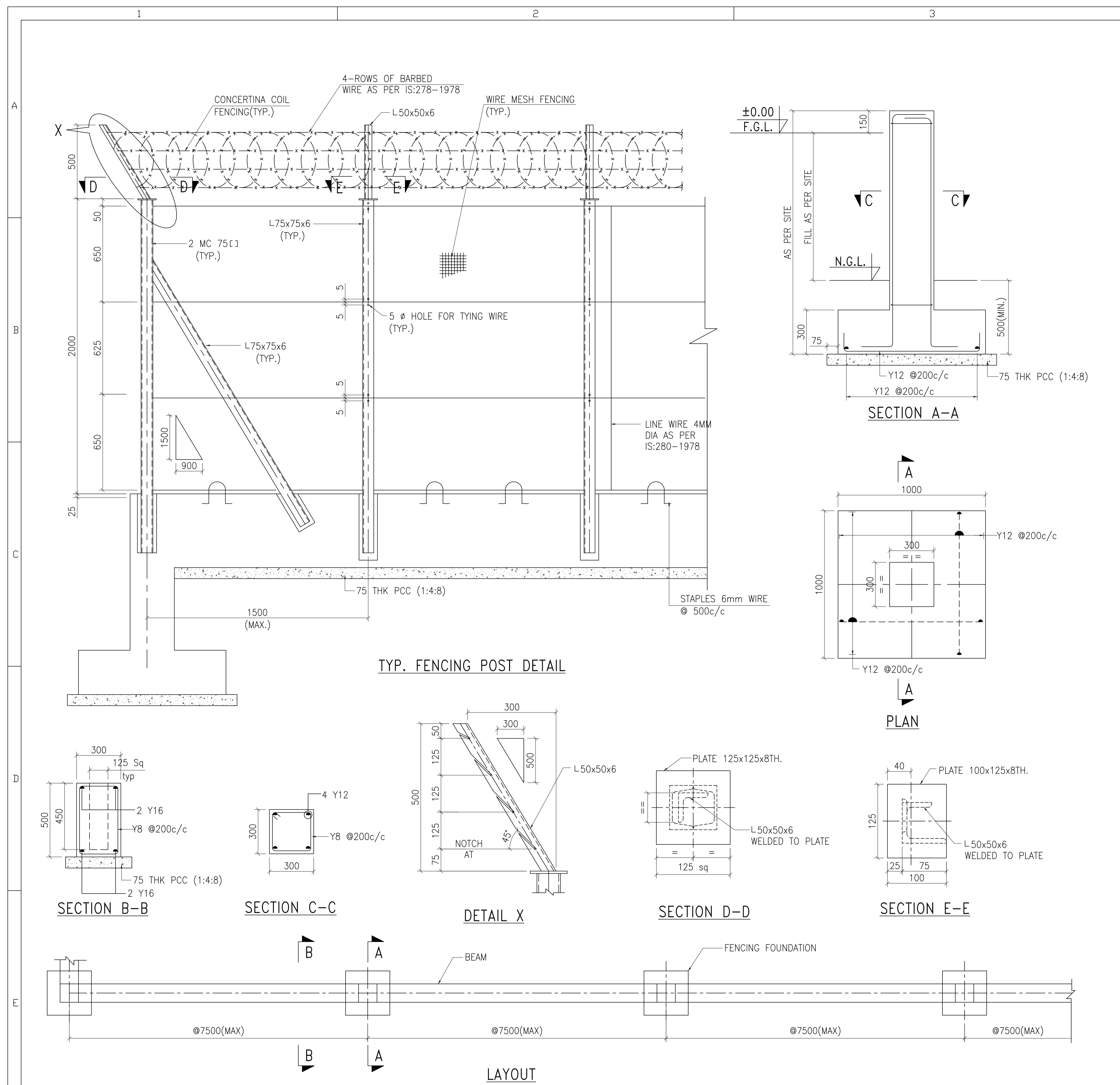
SCHEMATIC LAYOUT OF CAUTION BOARDS AND BARRICADING




0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

CUSTOMER  **CENTRAL UP GAS LIMITED**
 PROJECT **CITY GAS DISTRIBUTION PROJECT**
 SUBJECT **TYPICAL DETAIL OF BARRICADING**

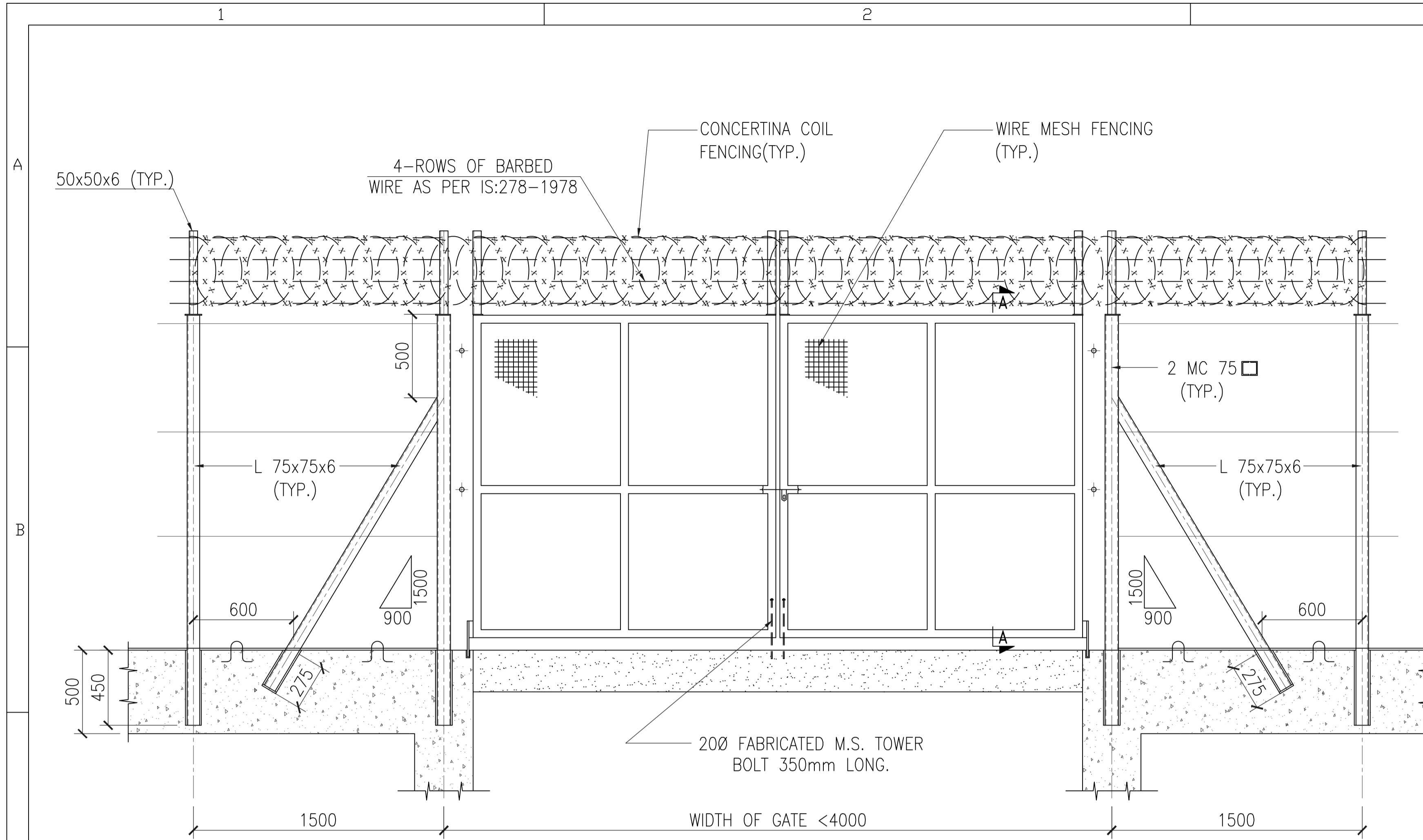
	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.	Project No. P.014714	Discipline Code C	System Code 21028	Serial No. 009

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.

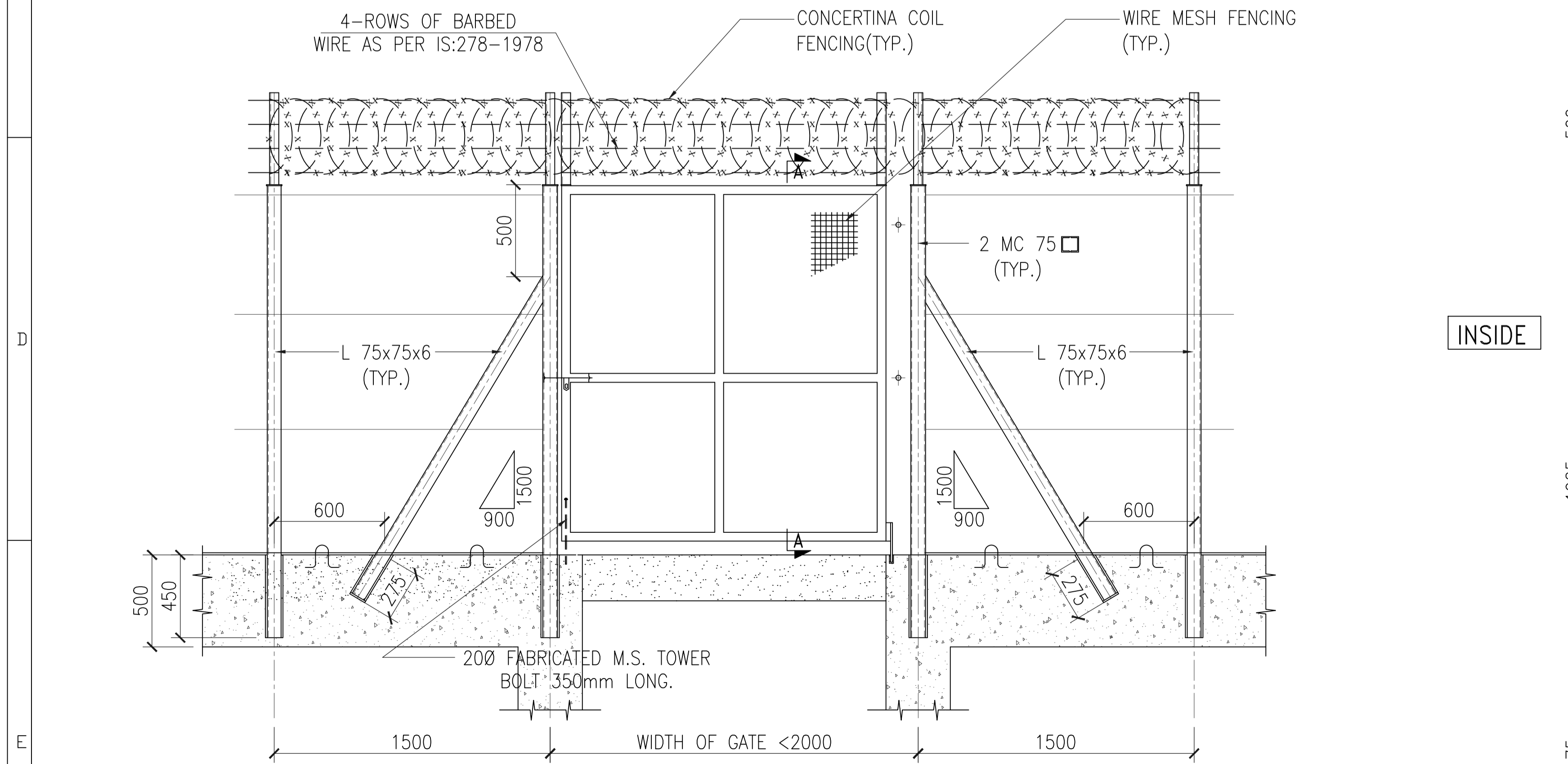


0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER					
 CENTRAL UP GAS LIMITED					
PROJECT					
CITY GAS DISTRIBUTION PROJECT					
SUBJECT					
TYPICAL DETAILS OF FENCING WITH WIRE MESH FENCING					
		Size	Scale	Sheet	Rev.
		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		Project No.	Discipline	Code System Code	Serial No.
		P.014714	C	21028	010

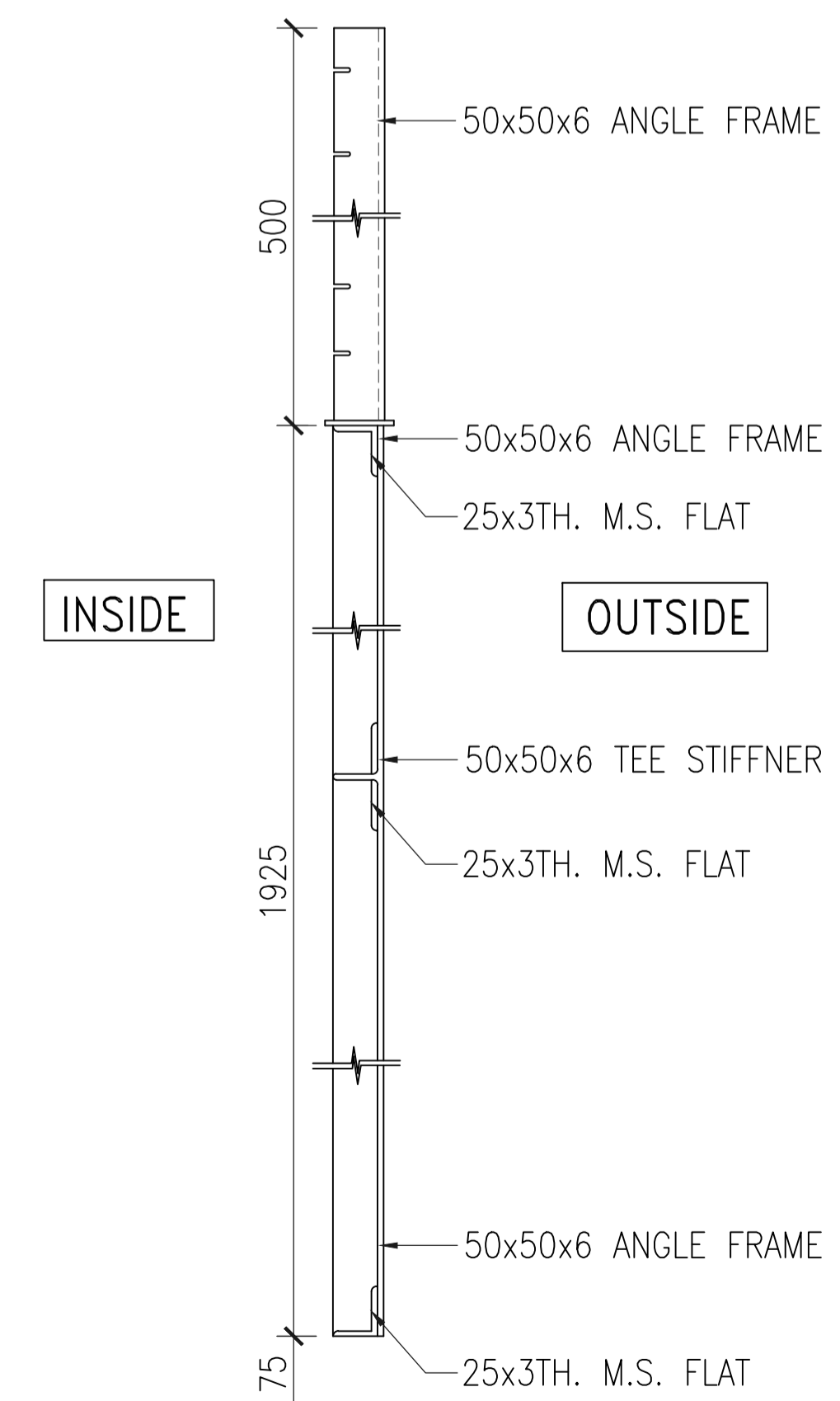
- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.



GATE DETAIL



GATE DETAIL



SECTION A-A

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			TYPICAL DETAILS OF GATE		
Size	Scale	Sheet	Rev.		
A1	NTS	01 of 01	0		
Project No.		Discipline Code System Code	Serial No.		
TRACTEBEL Engineering pvt. Ltd.		P.014714	C	21028	011

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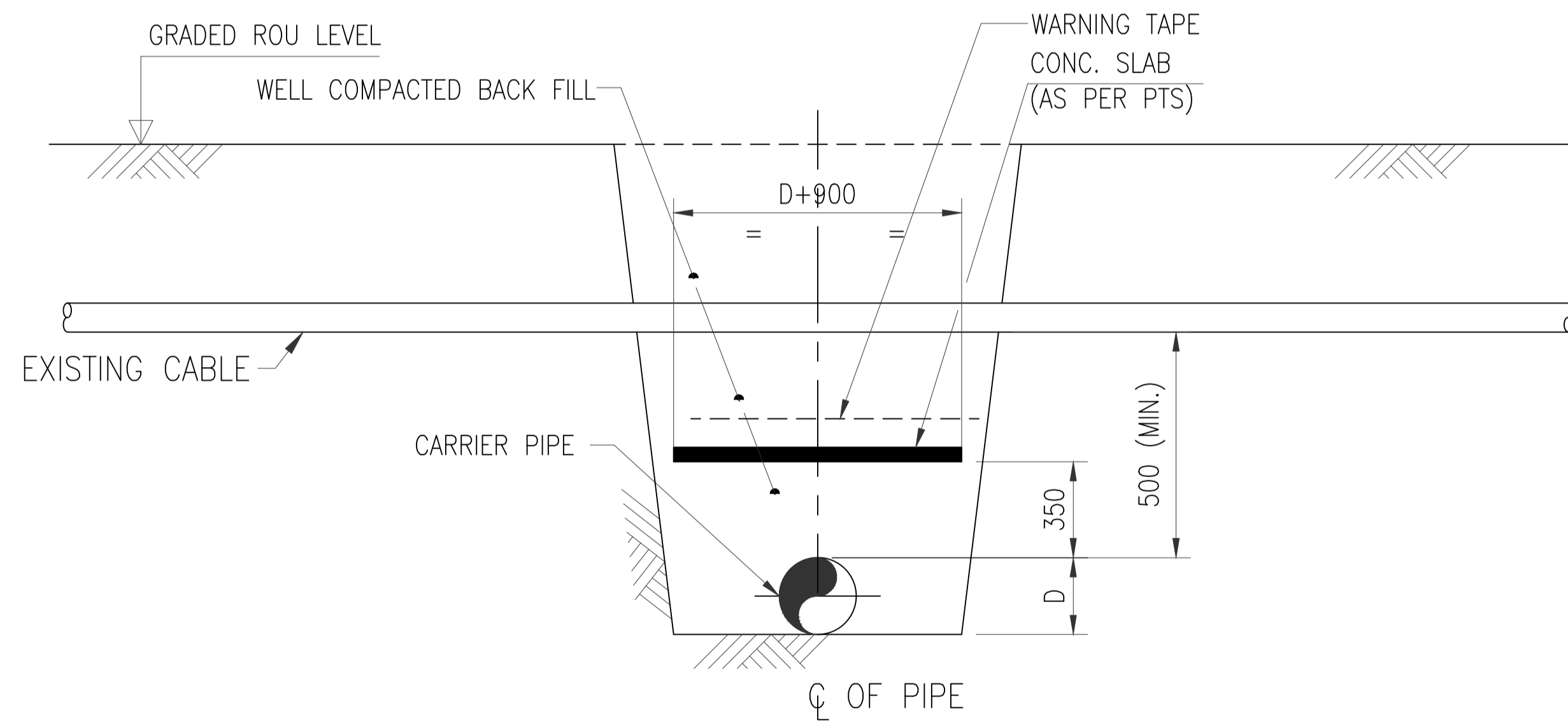
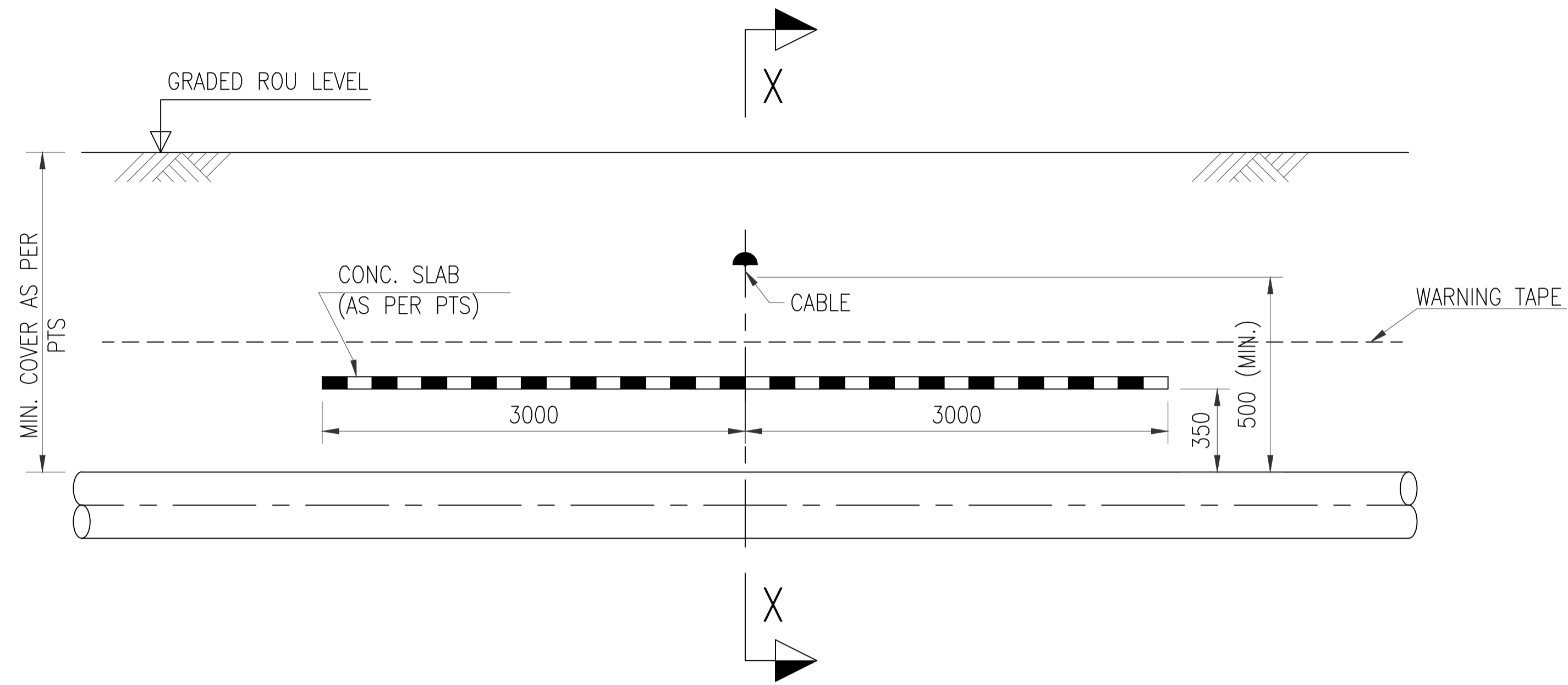
A

B

C

D

E

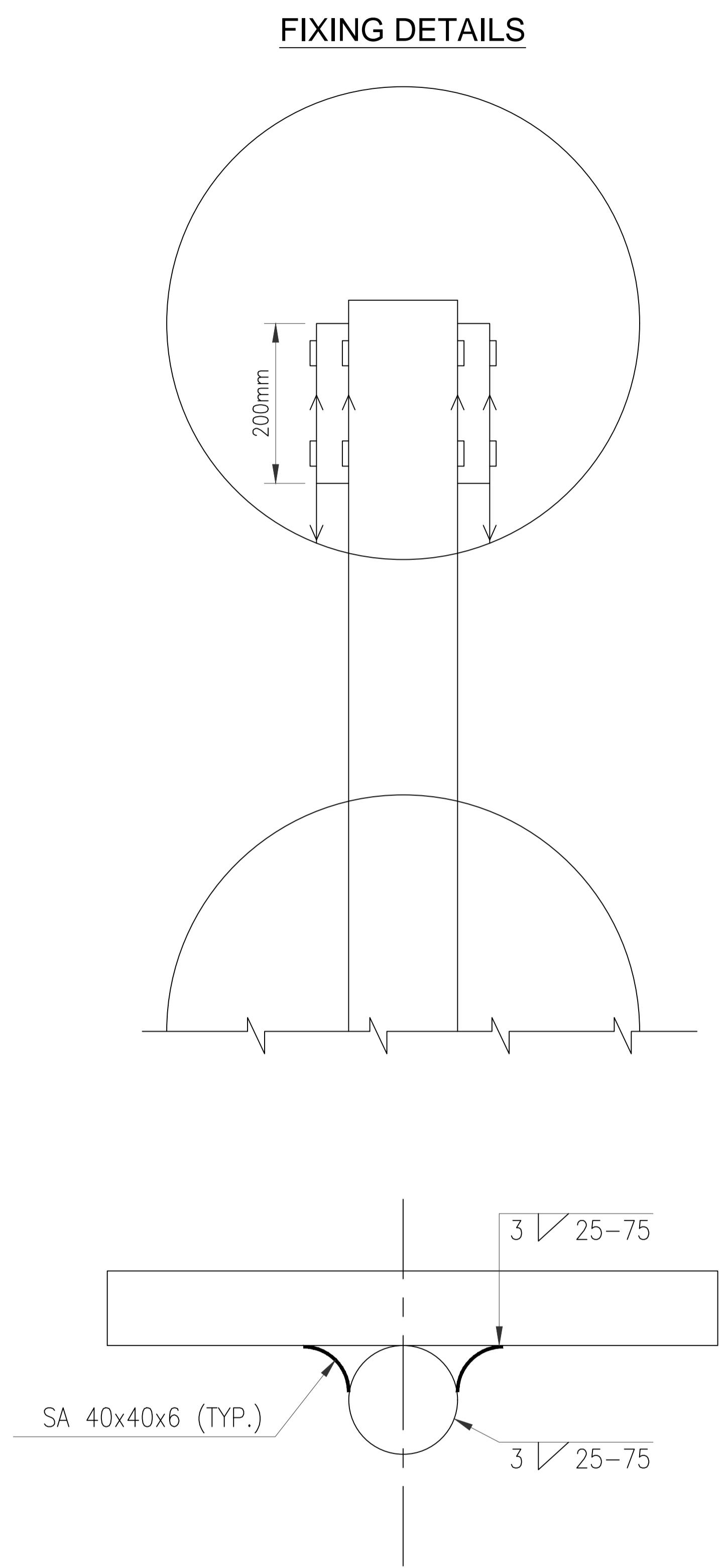
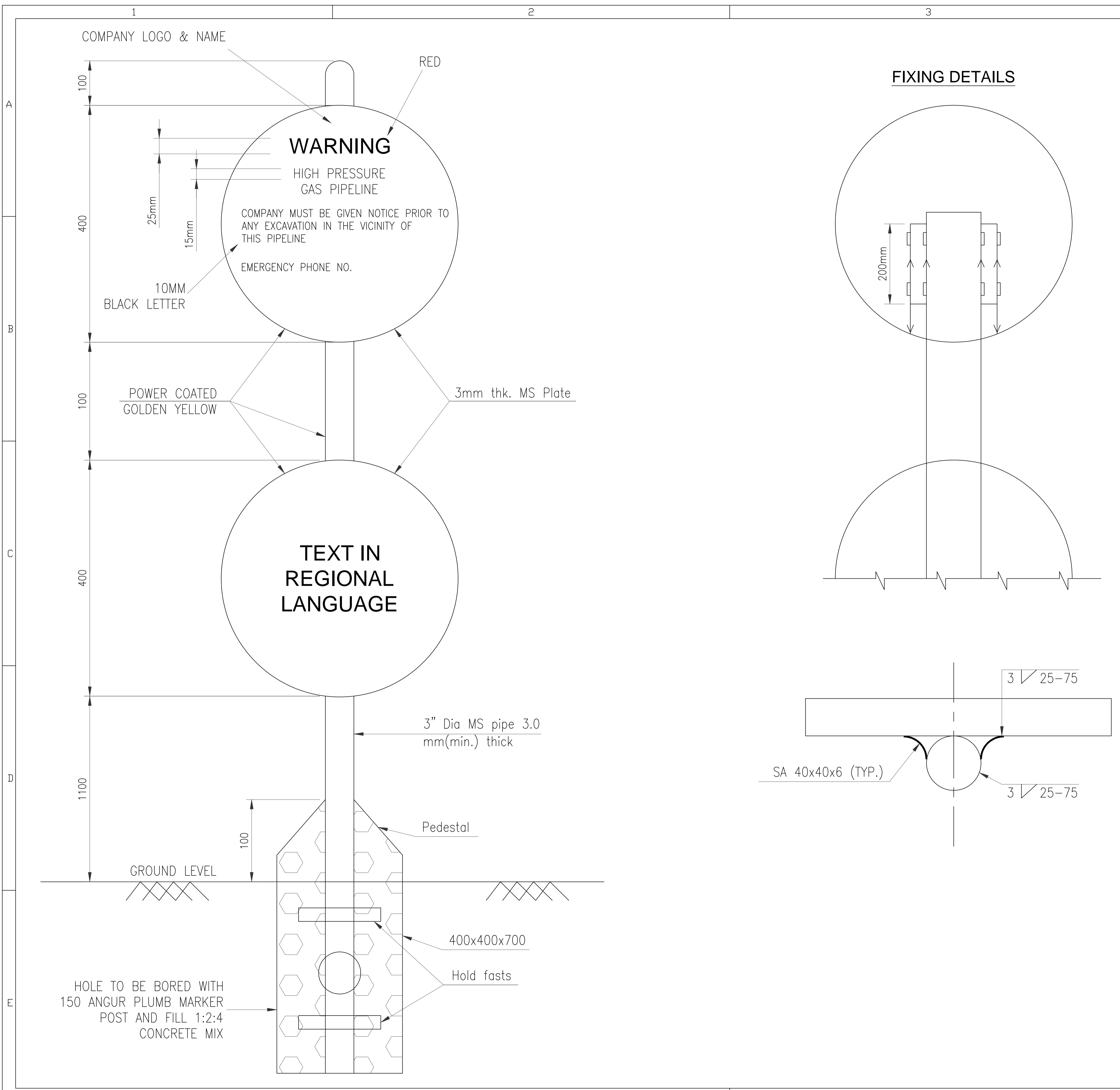


SECTION X-X

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. A MODIFIED PIPELINE WARNING SIGN SHALL BE INSTALLED CLOSE TO THE CROSSING.
3. APPROVAL OF THE CROSSING SHALL BE OBTAINED FROM CONCERNED AUTHORITIES.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			TYPICAL UNDERGROUND CABLE CROSSING DETAILS		
TRACTEBEL		Size	Scale	Sheet	Rev.
ENGI		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		Project No.	Discipline Code	System Code	Serial No.
		P.014714	D	20749	014

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NOTES

1. THE FULL WORKING AND SIZES ARE ONLY INDICATIVE AND ARE SUBJECT TO THE APPROVAL BY OWNER/OWNER'S REPRESENTATIVE BEFORE FABRICATION.
2. SCHEME FOR POWDER COATING AND COLORING. ONE COAT OF PRIMER & TWO COATS OF SPECIFIED PAINTS. ALL LETTERS EXCEPT "WARNING" TO BE PAINTED BLACK.
3. ALL DIMENSION ARE IN MM. UNLESS OTHERWISE SPECIFIED.
4. APPROVAL OF WARNING MARKER DESIGN SHALL BE OBTAINED BEFORE THE COMMENCEMENT OF WORK.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

CUSTOMER
CENTRAL UP GAS LIMITED

PROJECT
CITY GAS DISTRIBUTION PROJECT



SUBJECT
POLE MARKER WITH FOUNDATION DETAILS

	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
Project No.	Discipline Code	System Code	Serial No.	
TRACTEBEL Engineering pvt. ltd.	P.014714	D	20749	005

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1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE SPECIFIED.
2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE.



0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			 CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			PLATE MARKER		
		Size	Scale	Sheet	Rev.
Project No.		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		P.014714	D	20749	006

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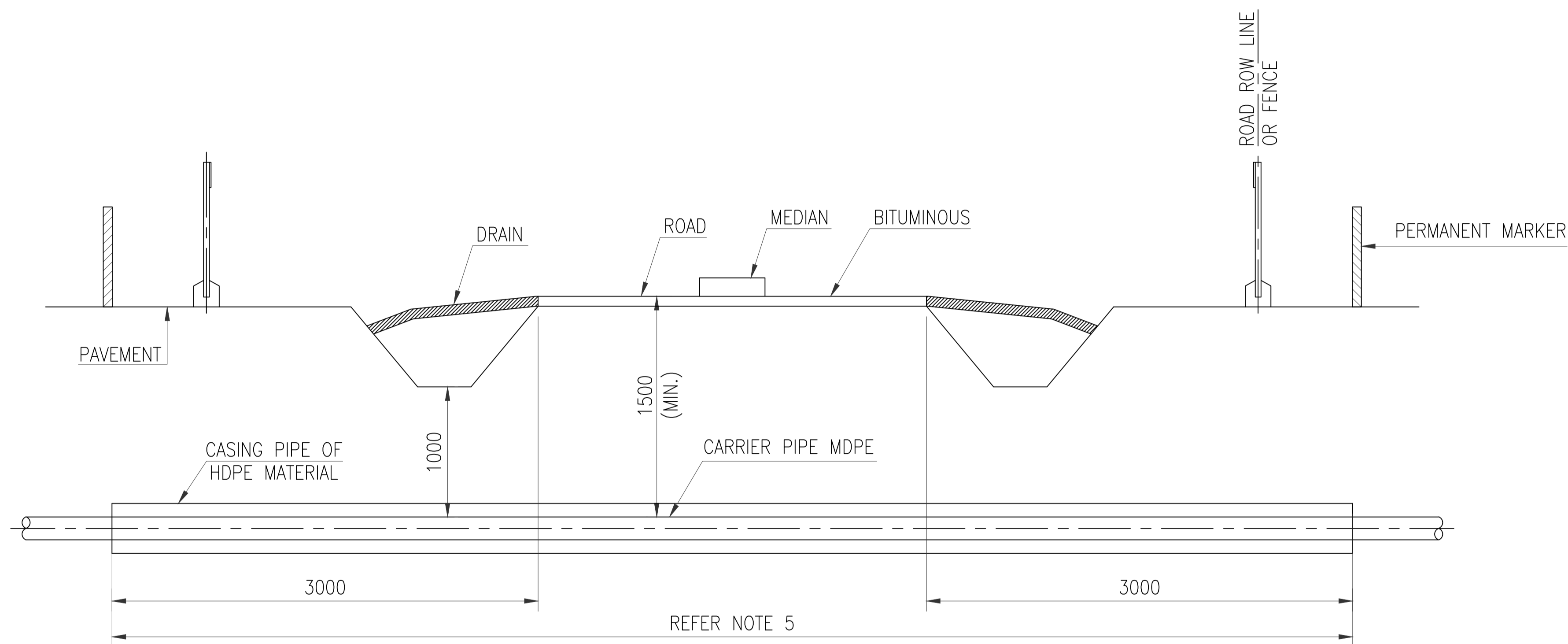
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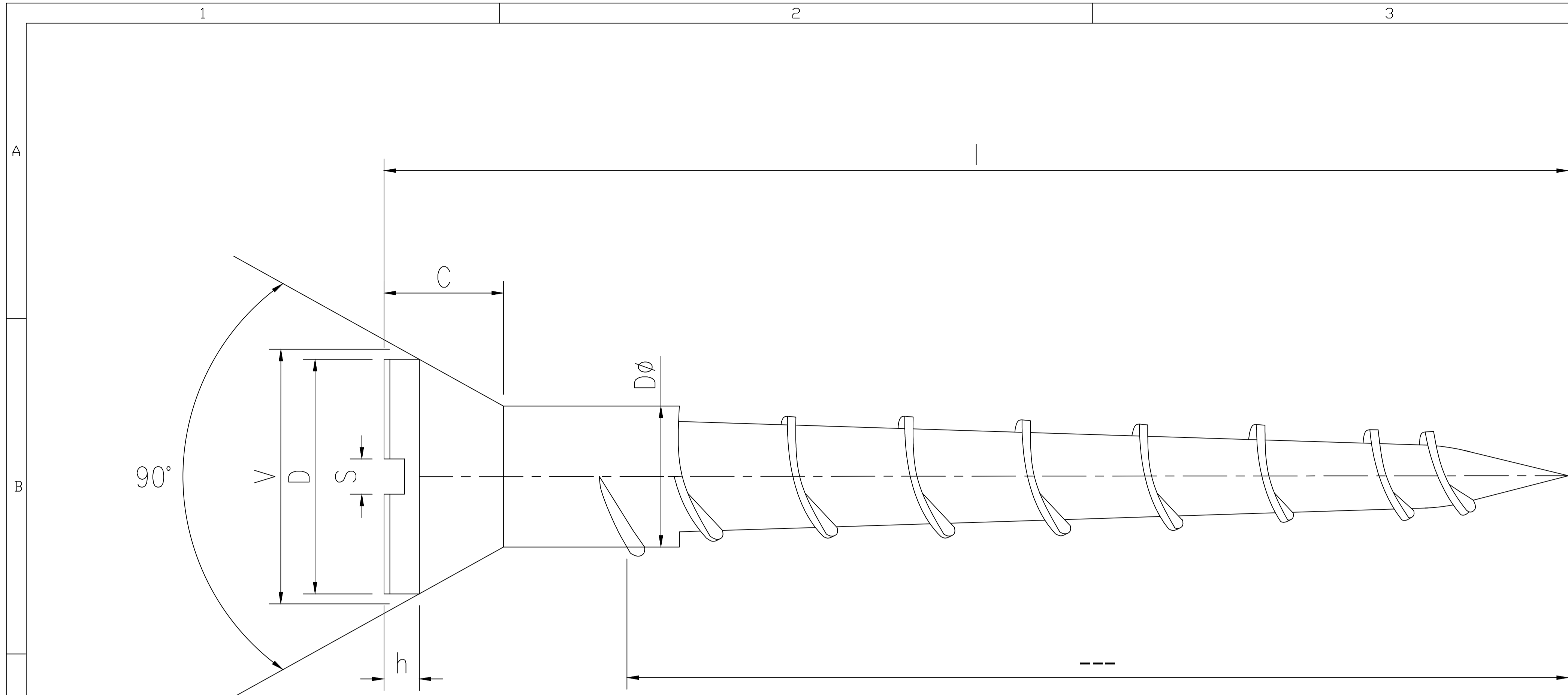
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ROAD HIGHWAY CROSSING SHALL BE RESTORED TO ORIGINAL CONDITION TO THE ENTIRE SATISFACTION OF OWNER AND CONCERNED AUTHORITIES HAVING JURISDICTION.
3. REFER API RP 1102 FOR OTHER DESIGN AND INSTALLATION REQUIREMENTS.
4. ANGLE OF INTERSECTION BETWEEN PIPELINE AND THE ROAD/HIGHWAY SHALL BE AS CLOSE TO 90° AS POSSIBLE BUT IN CASE LESS THAN 30°.
5. CONTRACTOR SHALL VERIFY THE ACTUAL DIMENSION WITH RESPECT TO SURVEY DETAIL FOR EACH ROAD/HIGHWAY CROSSING AND PREPARE DETAILED DRAWING FOR INDIVIDUAL CROSSING ENGINEER-IN CHARGE APPROVAL BEFORE COMMENCEMENT OF CONSTRUCTION.
6. THE CASING PIPE SHALL BE OF SIZES MENTIONED AT CLAUSE NO.19 OF TECHNICAL SPECIFICATION FOR PE LAYING.



TYPICAL SECTION

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER					
 CENTRAL UP GAS LIMITED					
PROJECT					
CITY GAS DISTRIBUTION PROJECT					
SUBJECT					
ROAD / HIGHWAY CASED CROSSING FOR MDPE PIPE					
		Size	Scale	Sheet	Rev.
		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		Project No.	Discipline Code	System Code	Serial No.
		P.014714	D	20749	007

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SCREW NO.	Dø			PITCH	V	D		c	s		h		l
	NOM.	MAX.	MIN.			MAX.	MIN.		MAX.	MIN.	MAX.	MIN.	
7	3.81	3.94	3.68	1.59	8.2	7.62	7.34	2.16	1.27	1.11	1.14	0.84	35

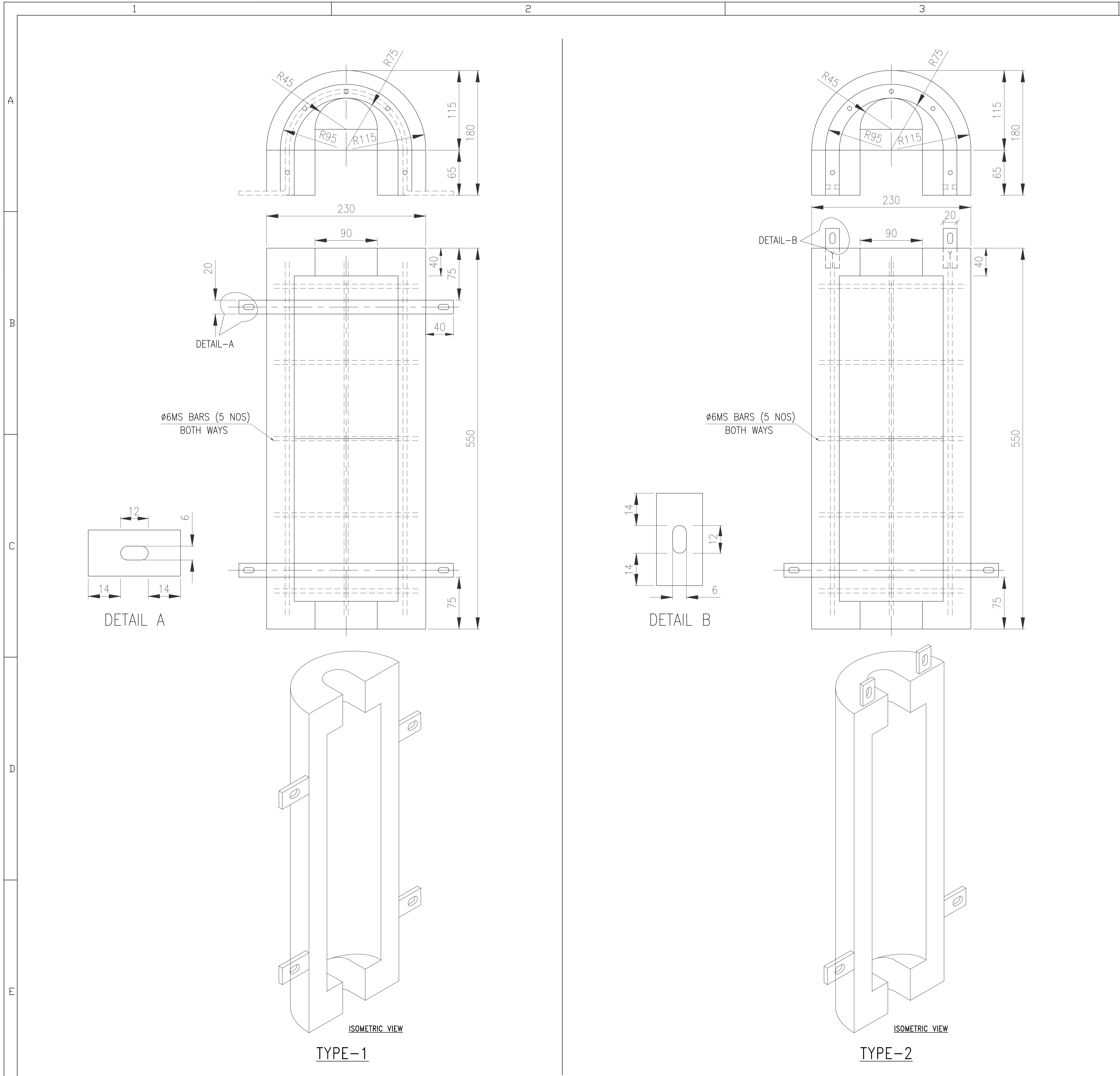
4
NOTES

1. THE DIMENSIONS FOR 'V' ARE THEORETICAL DIAMETER OF HEAD TO SHARP CORNERS & ARE GIVEN FOR DESIGN PURPOSE ONLY.
2. DIMENSIONS TOLERANCES WILL BE AS SPECIFIED IN IS : 6760-1972.
3. ALL DIMENSIONS ARE IN MILLIMETERS.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

CUSTOMER  **CENTRAL UP GAS LIMITED**
 PROJECT **CITY GAS DISTRIBUTION PROJECT**
 SUBJECT **SPECIFICATION FOR WOOD SCREWS**

TRACTEBEL 	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.	Project No.	Discipline Code	System Code	Serial No.
	P.014714	D	20749	008



4
NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. IT SHALL BE TAKEN APPROVAL FROM OWNER/OWNER'S REPRESENTATIVE BEFORE STARTING THE PROCUREMENT.
3. SIZES ARE SHOWN AS A TENTATIVE ONLY.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			HALF ROUND CONCRETE SLEEVE		
TRACTEBEL		Size	Scale	Sheet	Rev.
ENGI		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		Project No.	Discipline Code	System Code	Serial No.
		P.014714	D	20749	009

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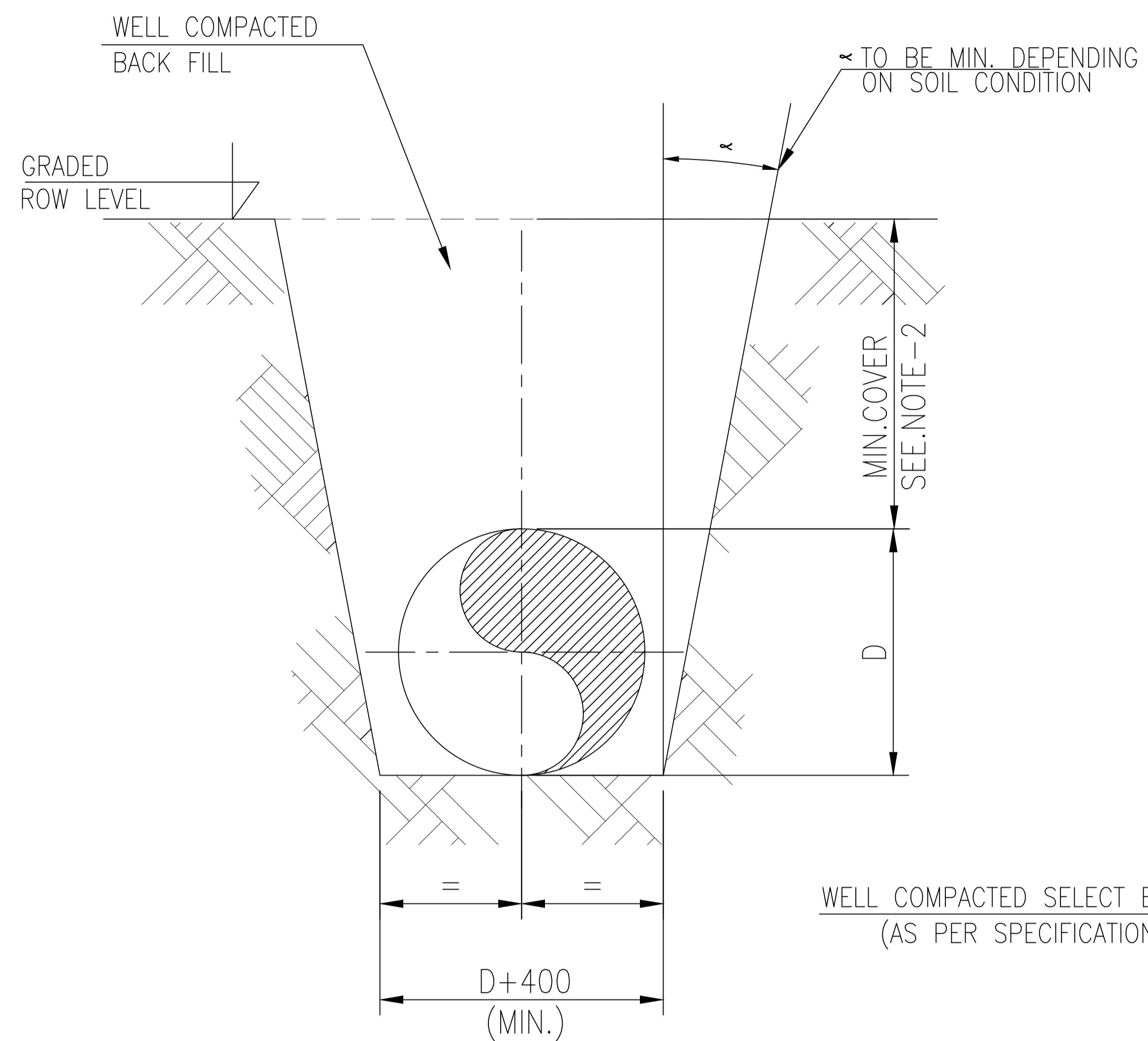
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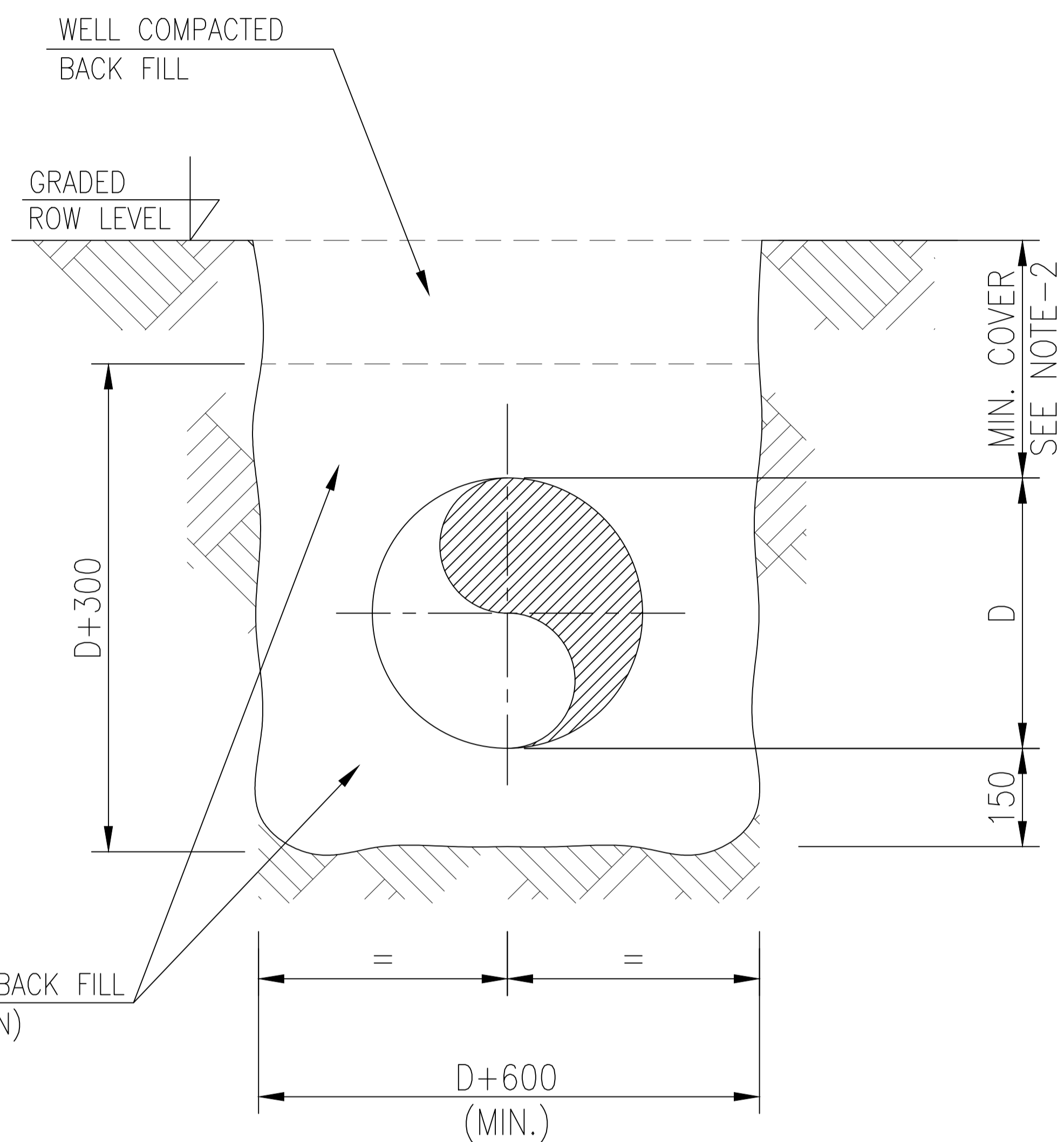
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E




TRENCH IN NORMAL SOIL
TYPICAL SECTION




TRENCH IN CONSOLIDATED ROCK
TYPICAL SECTION

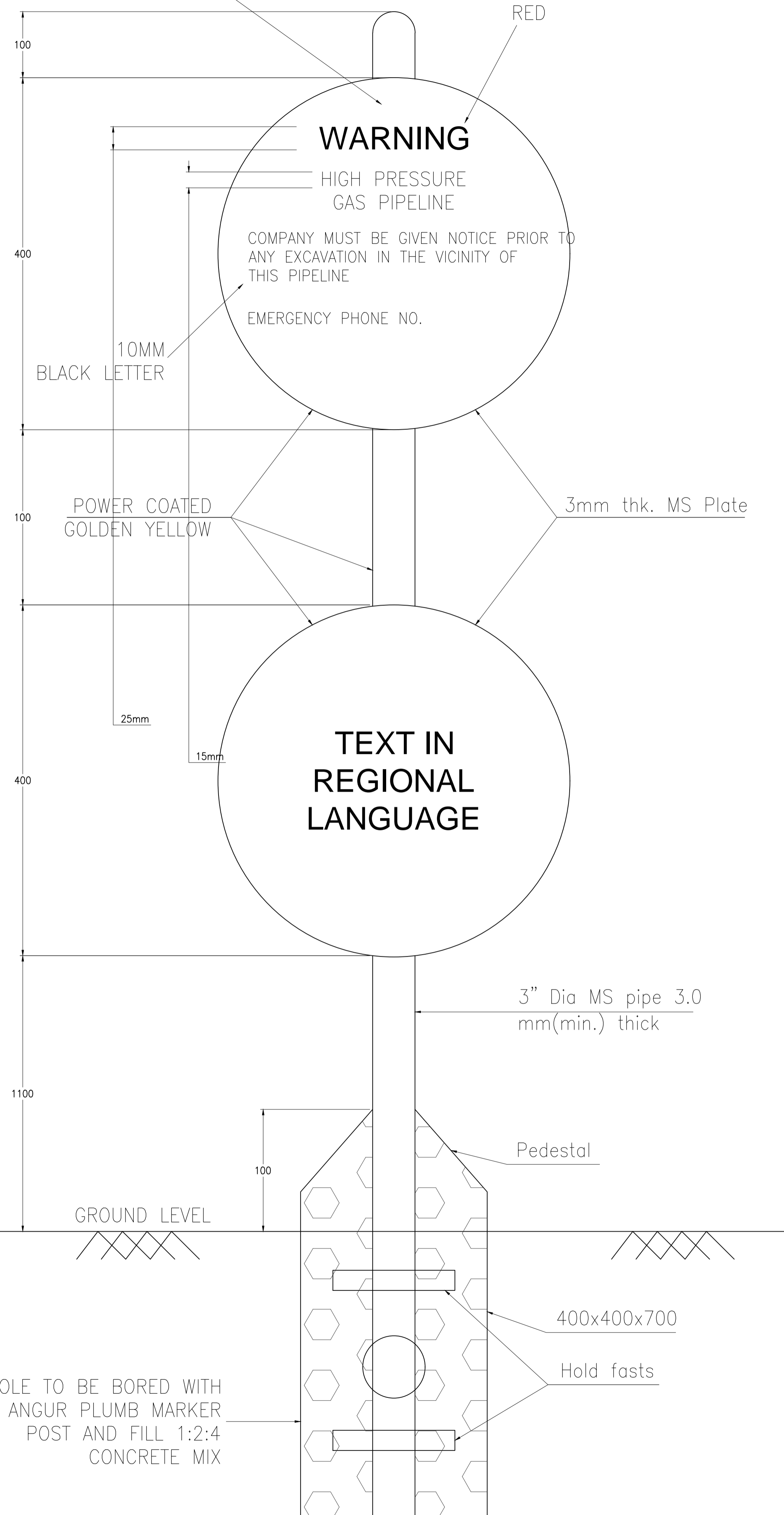
1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. FOR ALL PIPELINE TO BE CONSTRUCTED IN THE LAND UNDER JURISDICTION OF GOVT. OF INDIA THE MIN. COVER TO BE ADOPTED SHALL BE 1000 MM IN ACCORDANCE WITH GOVT. OF INDIA PETROLEUM PIPELINE (ACQUISITION OF RIGHT OF USER IN LAND) ACT NO. 50, 1962 AND AMENDMENT ACT. NO.13 OF 1977. ANY EXTRA COVER REQUIREMENT SHALL BE IN ACCORDANCE WITH SPECIFICATIONS.
3. MIN. COVER REQUIREMENT SHALL BE SUBJECT TO APPROVAL OF CONCERNED AUTHORITIES WHEREVER REQUIRED.
4. EXTRA COVER REQUIREMENT SHALL BE ESTABLISHED AT ALL OVER BENDS AND HORIZONTAL BENDS WHEREVER NECESSARY.
5. FOR MIN. COVER REQUIREMENT AT PIPELINE CROSSING ROADS, RAILWAY TRACKS, RIVERS MARSHY AREAS ETC REFER RELEVANT STANDARDS.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

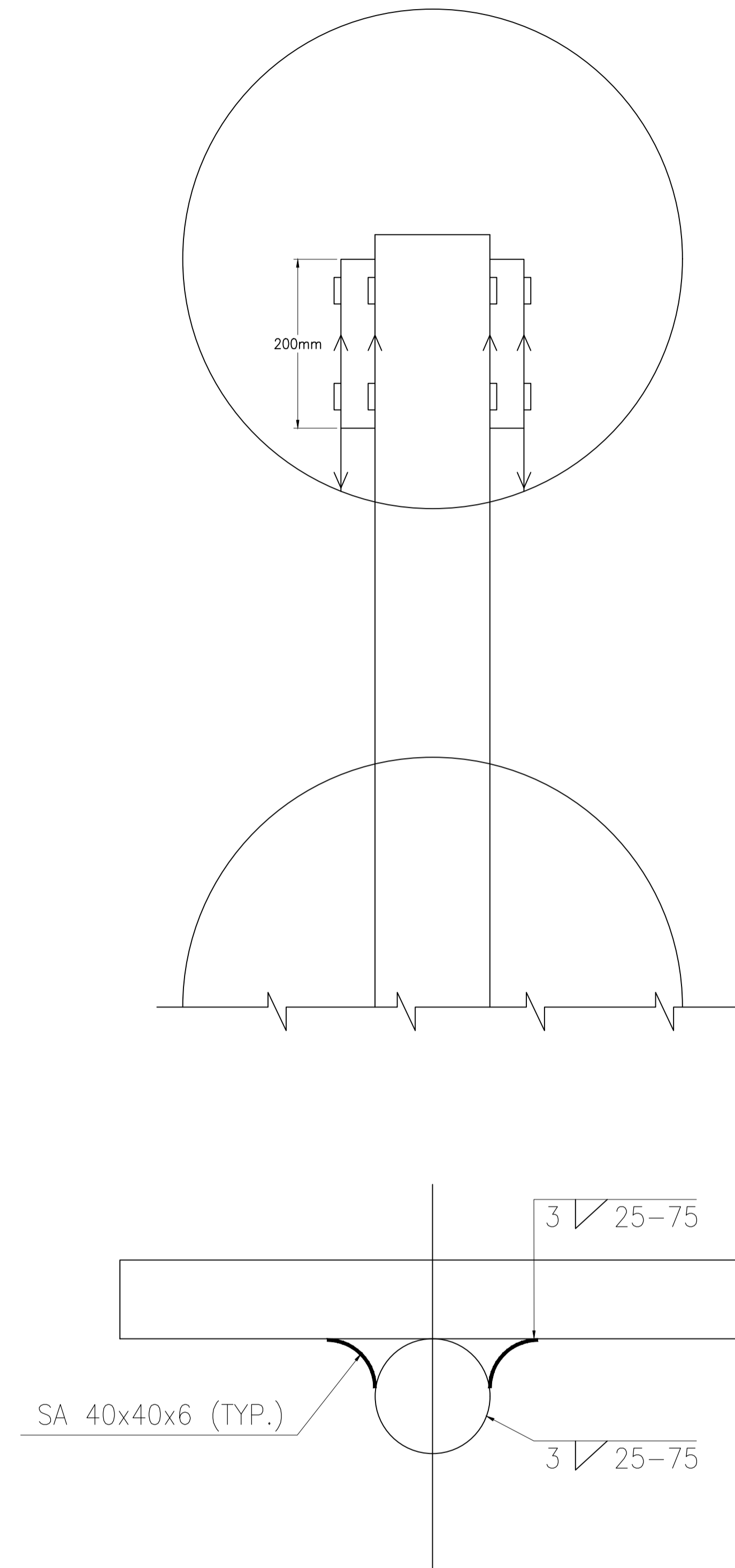
CUSTOMER	 CENTRAL UP GAS LIMITED
PROJECT	CITY GAS DISTRIBUTION PROJECT
SUBJECT	TYPICAL TRENCH DIMENSIONS FOR PIPE LINE

TRACTEBEL 	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.	Project No.	Discipline Code	System Code	Serial No.
	P.014714	D	20749	010

COMPANY LOGO & NAME



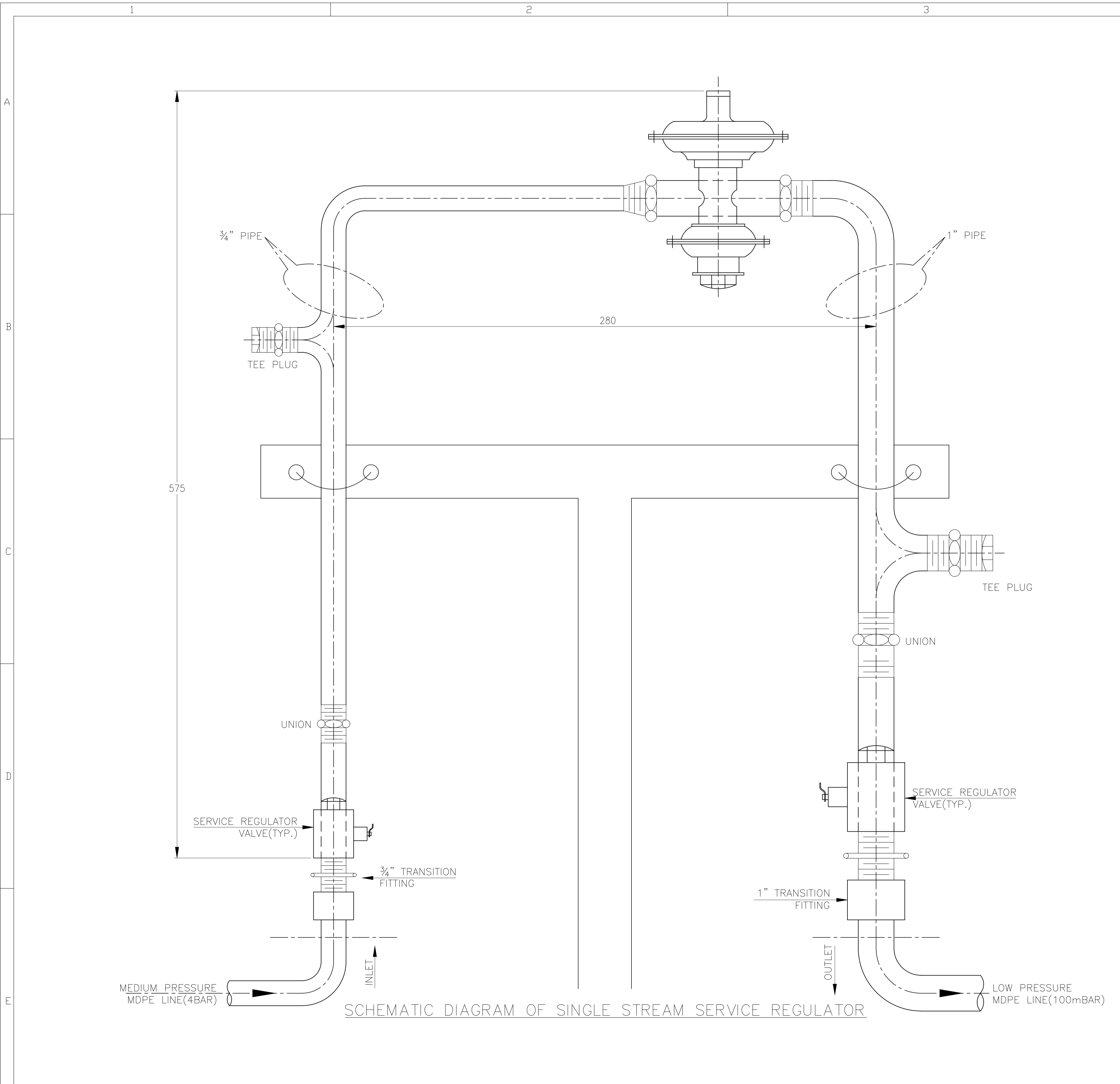
FIXING DETAILS



NOTES

1. THE FULL WORKING AND SIZES ARE ONLY INDICATIVE AND ARE SUBJECT TO THE APPROVAL BY OWNER/OWNER'S REPRESENTATIVE BEFORE FABRICATION.
2. SCHEME FOR POWDER COATING AND COLORING. ONE COAT OF PRIMER & TWO COATS OF SPECIFIED PAINTS. ALL LETTERS EXCEPT "WARNING" TO BE PAINTED BLACK.
3. ALL DIMENSION ARE IN MM. UNLESS OTHERWISE SPECIFIED.
4. APPROVAL OF WARNING MARKER DESIGN SHALL BE OBTAINED BEFORE THE COMMENCEMENT OF WORK.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER					
CENTRAL UP GAS LIMITED					
PROJECT					
CITY GAS DISTRIBUTION PROJECT					
SUBJECT					
POLE MARKER WITH FOUNDATION (INDIVIDUAL SOCIETIES & AREAS)					
TRACTEBEL		Size	Scale	Sheet	Rev.
		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. ltd.		Project No.	Discipline	Code System Code	Serial No.
		P.014714	D	20749	011



SCHEMATIC DIAGRAM OF SINGLE STREAM SERVICE REGULATOR

NOTES


1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. FOLLOW WRITTEN DIMENSION ONLY, DO NOT SCALE.

0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

CUSTOMER  **CENTRAL UP GAS LIMITED**

PROJECT **CITY GAS DISTRIBUTION PROJECT**

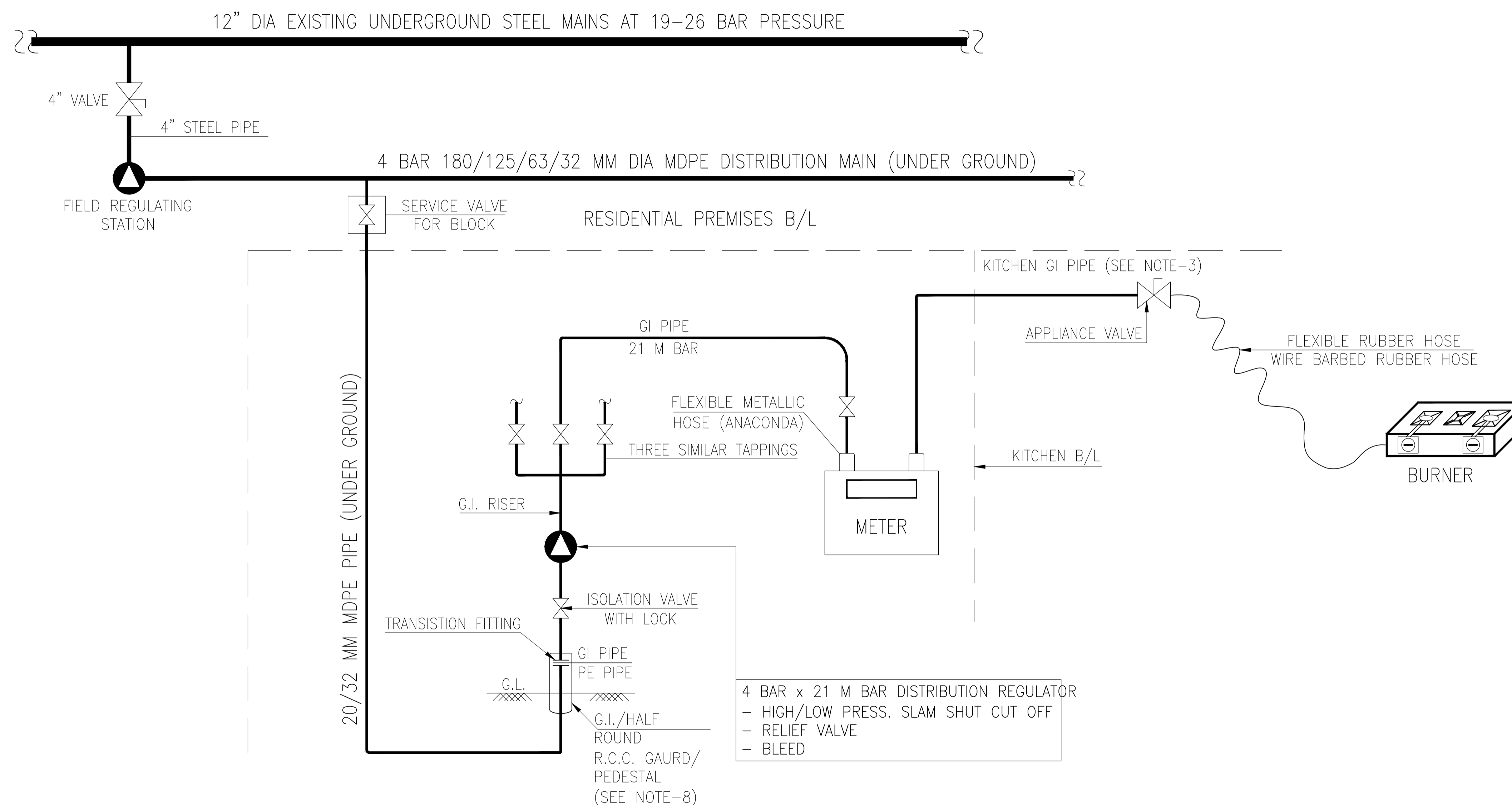
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	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
Project No.		Discipline	Code	System Code
P.014714		D	20749	012
TRACTEBEL Engineering pvt. Ltd.				

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1. ALL DIMENSIONS ARE IN MM UNLESS NOTED OTHERWISE.
2. THE SIZES SHOWN IN THE DRAWING ARE TENTATIVE.IT SHALL BE DECIDED DURING DETAIL ENGINEERING.
3. PIPING DOWN STREAM METER SHALL BE OF COPPER IN CASE METER IS INSTALLED WITHIN THE KITCHEN.
4. TENTATIVE RISER LENGTH (FROM OUTLET OF TRANSITION FITTINGS TO INLET OF ISOLATION VALVE) SHALL BE 1.5m, ANY CHANGES IN RISER LENGTH SHALL BE AFTER APPROVAL FROM EIC.
5. G.I. INSTALLATION/METER INSTALLATION SHALL BE DECIDED BY OWNER/OWNER'S REPRESENTATIVE AS PER SITE CONDITIONS.
6. IF COPPER PIPE GOES TO THE APPLIANCE VALVE THEN BRASS FITTING SHALL BE USED AT THE OUTLET OF METER OR IF GI PIPE GOES TO THE APPLIANCE VALVE THEN GI FITTING SHALL BE USED AT THE OUTLET THE METER.
7. MAXIMUM DISTANCE BETWEEN CLAMPS SHALL BE 1.5M WHEN PIPE GOES IN THE STRAIGHT LENGTH, IF ANY TEE OR ANY FITTING LIES IN BETWEEN THE PIPE THEN CLAMP SHALL BE PLACED 150MM FAR AWAY FROM CENTER LINE OF FITTINGS AT EVERY SIDE. HOW EVER, THE SAME MAY BE CHANGED AS PER SITE CONDITIONS/AS DIRECTED BY EIC.
8. G.I./HALF ROUND R.C.C. GUARD INSTALLATION SHALL BE DECIDED BY OWNER/OWNER'S REPRESENTATIVE AS PER SITE CONDITIONS.

SCHEMATIC DRAWING FOR DOMESTIC CONNECTION



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Rev.	D	M	Y	Modifications	Drawn By	Checked By	Approved By

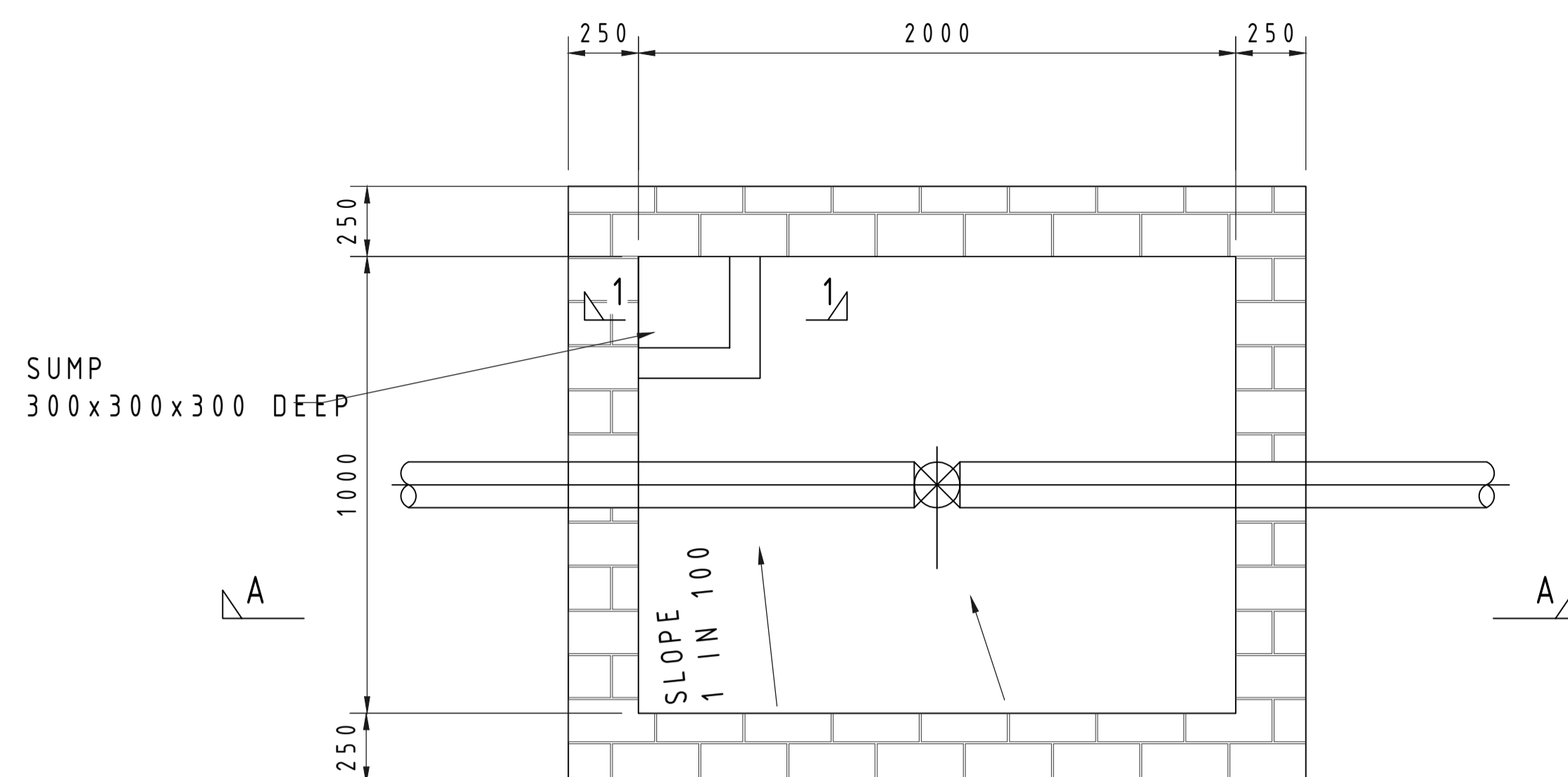
CUSTOMER **CENTRAL UP GAS LIMITED**

PROJECT **CITY GAS DISTRIBUTION PROJECT**

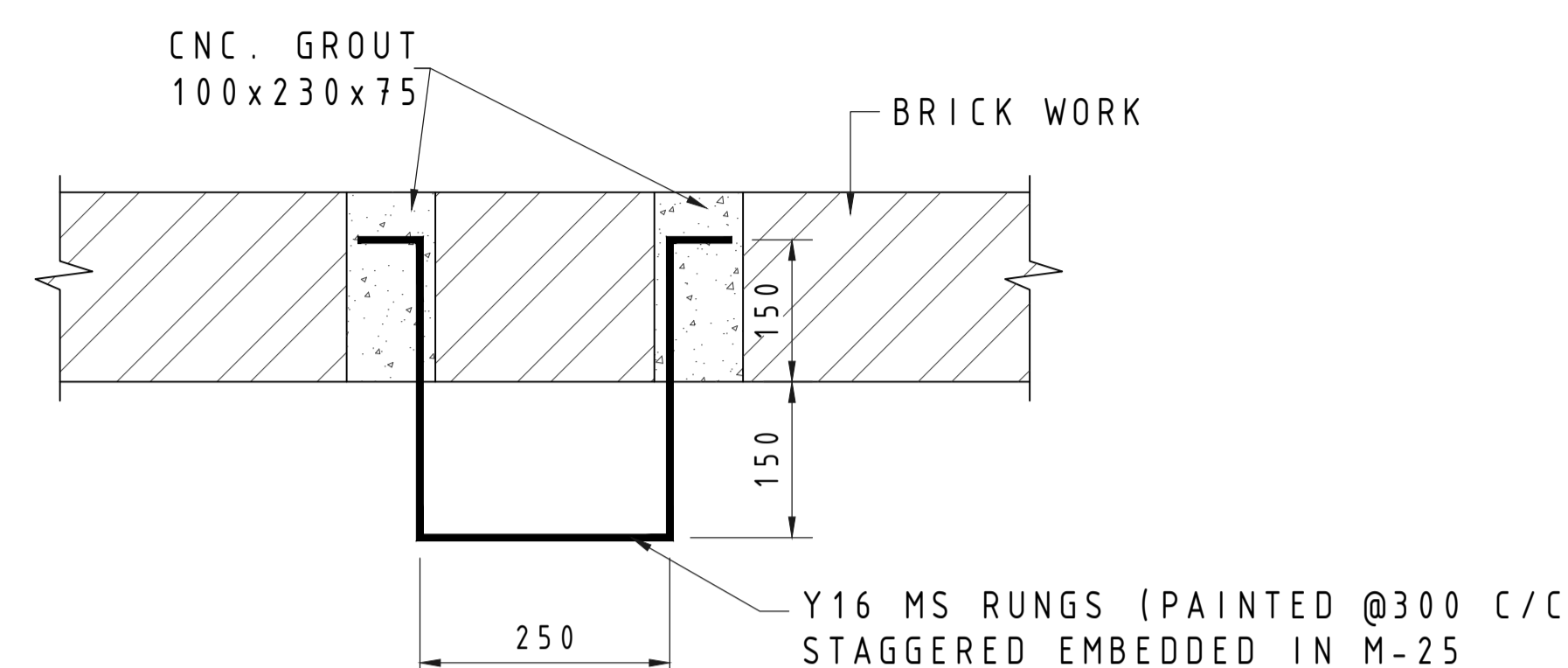
SUBJECT **SCHEME FOR DOMESTIC CONSUMER CONNECTION**

TRACTEBEL <small>engie</small>	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
Project No. P.014714		Discipline Code System Code	Serial No. 20749 013	
TRACTEBEL Engineering pvt. Ltd.				

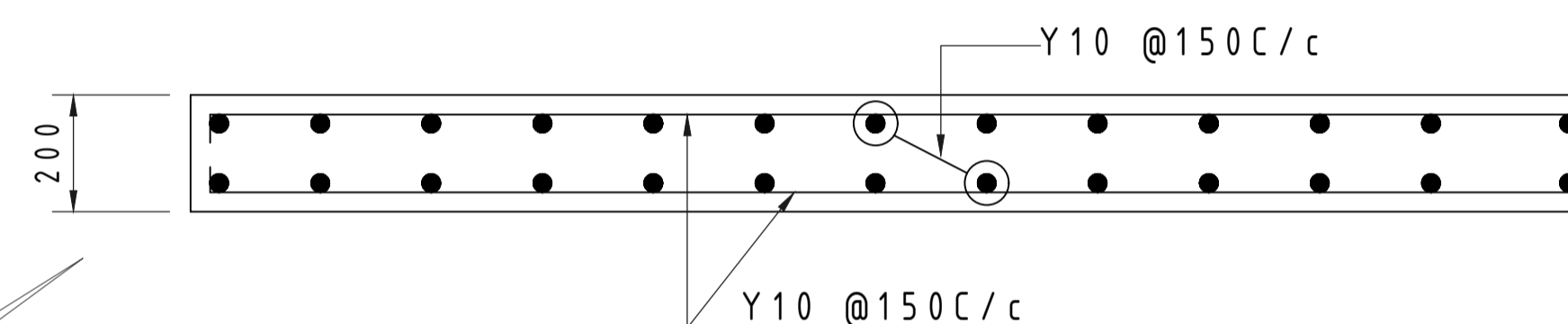
- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.
 3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: (a) SLAB = 20mm
 4. BRICK SHALL BE OF 75 CLASS, RCC OF M-25 & PCC OF M-15.
 5. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) CONFORMING TO IS:1786



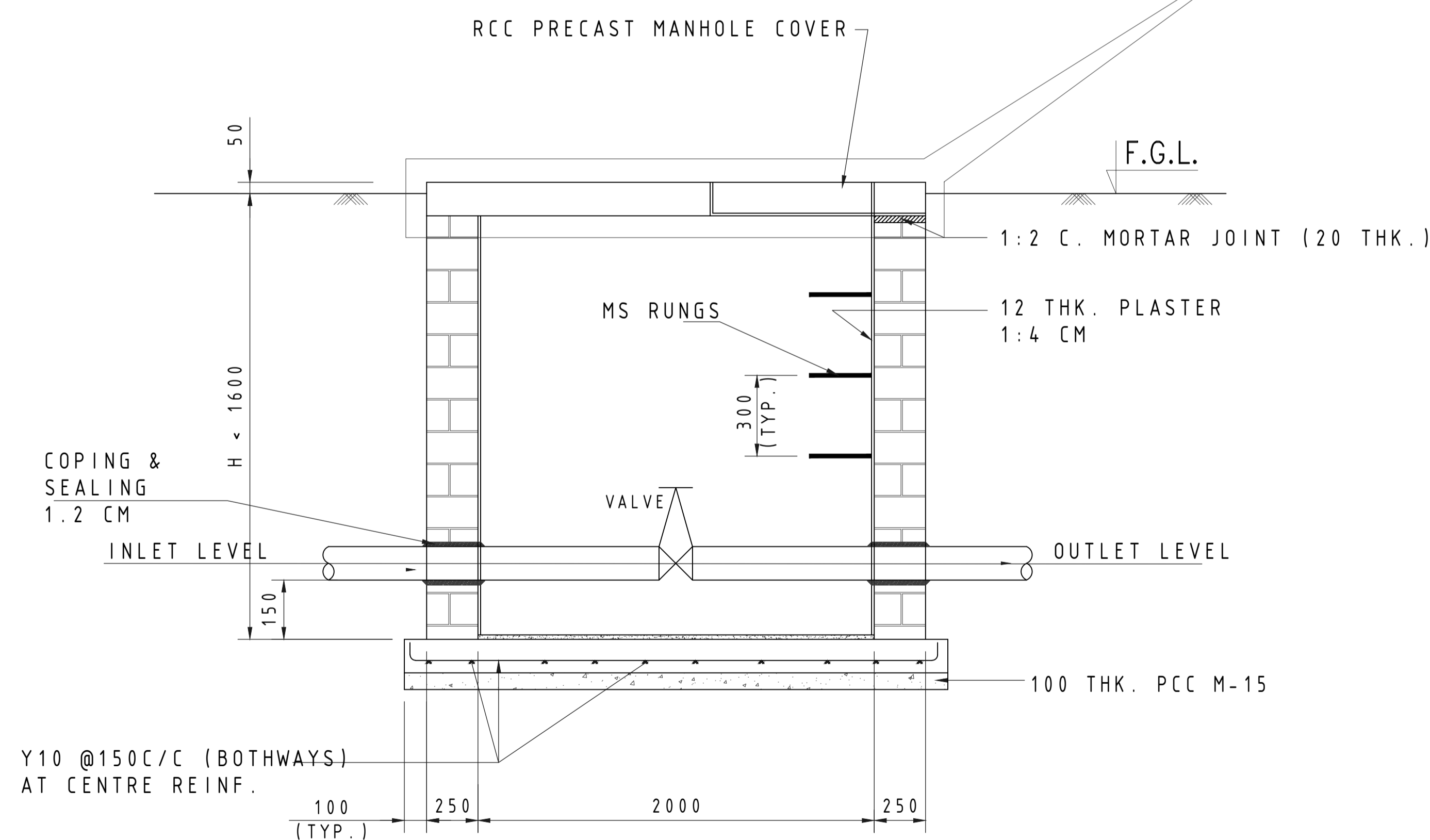
VALVE PIT PLAN



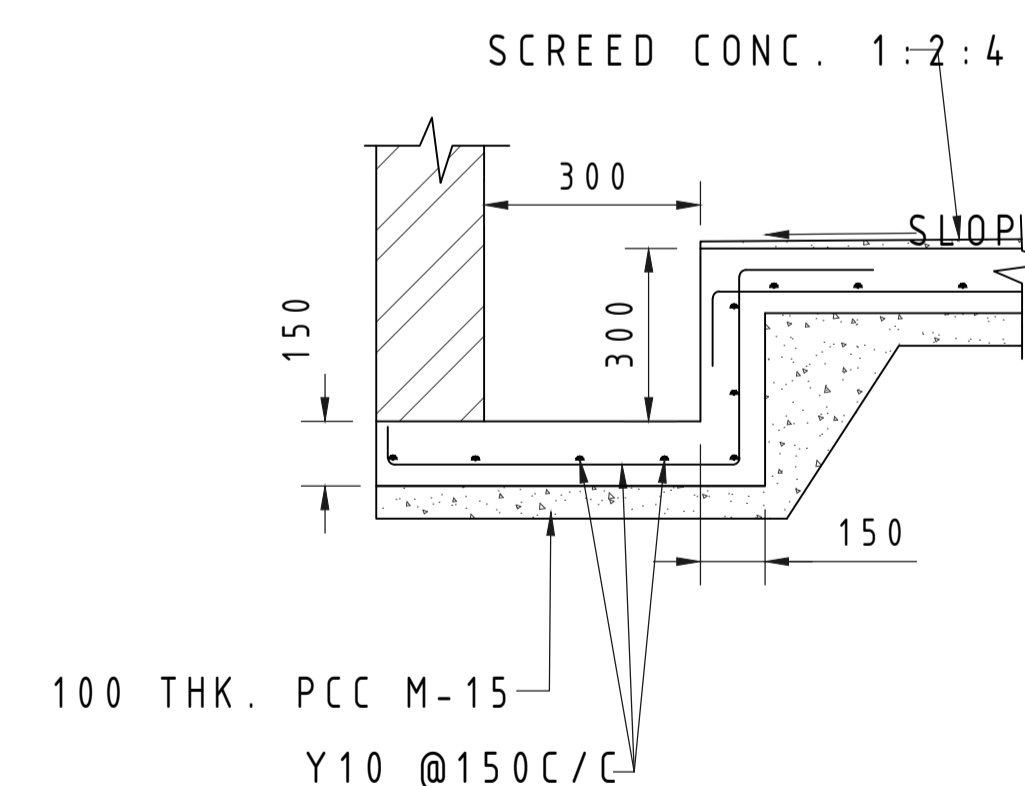
TYP. DET. OF MS RUNGS



TYPICAL SLAB R/F DETAIL

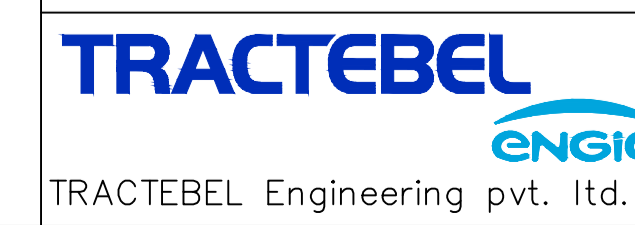


SECTION A-A



SECTION 1-1

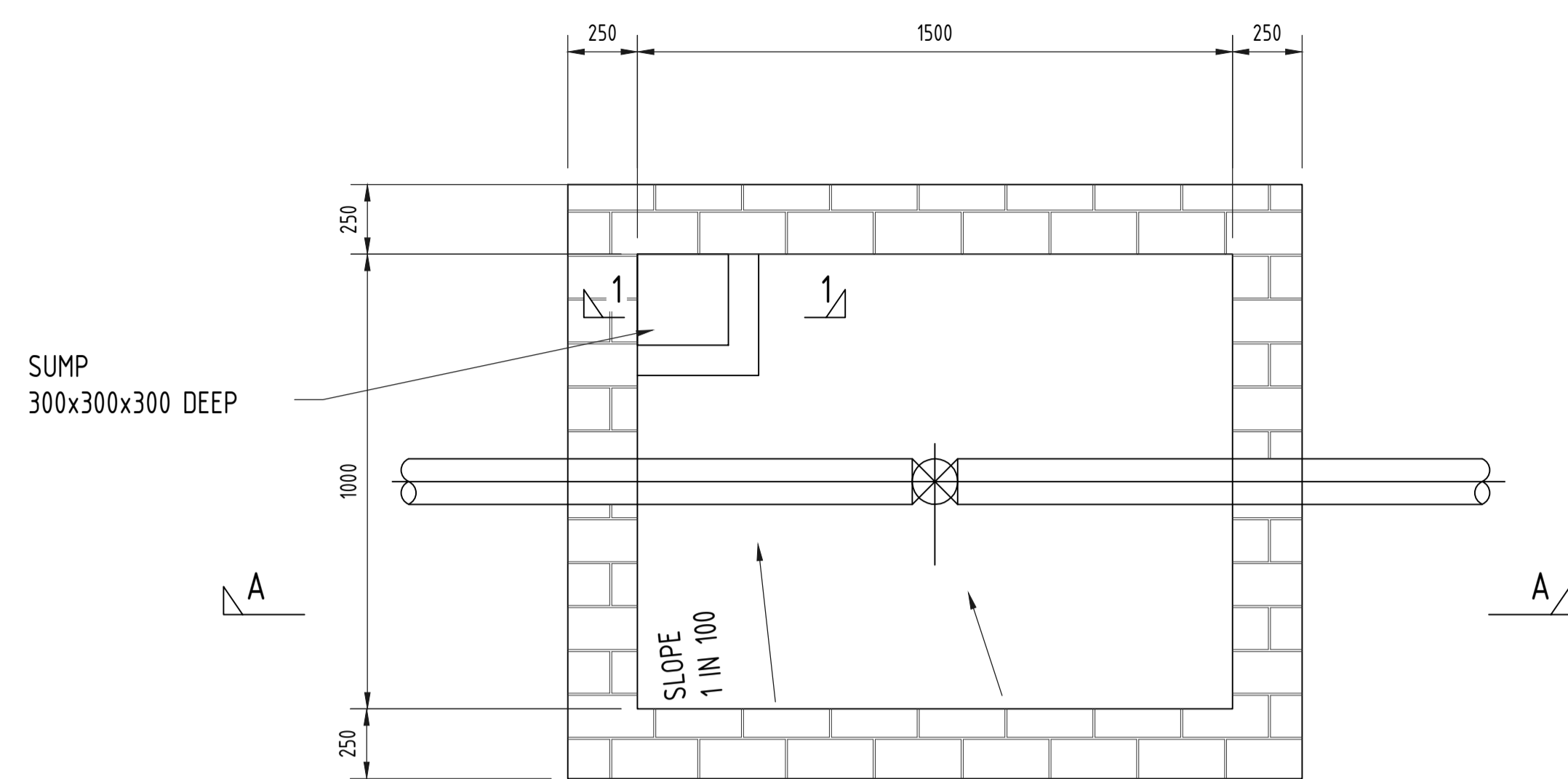
0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			BRICK VALVE CHAMBER TYPE-1 (2.0M X 1.0M)		
Size		Scale	Sheet	Rev.	
A1		NTS	01 of 01	0	
Project No.		Discipline Code	System Code	Serial No.	
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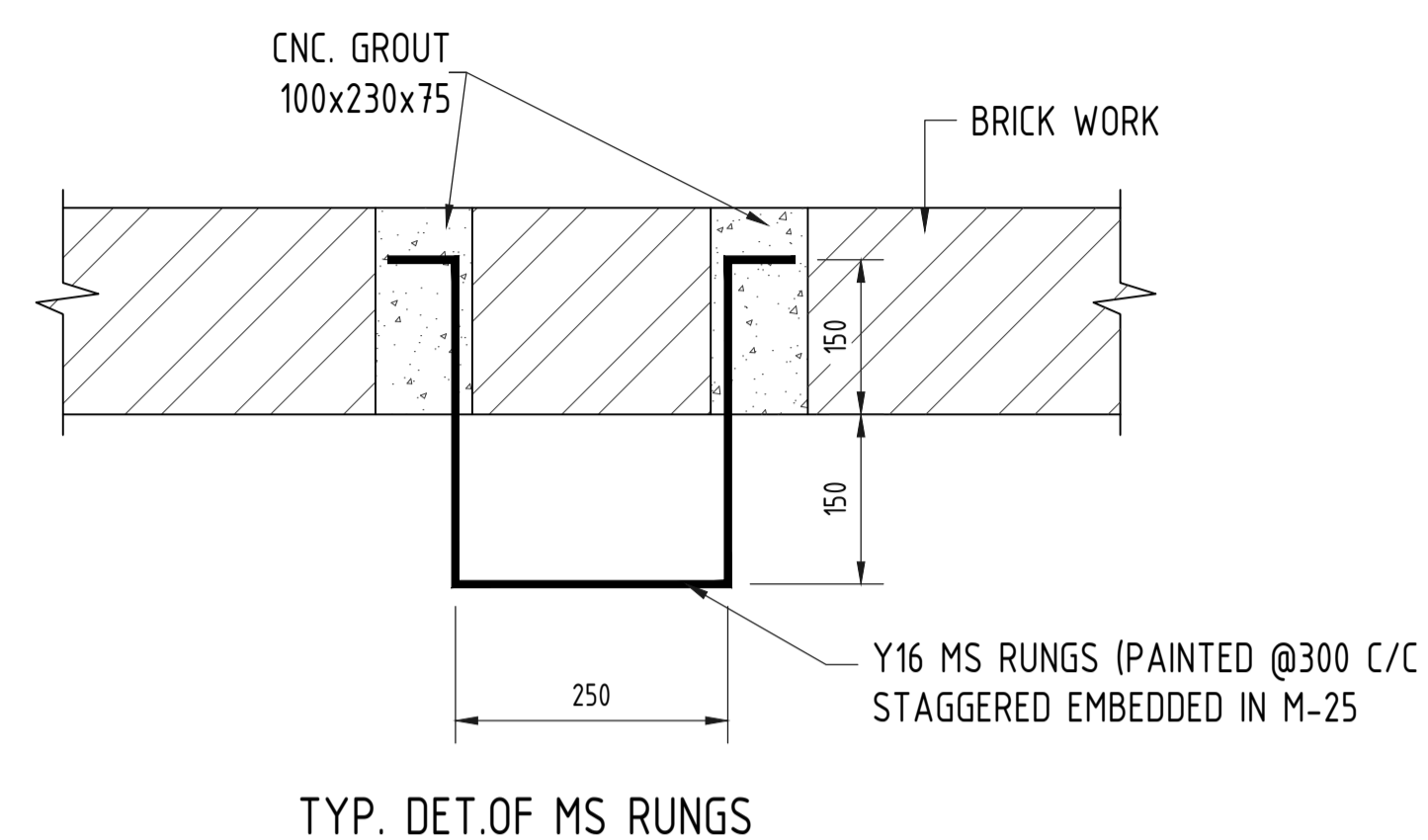
TRACTEBEL Engineering pvt. Ltd.

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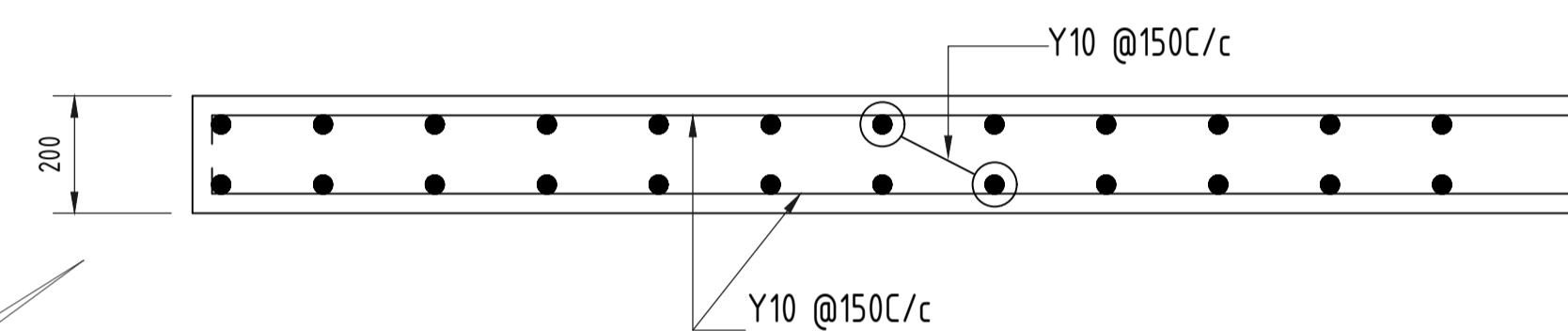
- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.
 3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: (a) SLAB = 20mm
 4. BRICK SHALL BE OF 75 CLASS, RCC OF M-25 & PCC OF M-15.
 5. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) CONFORMING TO IS:1786.



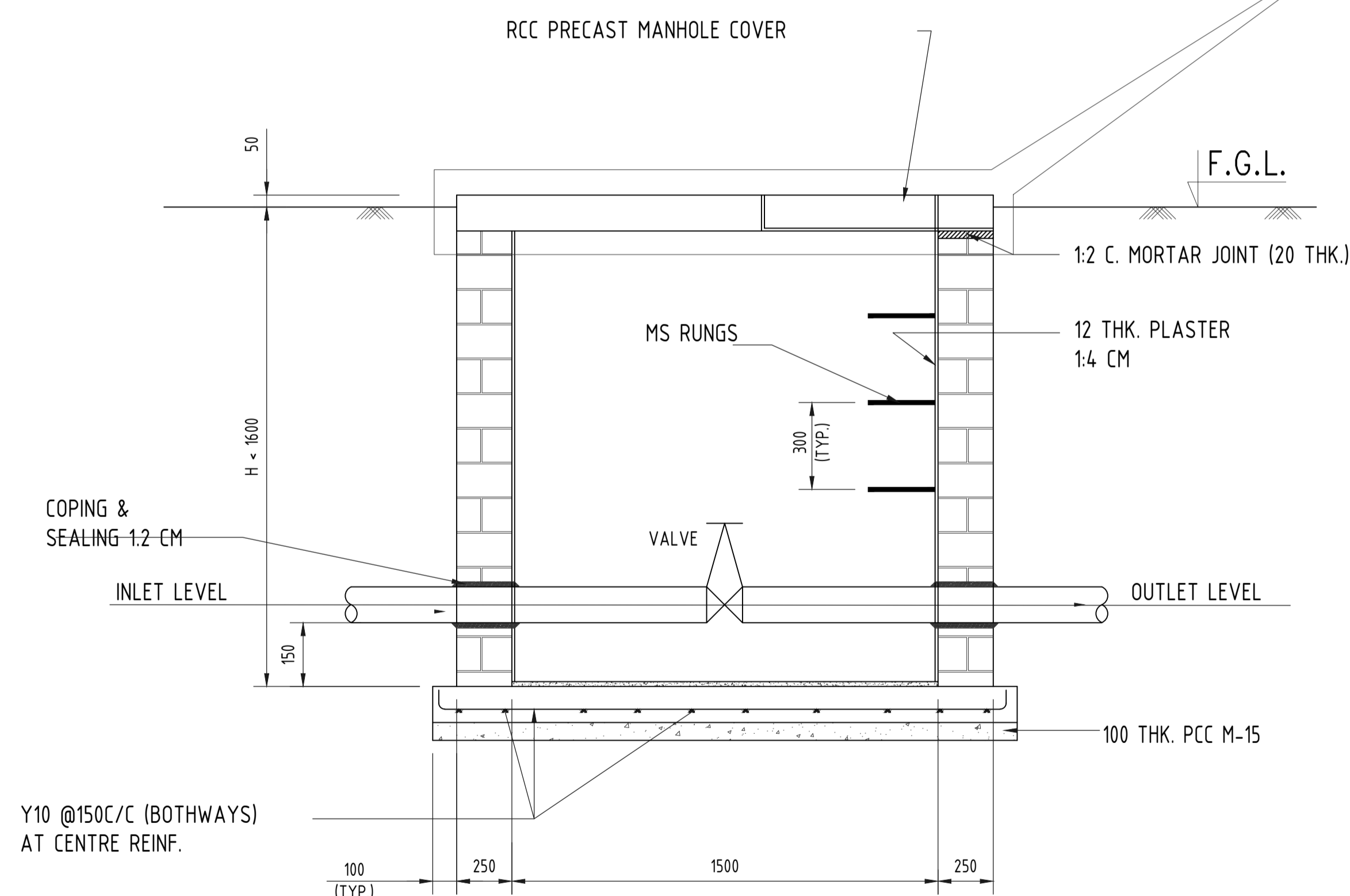
VALVE PIT PLAN



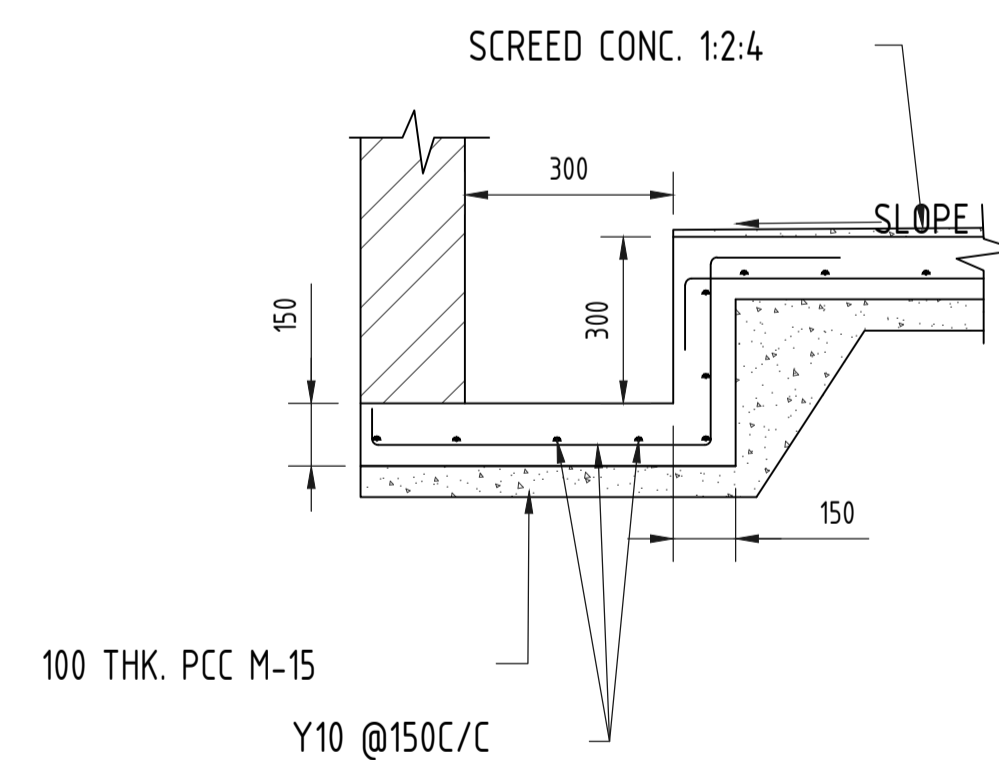
TYP. DET.OF MS RUNGS



TYPICAL SLAB R/F DETAIL

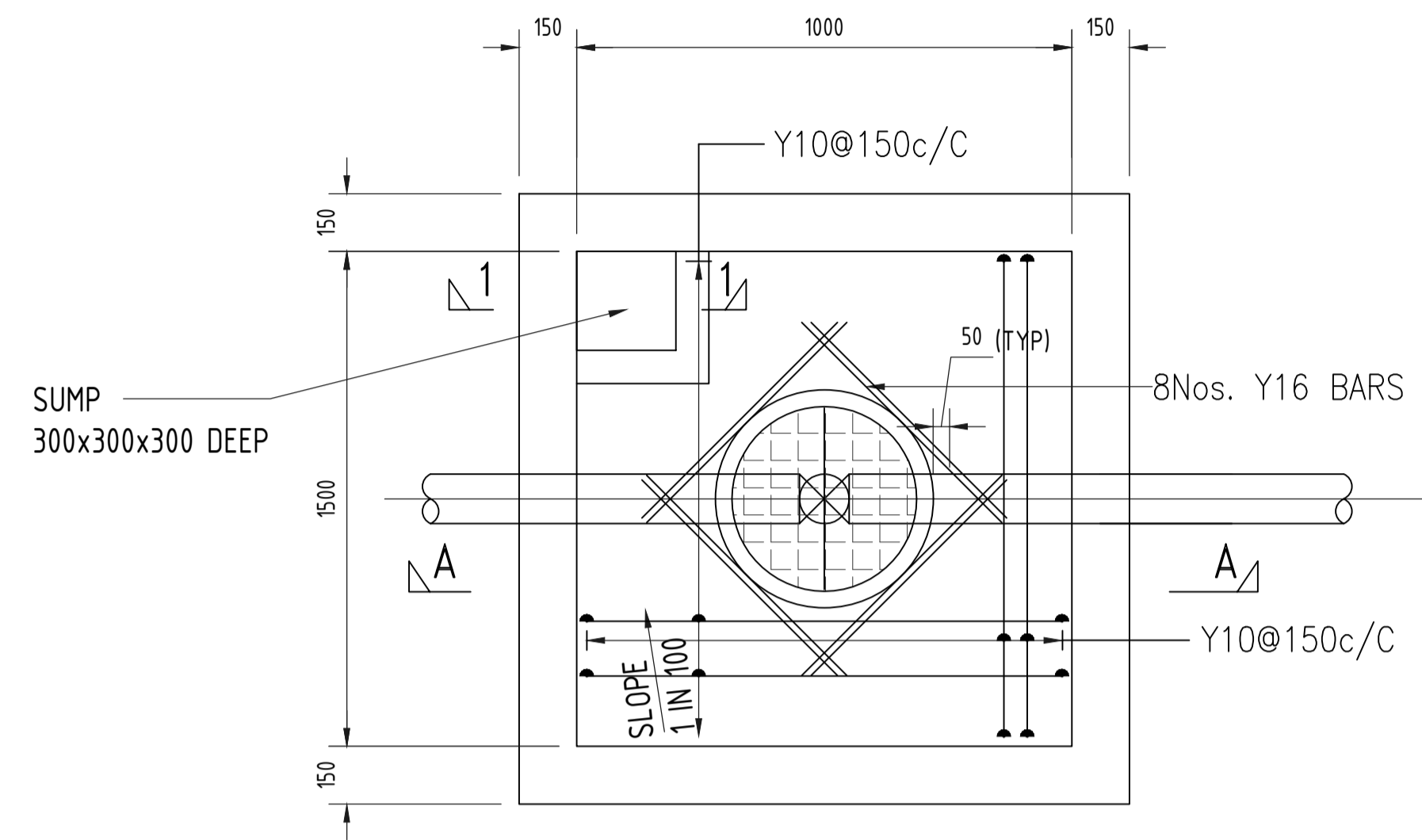


SECTION A-A

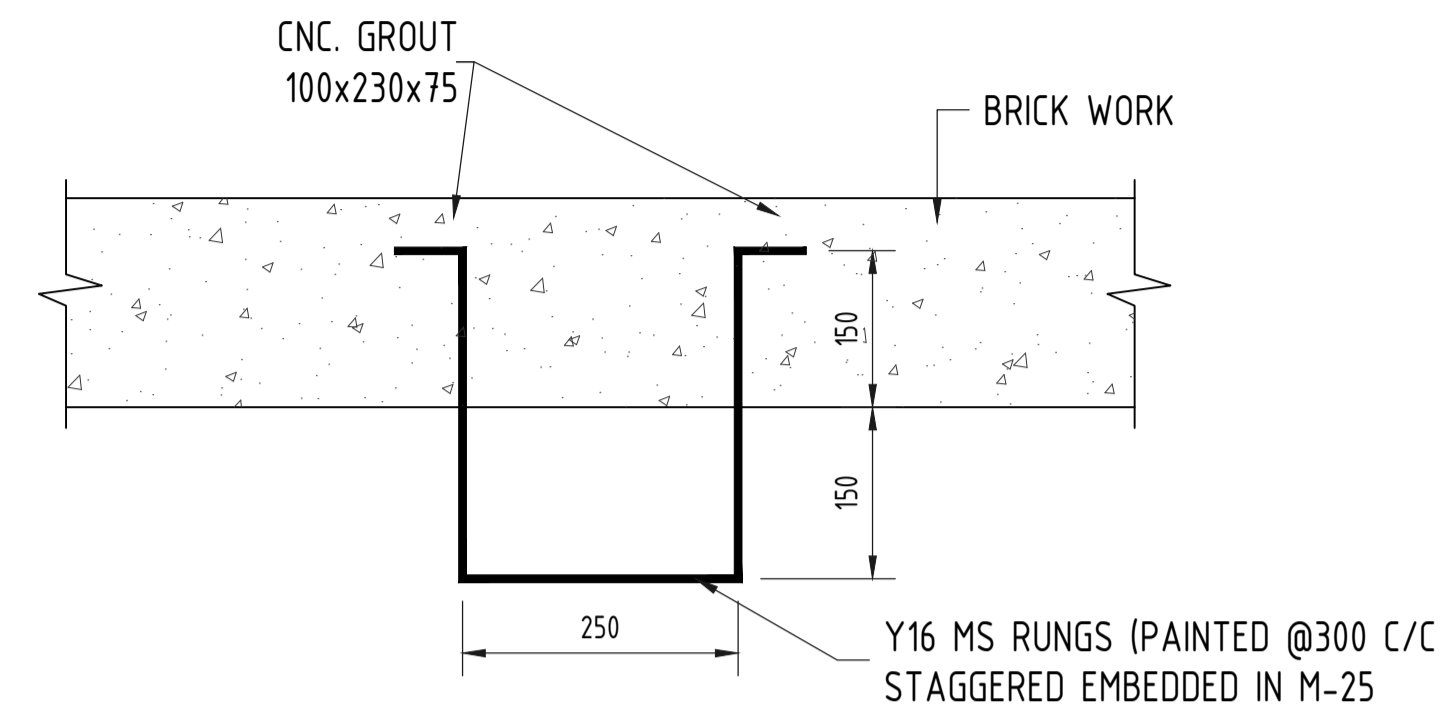


SECTION 1-1

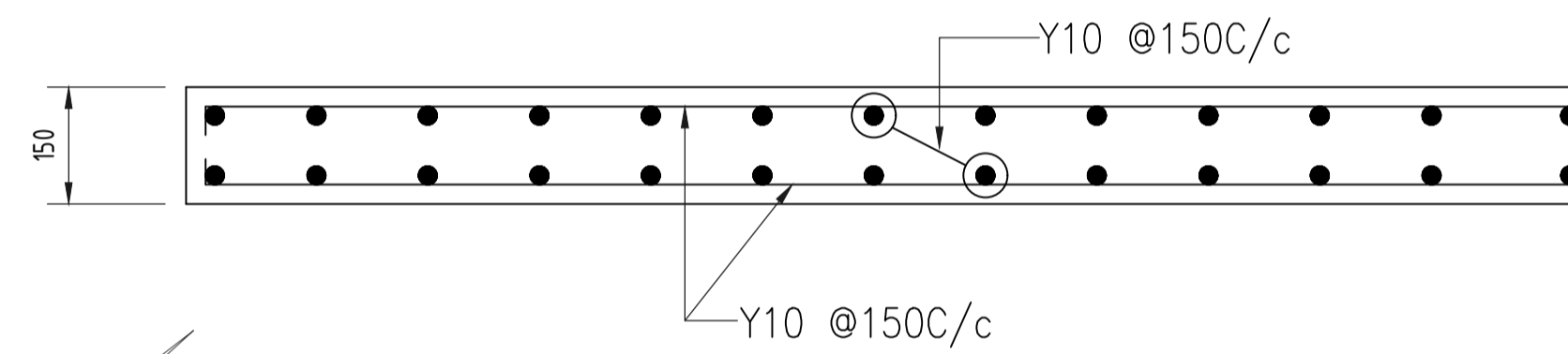
0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			BRICK VALVE CHAMBER TYPE-2 (1.5M X 1.0M)		
TRACTEBEL		Size	Scale	Sheet	Rev.
ENGI		A1	NTS	01 of 01	0
TRACTEBEL Engineering pvt. Ltd.		Project No.	Discipline Code	System Code	Serial No.
		P.014714	D	20749	015



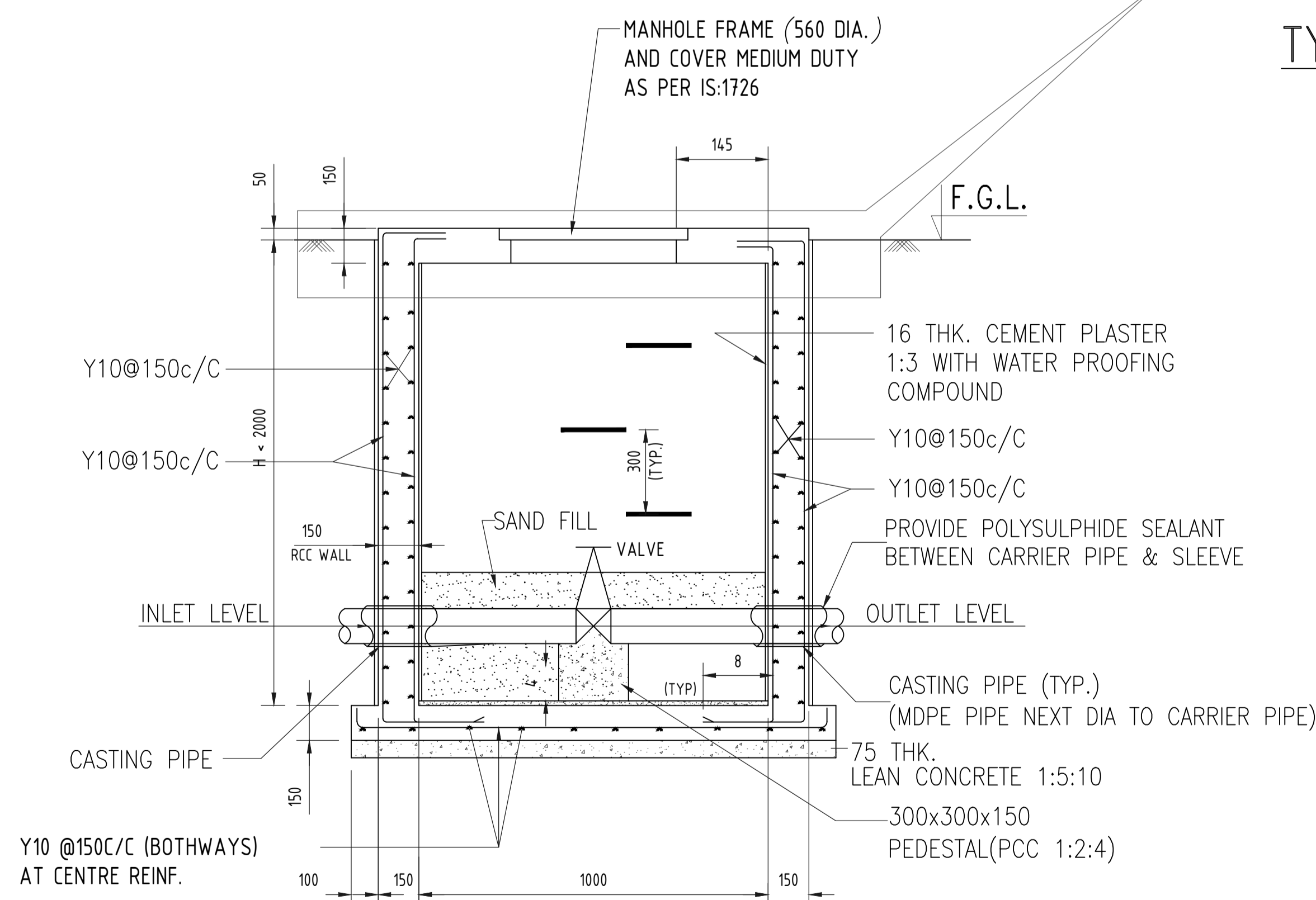
VALVE PIT PLAN



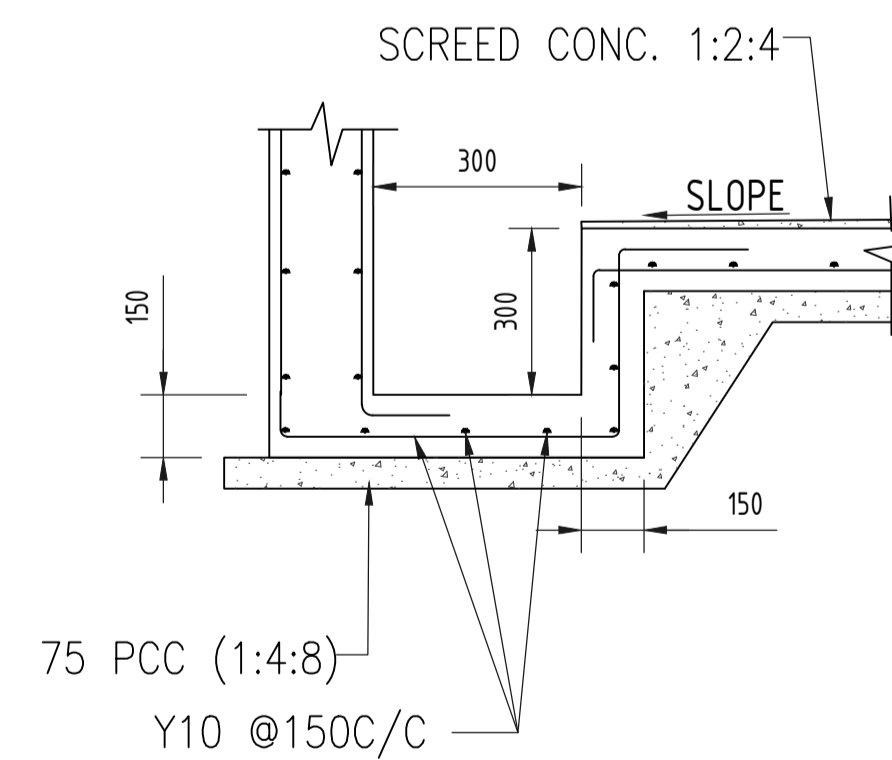
TYPICAL DETAILS OF MS RUNGS



TYPICAL SLAB R/F DETAIL



SECTION A-A



SECTION 1-1

- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
 2. FOLLOW WRITTEN DIMENSIONS ONLY. DO NOT SCALE THE DIMENSIONS.
 3. CLEAR COVER TO MAIN REINFORCEMENT SHALL BE: (a) SLAB = 20mm GRADE OF CONCRETE SHALL BE M-25.
 4. REINFORCEMENT SHALL BE OF HYSD (GRADE Fe 415) CONFORMING TO IS:1786.

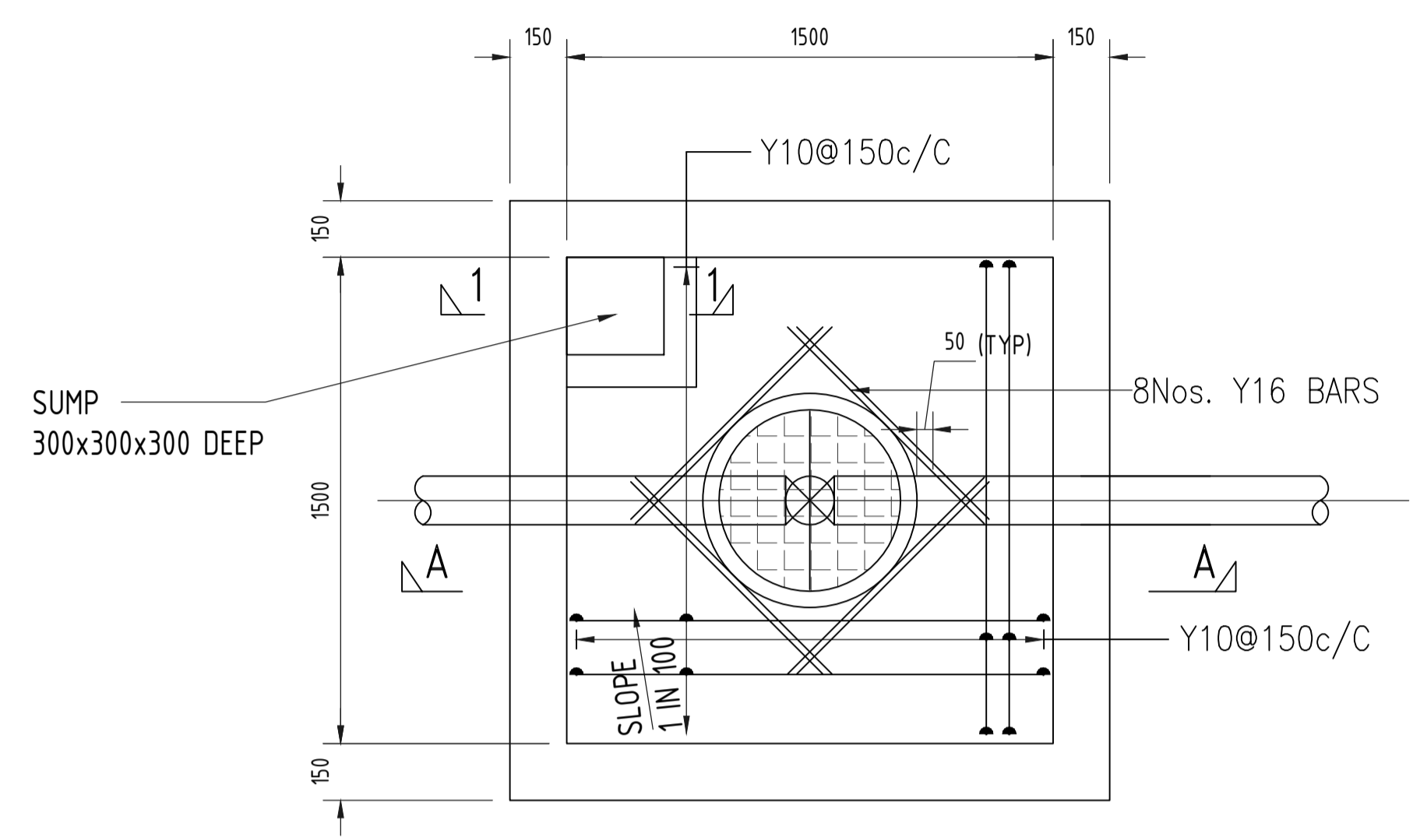
0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

CUSTOMER: **CENTRAL UP GAS LIMITED**

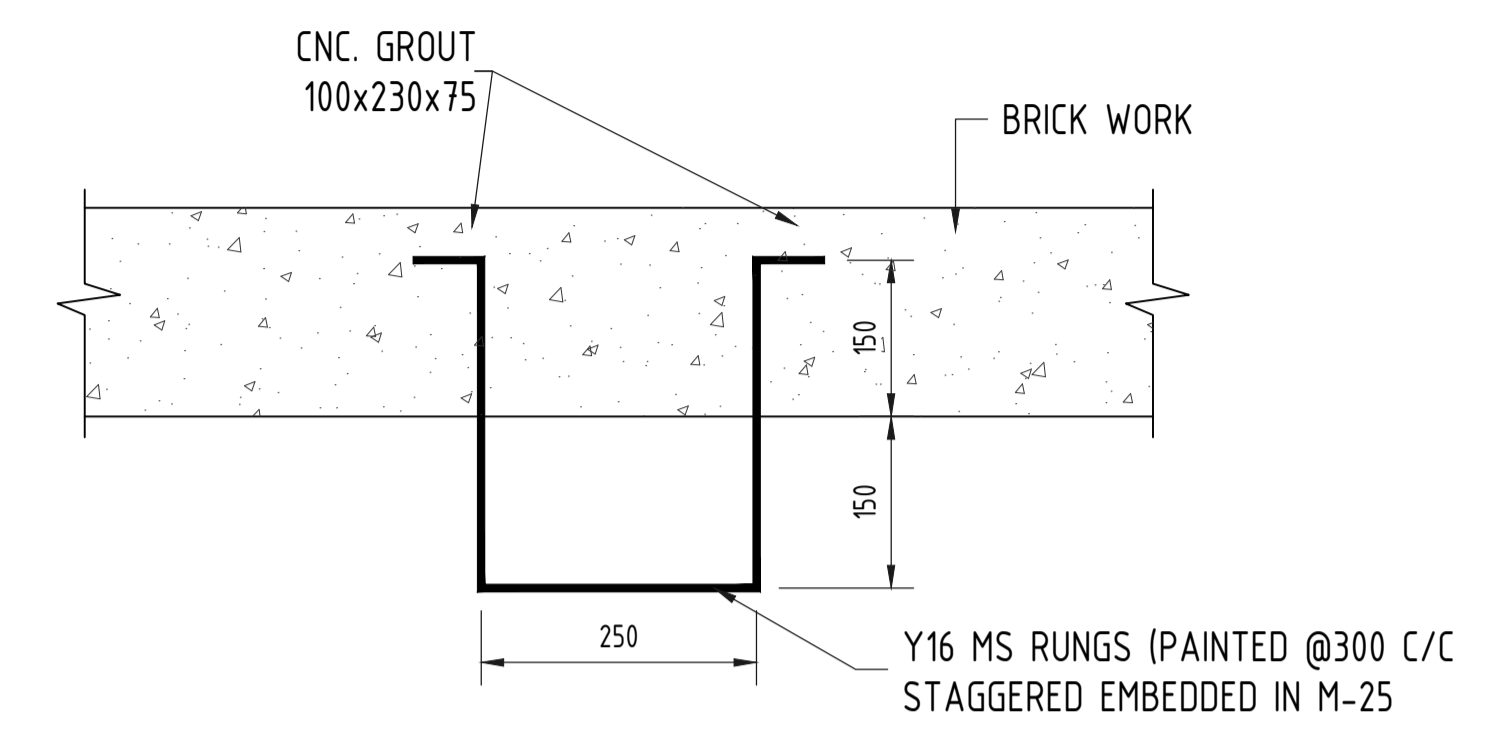
PROJECT: **CITY GAS DISTRIBUTION PROJECT**

SUBJECT: **RCC VALVE CHAMBER (1.5M X 1.0M)**

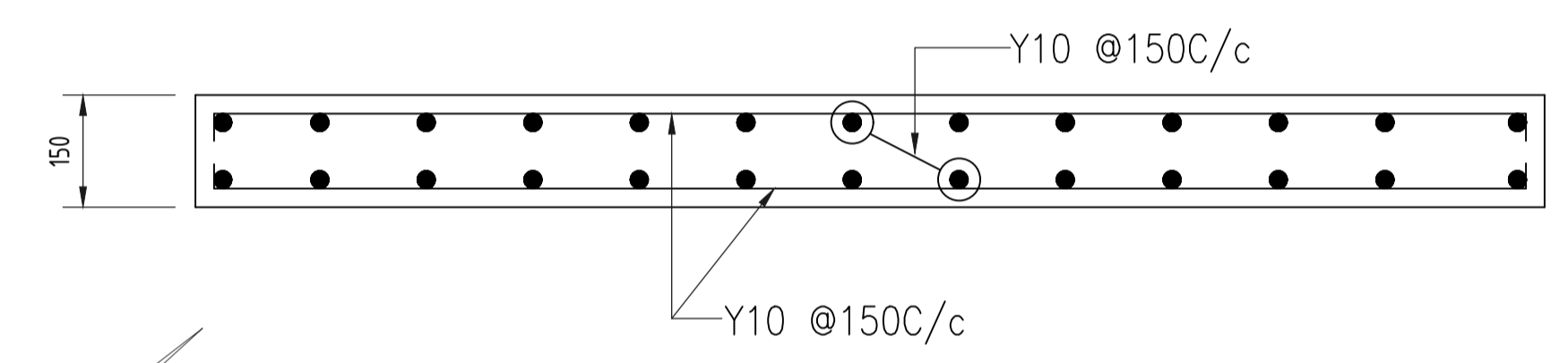
	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
Project No.		Discipline Code System Code		Serial No.
P.014714		D		20749 016



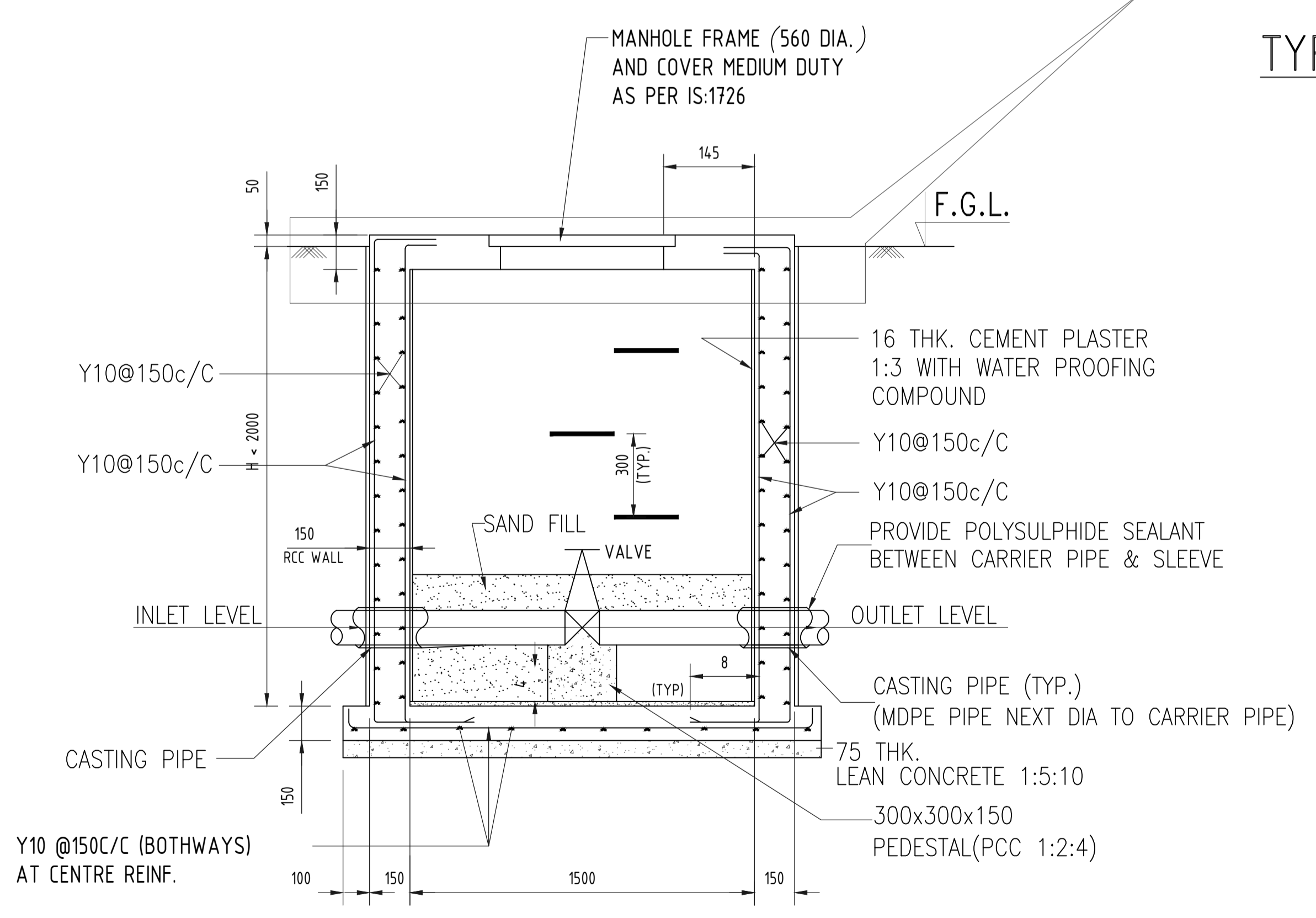
VALVE PIT PLAN



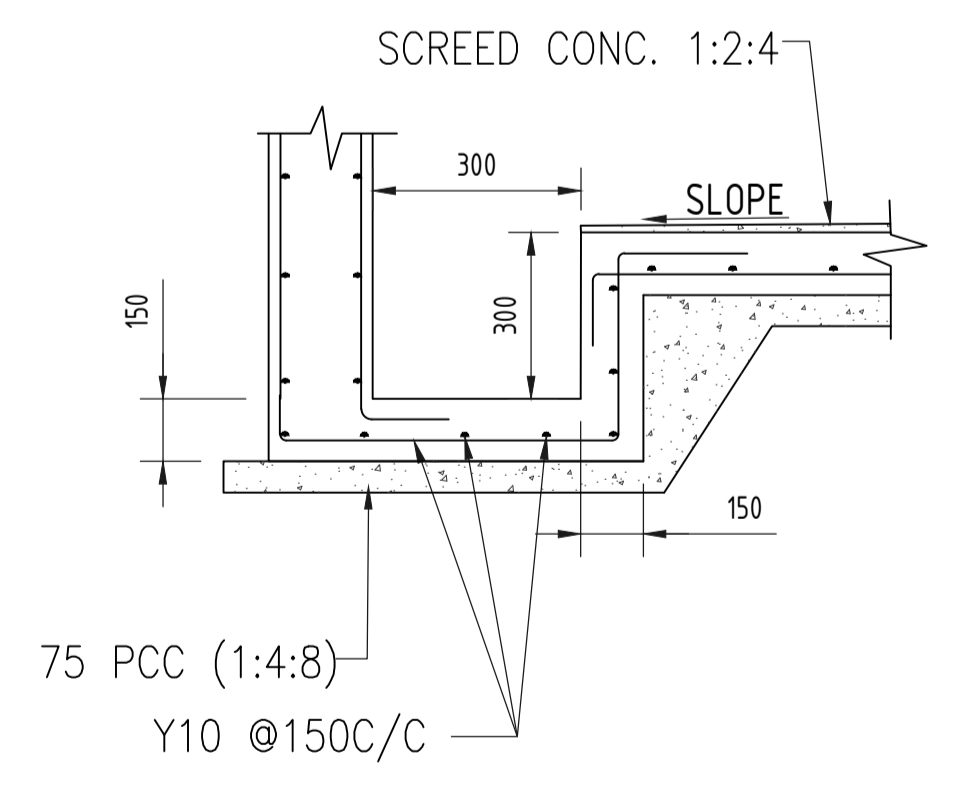
TYPICAL DETAILS OF MS RUNGS



TYPICAL SLAB R/F DETAIL



SECTION A-A



SECTION 1-1

- NOTES
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
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0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By
CUSTOMER			CENTRAL UP GAS LIMITED		
PROJECT			CITY GAS DISTRIBUTION PROJECT		
SUBJECT			RCC VALVE CHAMBER (1.5M X 1.5M)		
Size		Scale	Sheet		Rev.
A1		NTS	01 of 01		0
Project No.		Discipline Code System Code		Serial No.	
TRACTEBEL Engineering pvt. Ltd.		P.014714 D		20749 017	

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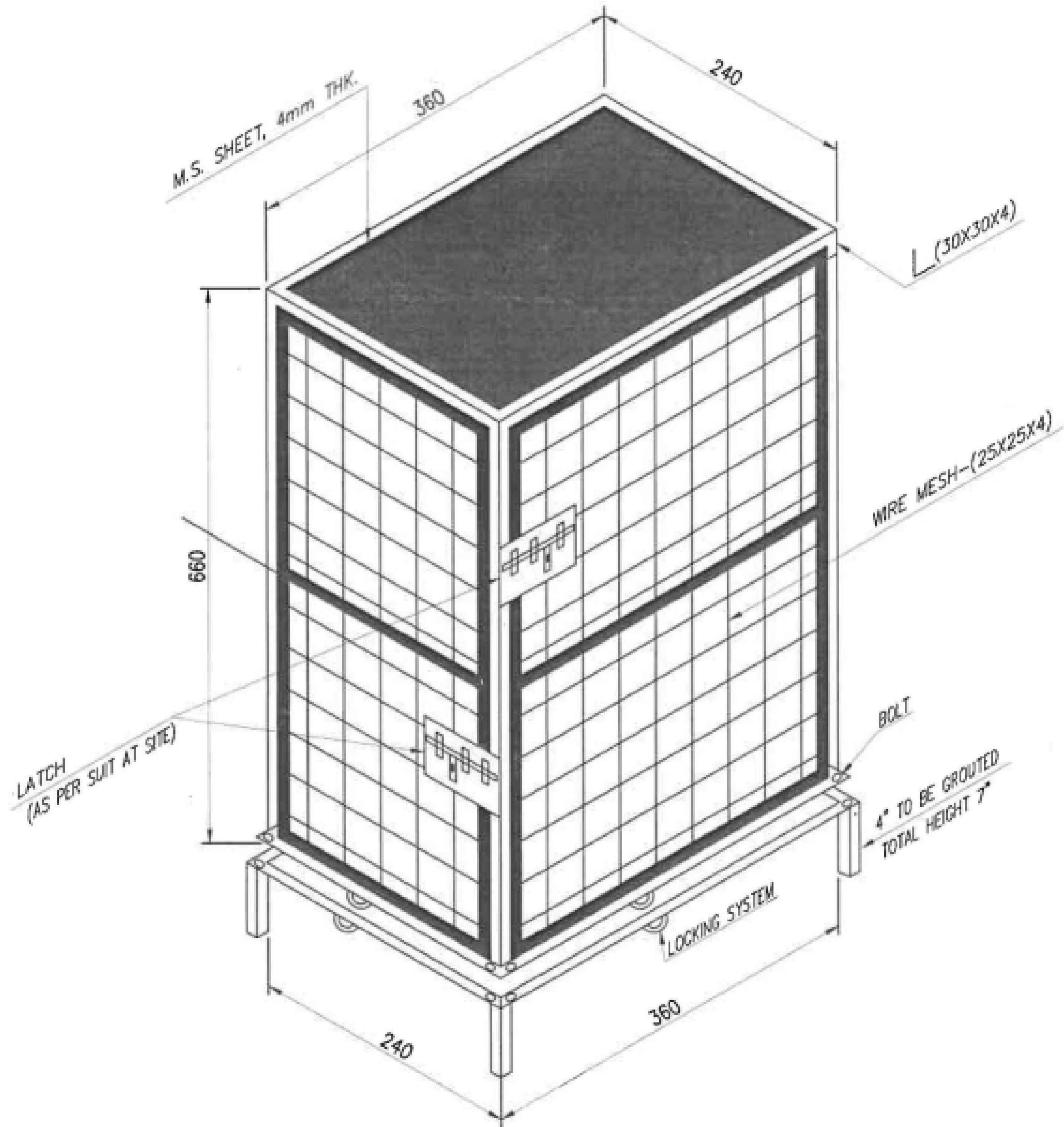
2

3


4

NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.
2. 40MM GROUTING WITH NON-SHRINKAGE COMPOUND SHALL BE PROVIDED AT BOTTOM OF SERVICE REGULATOR.
3. WIRE MESH AND MS ANGLE/PLATES SHOULD BE PAINTED WITH PRIMER & GOLDEN YELLOW PAINT OF REPUTATED MAKE.




0	22.10.20	ISSUED FOR TENDER	MHL	AMK	KNS
Rev.	D M Y	Modifications	Drawn By	Checked By	Approved By

CUSTOMER  **CENTRAL UP GAS LIMITED**

PROJECT **CITY GAS DISTRIBUTION PROJECT**

SUBJECT **SCHEMATIC DIAGRAM OF HOUSING FOR SINGLE SERVICE REGULATOR**

	Size	Scale	Sheet	Rev.
	A1	NTS	01 of 01	0
Project No. P.014714		Discipline Code D	System Code 20749	Serial No. 018
TRACTEBEL Engineering pvt. Ltd.				

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