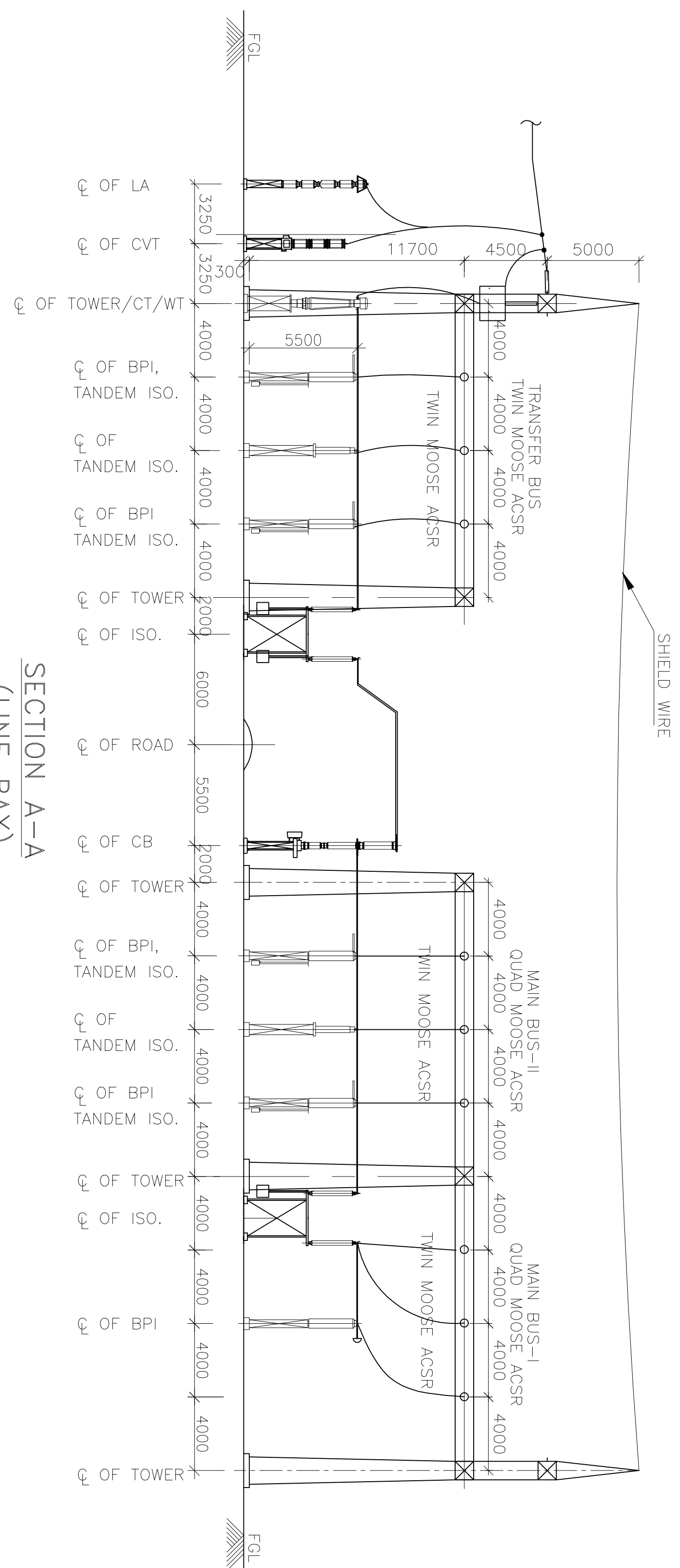
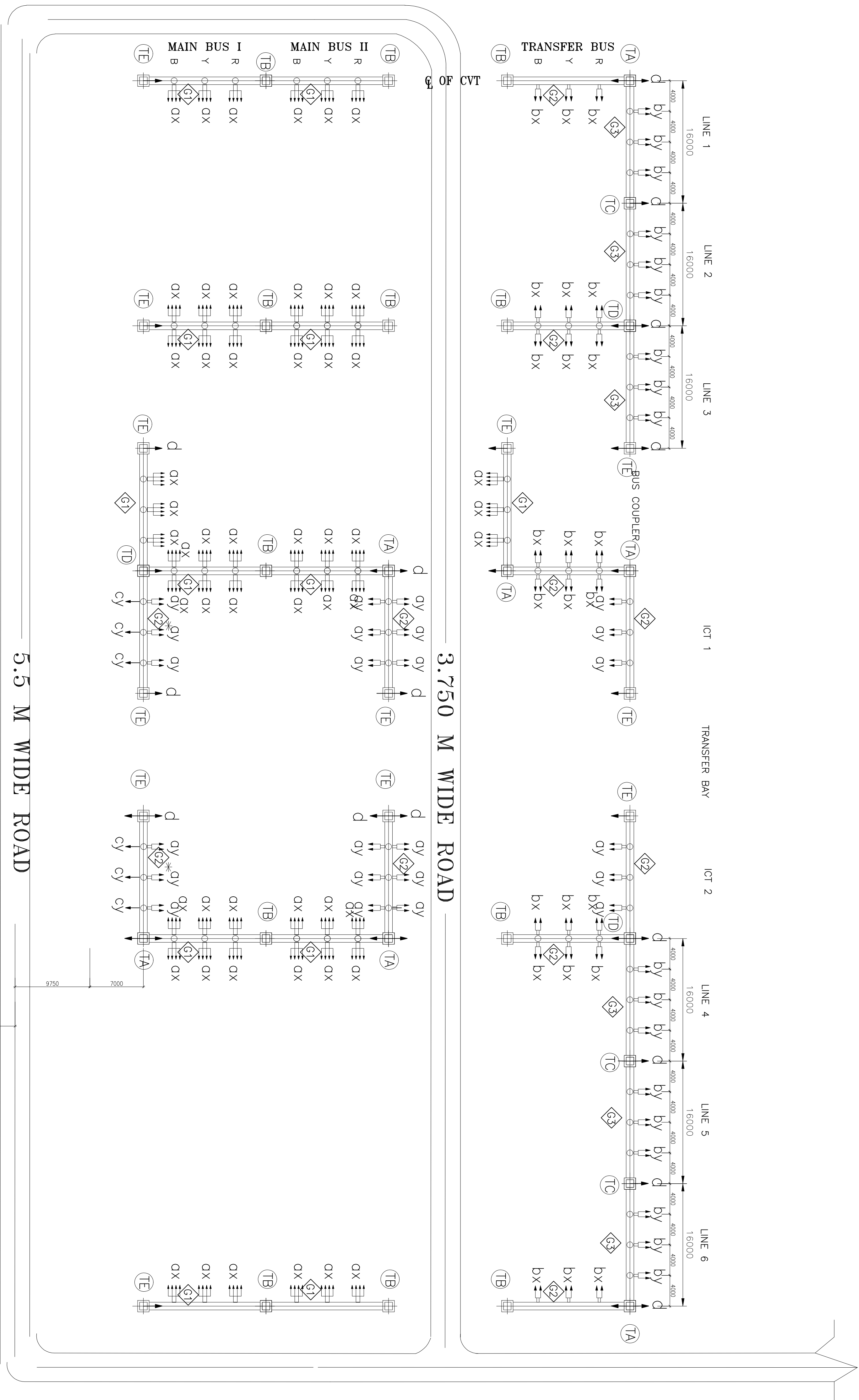






LOADING DETAILS:

NOTATION	NO. & TYPE OF COND/ SHIELD WIRE PER PHASE	NORMAL TENSION PER PHASE	SPACER	S/C TENSION PER PHASE (REF. NOTE-6)
ax 	QUAD ACSR MOOSE SPAN = 54000 MM	4000 KG	2.5 M	5500 KG
bx 	TWIN ACSR MOOSE SPAN = 54000 MM	2000 KG	2.5 M	3500 KG
ay 	TWIN ACSR MOOSE SPAN = 36000 MM	2000 KG	2.5 M	3500 KG
by 	TWIN ACSR MOOSE SPAN = 100000 MM	2000 KG	2.5 M	5500 KG
cx 	TWIN ACSR MOOSE SPAN = 36000 MM	2000 KG	2.5 M	2916 KG
cy 	SINGLE ACSR MOOSE SPAN = 36000 MM	1000 KG	--	1700 KG
cz 	SINGLE ACSR MOOSE SPAN = 50000 MM	1000 KG	--	2125 KG
d 	SHIELD WIRE	800 KG	--	--

STRUCTURE DETAILS:

BEAM/ TOWER TYPE	HEIGHT /SPAN	QTY. (NOS.)
G1	16	12
G2	16	09
G2*	16	02
G3 (UNDERHUNG WT MOUNTED)	16	06
G4* (ISOLATOR MOUNTED GANTRY)	12	02
G4	12	02
G5	12	03
G6 (UNDERHUNG WT MOUNTED)	12	03
G7	12	02
G8	12	03
TA	11.7+4.5+5	07
TB	11.7	12
TC	16.2+5	03
TD	11.7+4.5+5	03
TE	11.7+4.5+5	12
TF	8	07
TG	8+4+3	05
TH	12+3	04
TI	8+4+3	05

NOTE :

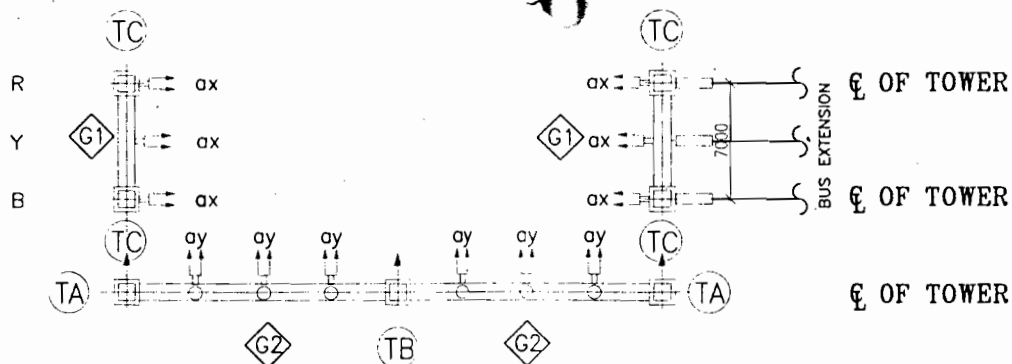
1. ALL DIMENSIONS ARE IN MM
2. DRAWING SHOWS THE MAXIMUM STATIC STRAINING TENSION IN KG ONLY
3. THE TRANSVERSE, VERTICAL, LONGITUDINAL LOADS SHALL BE CONSIDERD AS PER IS 802: 1995 ON BEAM AS 150 Kg.
4. WEIGHT OF THE MAN WITH TOOLS AT ANY POINT OF TIME SHALL BE CONSIDERD ON BEAM AS 150 Kg.
5. ALL HEIGHTS ARE WITH REFERENCE TO PLINTH LEVEL WHICH IS 300 MM ABOVE FINISH GROUND LEVEL
6. FIFTH COLUMN OF THE TABLE FOR "LOADING DETAILS" SHOWS MAX. SHORT CIRCUIT FORCE IN kg. UNDER MINIMUM TEMPERATURE AND MAXIMUM WIND CONDITIONS
7. TAKE OFF GANTRY FOR LINE BAYS (☞, ☞, ☞ & ☞) SHALL BE DESIGNED CONSIDERING ± 30 DEG. DEVIATION OF CONDUCTOR IN BOTH VERTICAL AND HORIZONTAL PLANES.

Figure 1 is a schematic diagram of the layout of the experimental facility. The diagram shows a top-down view of a rectangular facility. The central part is a horizontal 'TRANSFER BAY'. On either side of this bay are two vertical sections labeled 'ICT 1' and 'ICT 2'. The facility is divided into four quadrants by the central bay and the ICT sections. Each quadrant contains a series of circular components labeled 'Th' (Thermal) and 'Cy' (Cylindrical) with various subscripts and superscripts. The layout is symmetrical. Dimensions are provided at the bottom: 12000 mm for the width of the main sections and 12000 mm for the length of the central bay. A scale bar at the bottom left indicates 1:2000.

INVENTORY No.	SIGN. & DATE	REF. DRG. No.
16		
15		
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13		
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11		
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7		
5		
7		

[illegible]

TRANSFER BUS



LOADING DETAILS:

NOTATION	NO. & TYPE OF COND./SHIELD WIRE PER PHASE	NORMAL TENSION PER PHASE	SPACER	S/C TENSION PER PHASE (REF. NOTE-6)
ax	TWIN ACSR MOOSE SPAN = 32000 MM	2000 KG	2.5 M	3500 KG
ay	TWIN ACSR MOOSE SPAN = 100000 MM	2000 KG	2.5 M	5500 KG
d	SHIELD WIRE	800 KG	--	--

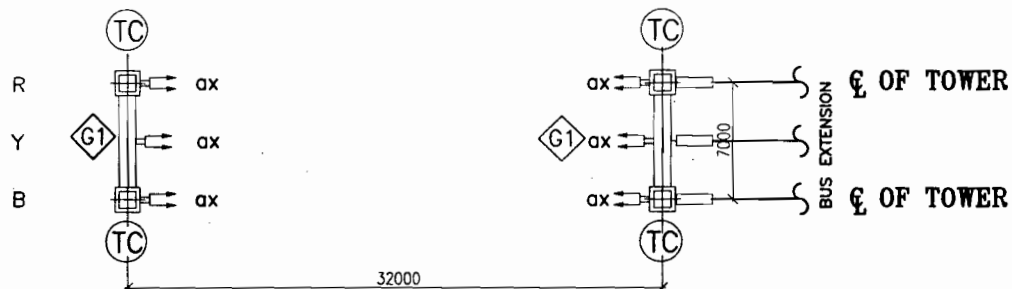
STRUCTURE DETAILS:

BEAM/TOWER TYPE	HEIGHT/SPAN	QTY. (NOS.)
G1	7	04
G2	16	02
TA	11.7+4.5+5	02
TB	11.7+4.5+5	01
TC	9.5	08

APPROVED
Subject to the condition that you are not absolved of the responsibility of the design.

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ADB Cell,
Bihar State Power (Holding) Co. Ltd., PATNA

MAIN BUS

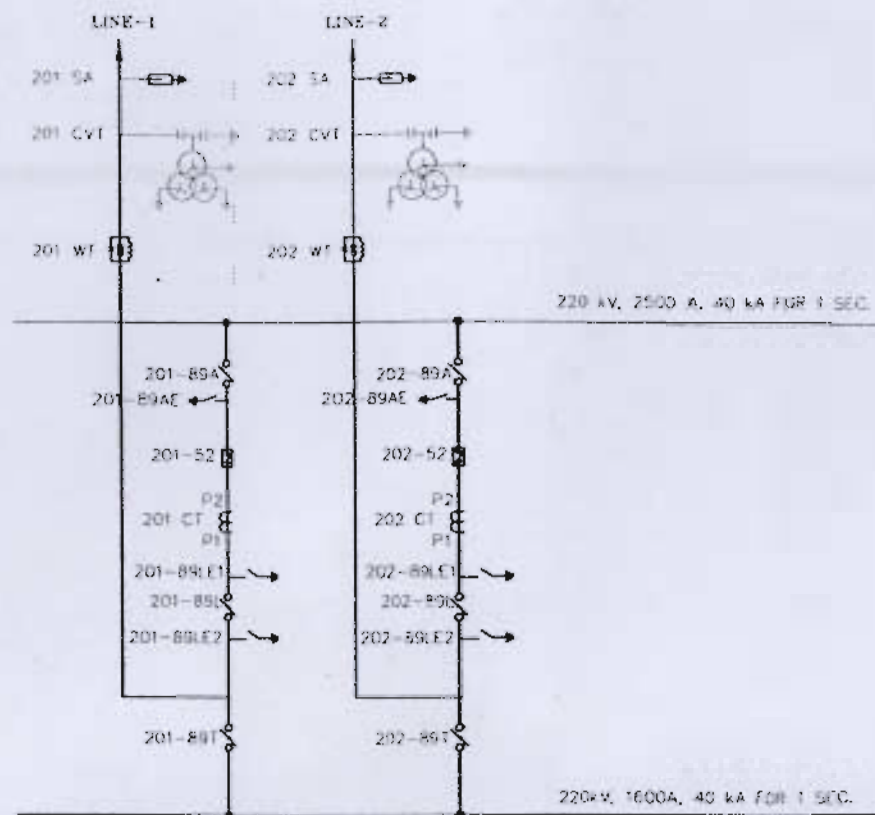


NOTE :

- ALL DIMENSIONS ARE IN MM
- DRAWING SHOWS THE MAXIMUM STATIC STRAINING TENSION IN KG ONLY
- THE TRANSVERSE, VERTICAL, LONGITUDINAL LOADS SHALL BE CONSIDERED AS PER IS 802: 1995 ON BEAM AS 150 Kg.
- WEIGHT OF THE MAN WITH TOOLS AT ANY POINT OF TIME SHALL BE CONSIDERED ON BEAM AS 150 Kg.
- ALL HEIGHTS ARE WITH REFERENCE TO PLINTH LEVEL WHICH IS 300 MM ABOVE FINISH GROUND LEVEL
- FIFTH COLUMN OF THE TABLE FOR "LOADING DETAILS" SHOWS MAX. SHORT CIRCUIT FORCE IN Kg. UNDER MINIMUM TEMPERATURE AND MAXIMUM WIND CONDITIONS
- TAKE OFF GANTRY FOR LINE BAYS (◆) SHALL BE DESIGNED CONSIDERING ± 30 DEG. DEVIATION OF CONDUCTOR IN BOTH VERTICAL AND HORIZONTAL PLANES.

REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED
ZONE					ZONE					ZONE				

NAME OF CUSTOMER		BIHAR STATE ELECTRICITY BOARD	
JOB NO. - 374		NAME OF PROJECT 220 kV DEHRI EXTENSION	
STATUS OF DRAWING - CONTRACT		DISTRIBUTION OF PRINTS	
BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION		BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION	
TITLE STRUCTURE LOADING DIAGRAM OF 220 KV BAY EXTENSION		DATE / NO. / DRAWING NO. TB-3-357-510-003A	
SHEET NO. / SHEET NO. 01		SHEET NO. / SHEET NO. 00	



220 kV BILL OF QUANTITY

S.N.	EQUIPMENT DESCRIPTION	KV	SYMBOL	TOTAL QTY.
1.	SF6 CIRCUIT BREAKER (3-PH), 1600A, 40 kA FOR 1 SEC.	245		02
2.	HDB ISOLATOR WITH 2 E/S 3#, 1600A (MECHANICALLY GANGED)	245		02
3.	HDB ISOLATOR WITH 1 E/S 3#, 1600A (MECHANICALLY GANGED)	245		02
4.	HDB ISOLATOR WITHOUT E/S 3#, 1600A, TANDEM TYPE (MECHANICALLY GANGED)	245		02
5.	CURRENT TRANSFORMER, 1600A (1-PH), 5 CORE (EXTENDED CURRENT RATING 120%)	245		06
6.	216KV SURGE ARRESTOR (1-PH)	216		06
7.	WAVE TRAP (1-PH), 1600A, 0.5 mH	245		04
8.	4400pF CAPACITOR VOLTAGE TRANSFORMER (1-PH)	245		06

APPROVED
Subject to the condition that
you are not absolved of the
responsibility of correctness
of materials.

subjected to the
condition that
it should
match with
the existing
layout

220 kV, 1600 A CT DETAILS FOR LINE BAY (EXTENDED CURRENT RATING 120%)

CORE NO.	RATIO	OUTPUT BURDEN (VA)	ISF	ACCURACY CLASS	MIN. KNEE POINT VOLTAGE V_k (Volts)	MAX. EXCITING CURRENT at V_k	MAX. R_{eq} (Ω m)
01	1600-800/1	-	-	PS	1600-800	25 mA at 1600/1 TAP 50 mA at 800/1 TAP	8-4
02	1600-800/1	-	-	PS	1600-800	25 mA at 1600/1 TAP 50 mA at 800/1 TAP	8-4
03	1600-800 /1	20	≤ 5	0.2	-	-	-
04	1600-800/1	-	-	PS	1600-800	25 mA at 1600/1 TAP 50 mA at 800/1 TAP	8-4
05	1600-800/1	-	-	PS	1600-800	25 mA at 1600/1 TAP 50 mA at 800/1 TAP	8-4

220 kV, 4400 pF CVT DETAILS

	$(220/\sqrt{3} \text{ kV})/(110/\sqrt{3} \text{ V})/(110/\sqrt{3} \text{ V})/(110/\sqrt{3} \text{ V})$
SEC-1	CLASS 3P, 50 VA
SEC-2	CLASS 3P, 50 VA
SEC-3	0.2, 50 VA

NOTE:-

- ELECTRICAL SYSTEM PARAMETERS 245kV
 - NOMINAL SYSTEM VOLTAGE 220kV
 - HIGHEST SYSTEM VOLTAGE 245kV
 - CURRENT RATING (BUS BAR) 2500A
 - SHORT CIRCUIT CURRENT RATING 40 kA FOR 1 SEC.
 - BASIC INSULATION LEVEL 1050kVp
 - POWER FREQUENCY WITHSTAND VOLTAGE 460 kV
 - CREEPAGE 25mm/kV
 - SYSTEM EARTHING EFFECTIVELY EARTHED
- BAYS NUMBER TO BE CONFIRMED BY BSEB.
- PHASES ON WHICH WAVE TRAP TO BE MOUNTED TO BE CONFIRMED BY BSEB

CUSTOMER	BIHAR STATE ELECTRICITY BOARD
PROJECT	220 kV DEHRI EXTENSION
BHARAT HEAVY ELECTRICALS LIMITED TRANSMISSION BUSINESS GROUP	CARD CODE
TITLE SINGLE LINE DIAGRAM OF 220KV SUBSTATION	NEXT SHEET SHEET No. 01
SCALE W.C. No. 82003APUS	REV 00

Approved
18/11/2013
Electrical Superintending Engineer (Trans.)
ADB Cell,
Bihar State Power (Holding) Co. Ltd., PATNA

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It must not be used directly or indirectly in anyway detrimental to the interest of the company.

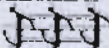
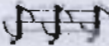
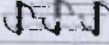
COMPUTER DRG. PATH NAME

SIGN & DATE

INVENTORY NO.

REV.	DATE	ALTD.	CHD.	APPD.	REV.	DATE	ALTD.	CHD.	APPD.	NAME	SIGN	DATE
										DRAWN	PR	
										CHECKED	PR/MVK	
										APPROVED	NK	
										DISTRIBUTION OF PRINTS		
										DEPT		
										CODE		
										TRIM	422	

220 KV BILL OF QUANTITY

S.N.	EQUIPMENT DESCRIPTION	IV	SYMBOL	TOTAL QTY.
1.	SF ₆ CIRCUIT BREAKER (3-PH), 1800A, 40 KA FOR 1 SEC	245		02
2.	HDB ISOLATOR WITH 2 E/S 3#, 1800A (MECHANICALLY GANGED)	245		02
3.	HDB ISOLATOR WITH 1 E/S 3#, 1800A (MECHANICALLY GANGED)	245		02
4.	HDB ISOLATOR WITHOUT E/S 3#, 1800A (MECHANICALLY GANGED)	245		02
5.	CURRENT TRANSFORMER, 1800A (1-PH), 5 CORE (EXTENDED CURRENT RATING 120%)	245		06
6.	216KV SURGE ARRESTOR (1-PH)	216		06
7.	WAVE TRAP (1-PH), 1800A, 0.5 mH (Hanging Type)	245		04
8.	4400pF CAPACITOR VOLTAGE TRANSFORMER (1-PH)	245		06
9.	245KV BUS POST INSULATOR	245		15

NOTE

1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED
2. SYSTEM PARAMETERS

S. NOS.	DESCRIPTION	UNIT	22
1.	NOMINAL SYSTEM VOLTAGE	kV	22
2.	HIGHEST SYSTEM VOLTAGE	kV	24
3.	BASIC IMPULSE LEVEL	kVP	100
4.	POWER FREQUENCY WITHSTAND	kVrms	48
5.	SWITCHING IMPULSE WITHSTAND VOLTAGE	kVrms	48
6.	CREEPAGE DISTANCE (MINIMUM)	mm/kV	25
7.	SYSTEM FAULT LEVEL FOR 1 SEC	KA	40

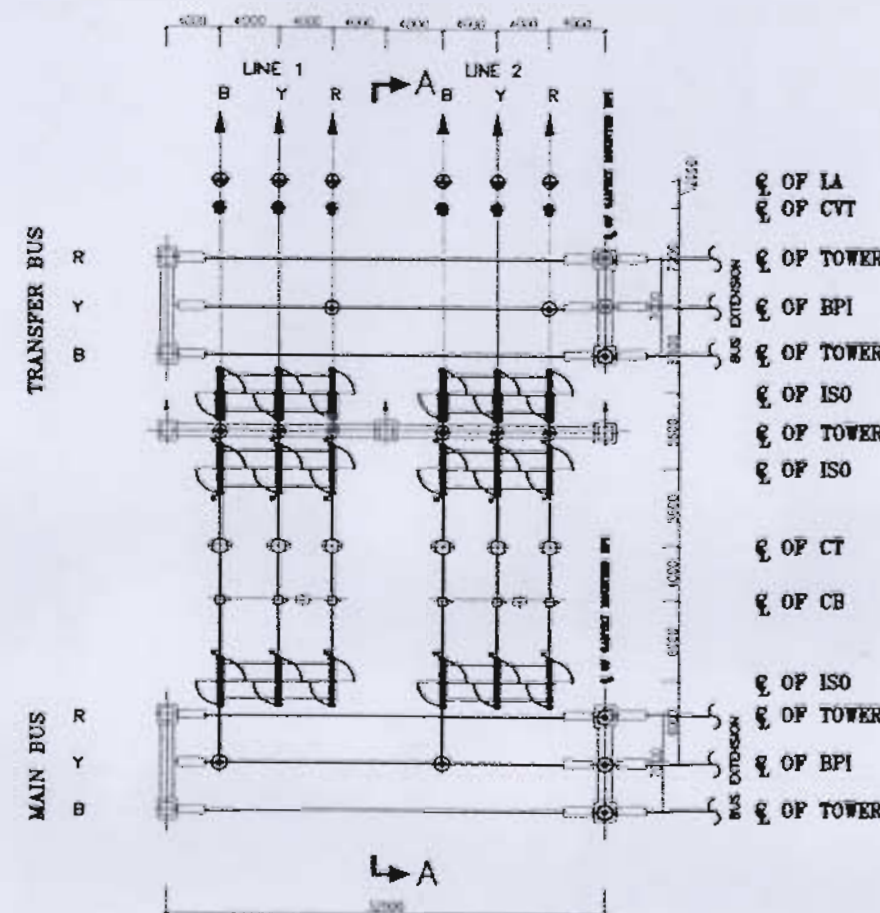
S. NOS.	DESCRIPTION	220
1.	MAIN BUS	TWIN MOOSE ACSR
2.	EQUIPMENT INTERCONNECTION	TWIN MOOSE ALR
3.	JUMPER /DROPPERS	TWIN MOOSE ACSR
4.	SHIELD WIRE	7/3.68 GALVANIZED STEEL (10.8MM DIA)

4. ALL THE BUS BARS, STRUNG BUSES & EQUIPMENTS ARE PROTECTED FROM 7/3.6 GALVANISED STEEL WIRE.
5. DURING ERECTION, 3 NOS. FOUNDATION FOR WAVE TRAP IN EACH FEEDER BAY OF 220KV SWITCHYARD TO BE CASTED. ONLY 2 NOS. WAVE TRAP IN 220 KV PER FEEDER BAY WILL BE UTILISED DURING COMMISSIONING AS PER PLCC REQUIREMENT AND AFTER NECESSARY TESTING.
6. SUPPLY AND STRINGING OF LINE CONDUCTOR, SHIELD WIRE, INSULATOR AND HARDWARE BETWEEN DEAD END TOWER AND SUBSTATION TERMINAL GANTRY ARE NOT IN BHEL SCOPE. HOWEVER, JUMPING FOR THE RESPECTIVE EQUIPMENT & SHIELDING REQUIREMENT FOR PROTECTION OF LIVE EQUIPMENT AND JUMPERS SHALL BE IN BHEL SCOPE.
7. ALL EQUIPMENT STRUCTURE (EXCEPT CIRCUIT BREAKER) ARE PIPE TYPE.

APPROVED
Subject to the condition that
you are not absolved of the
responsibility of correctness
of materials.

subjected to the
condition that
should be
the model
existing
land

Electrical Superintending Engineer (Trans.)
ADB Cell,
Bihar State Power (Holding) Co. Ltd., Patna



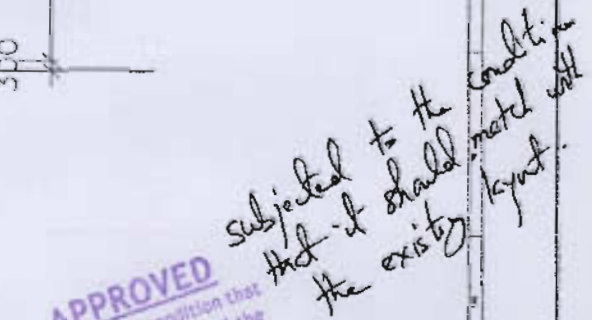
CLEARANCE TABLE :-

MINIMUM CLEARANCE TABLE	220kV
PHASE TO PHASE (PP)	2100mm
PHASE TO EARTH (PE)	2100mm
SECTION CLEARANCE (SC)	5000mm
HEIGHT OF TUBE CENTRE LINE OF FIRST LEVEL FROM PLINTH LEVEL	5500mm
GROUND CLEARANCE TO NEAREST PART NOT AT EARTH POTENTIAL OF AN INSULATOR SUPPORTING LIVE CONDUCTOR	2550mm

LEGEND :-

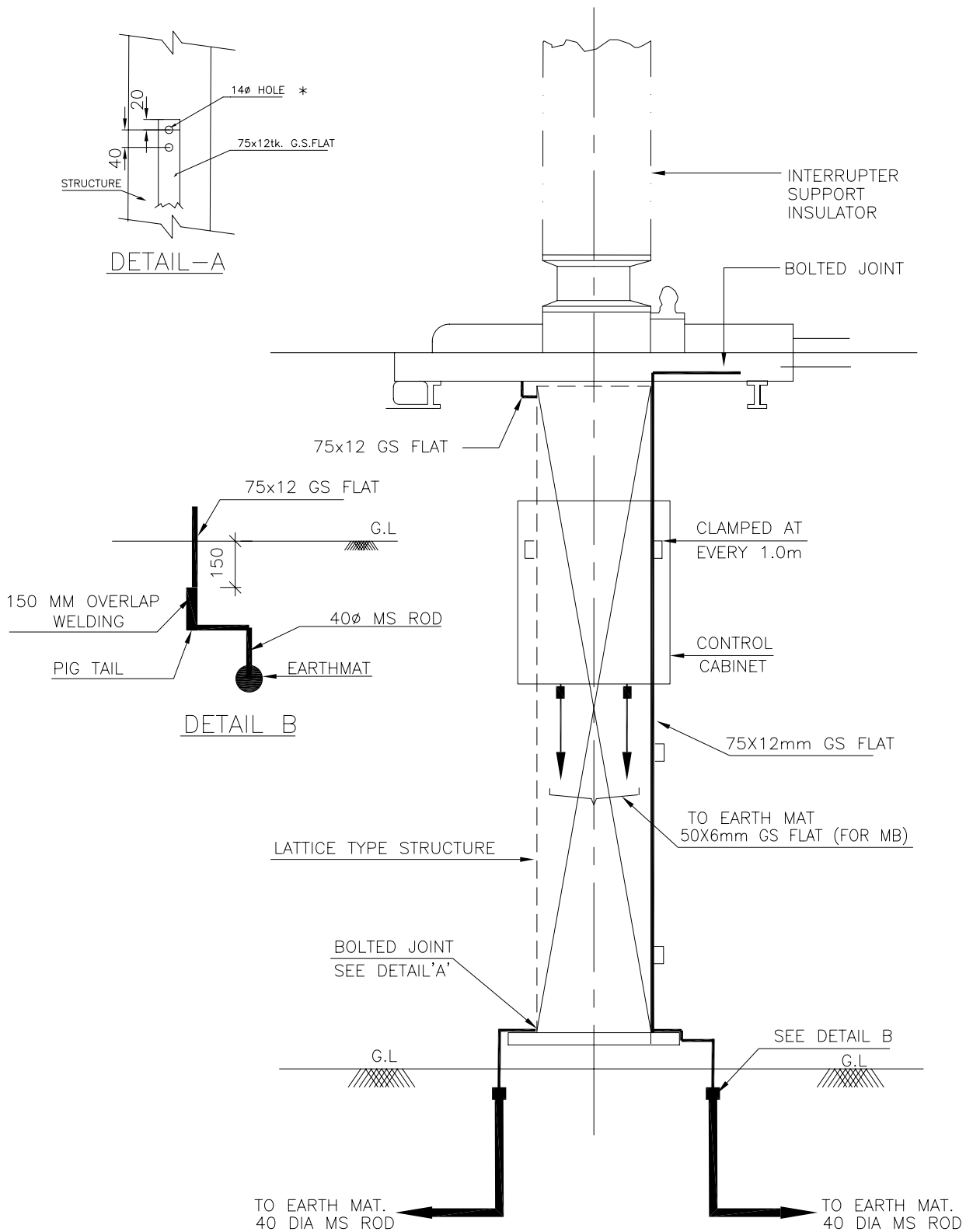
- | | | |
|---|---|-----------------------------|
| A |  | 10.98mm G.S. WIRE |
| B |  | TENSION STRING INSULATOR |
| C |  | SUSPENSION STRING INSULATOR |

NAME OF CUSTOMER		BHAR STATE ELECTRICITY BOARD			
JOB NO. - 574		220 KV DEHRU EXTENSION			
STAGES OF DRAWING - CONTRACT		220 KV DEHRU EXTENSION			
DISTRIBUTION OF PRINTS		 BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION			
REV.	DATE	BY	CHKD	DATE	BY
0001					
 NORTH		 1:1000		220 KV DEHRU EXTENSION	



18/4/18
Electrical Superintending Engineer (Trans.)
ADB Cell,
Bihar State Power (Holding) Co. Ltd., PATNA

NAME OF CUSTOMER		BINAR STATE ELECTRICITY BOARD																			
JOB NO. - 574		NAME OF PROJECT 220 KV DEHRI EXTENSION																			
STATUS OF DRAWING - CONTRACT		DATE OF PROJECT																			
DISTRIBUTION OF PRINTS		 BINAR HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION		<table><tr><th>DATE</th><th>DATE</th><th>DATE</th><th>DATE</th></tr><tr><td>PR</td><td>09.04.13</td><td>PR</td><td>09.04.13</td></tr><tr><td>PR</td><td>09.04.13</td><td>PR</td><td>09.04.13</td></tr><tr><td>PR</td><td>09.04.13</td><td>PR</td><td>09.04.13</td></tr></table>		DATE	DATE	DATE	DATE	PR	09.04.13	PR	09.04.13	PR	09.04.13	PR	09.04.13	PR	09.04.13	PR	09.04.13
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NOTE:

1) * BOLT SIZE AND HOLE SIZE SHALL BE TO SUIT RESPECTIVE EQPT./STRUCTURE.



EQUIPMENT EARTHING DETAILS

220 kV SF6 CIRCUIT BREAKER

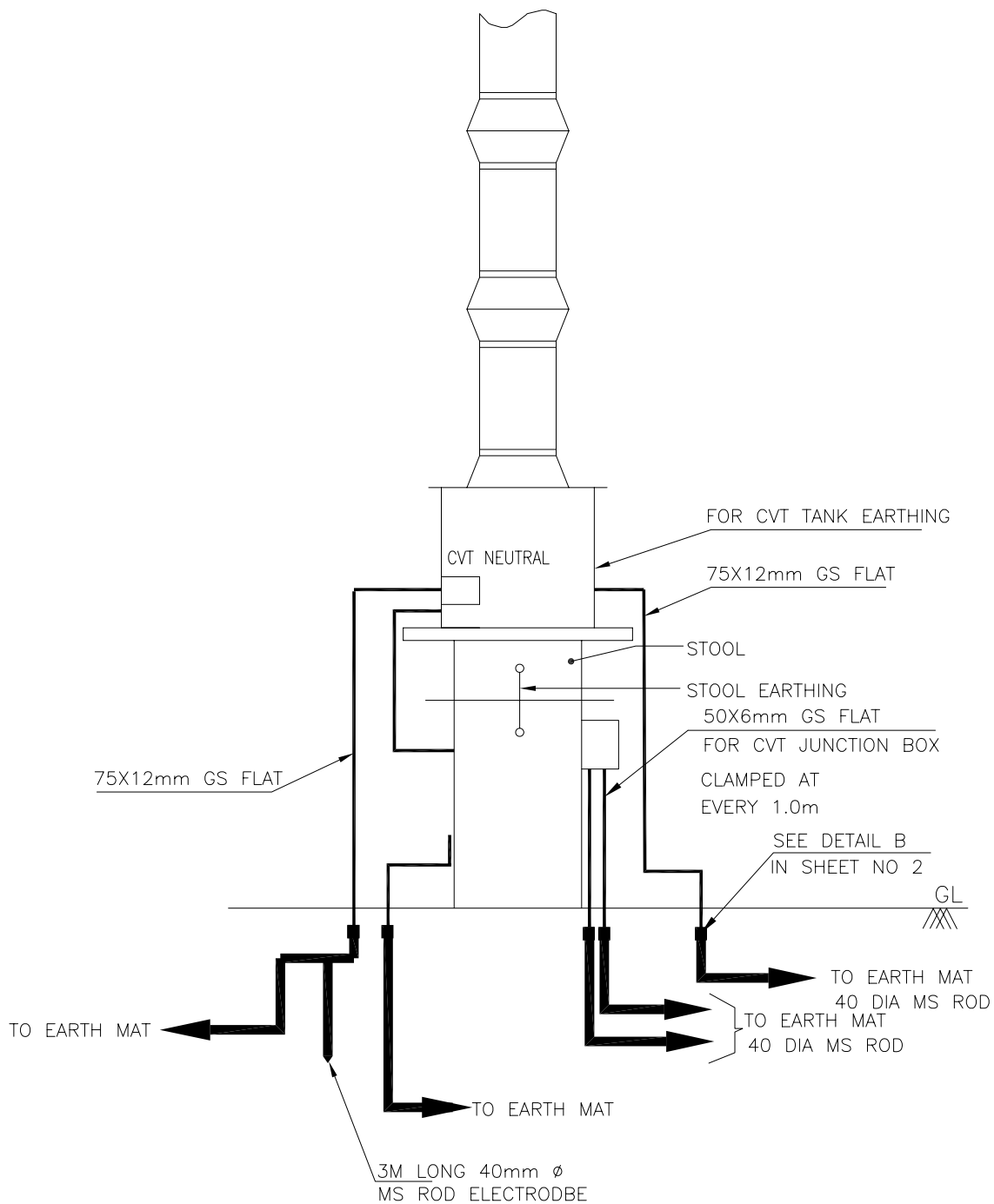
COMPUTERREF.NO.

DRG. No.

TB-4-345-316-007

REV. 00

SHEET No.
2



ROD ELECTRODE = 1 NO.



EQUIPMENT EARTHING DETAILS

220kV CVT/EMVT

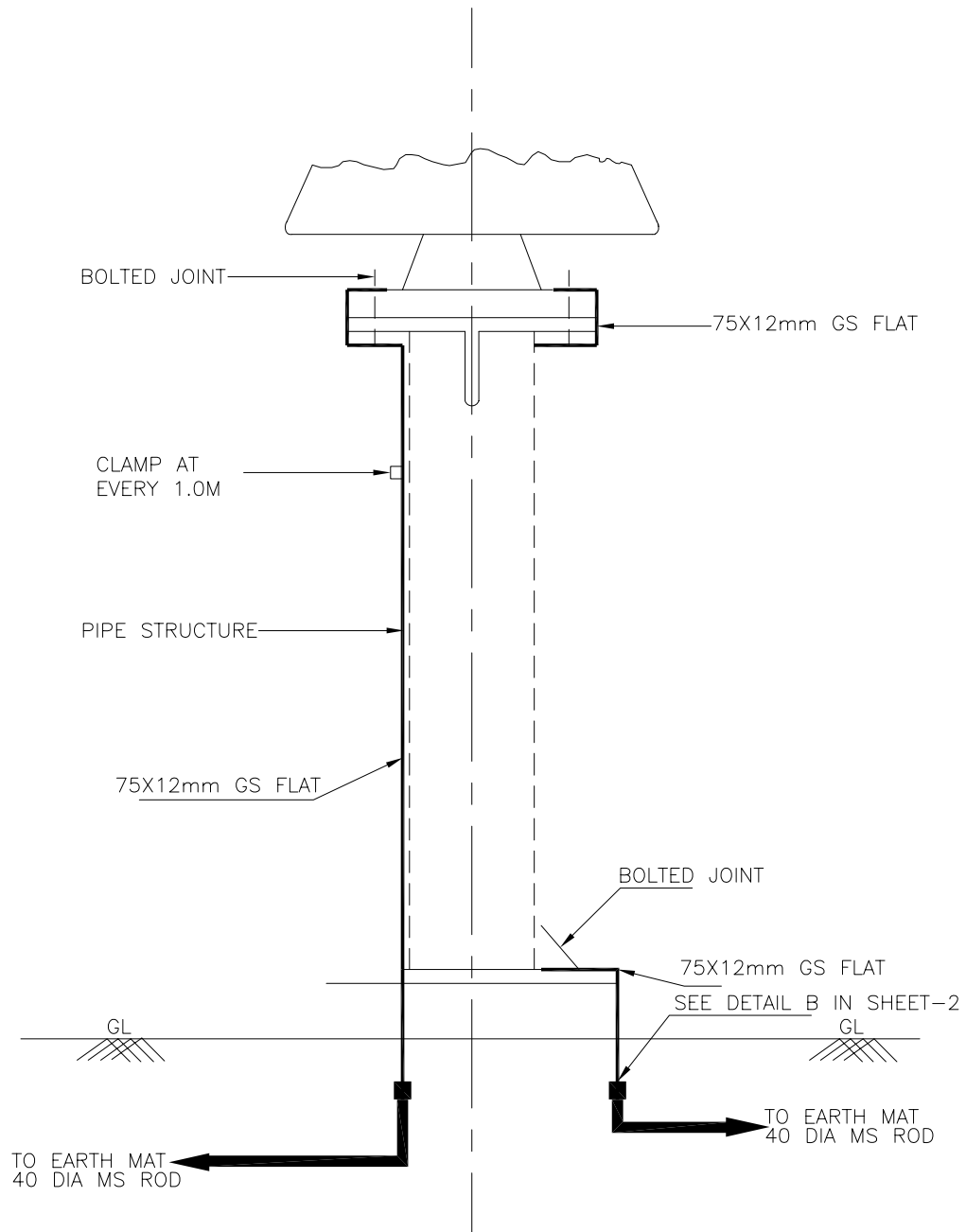
COMPUTERREF.NO.

DRG. No.

TB-4-345-316-007

REV. 00

SHEET No.
3

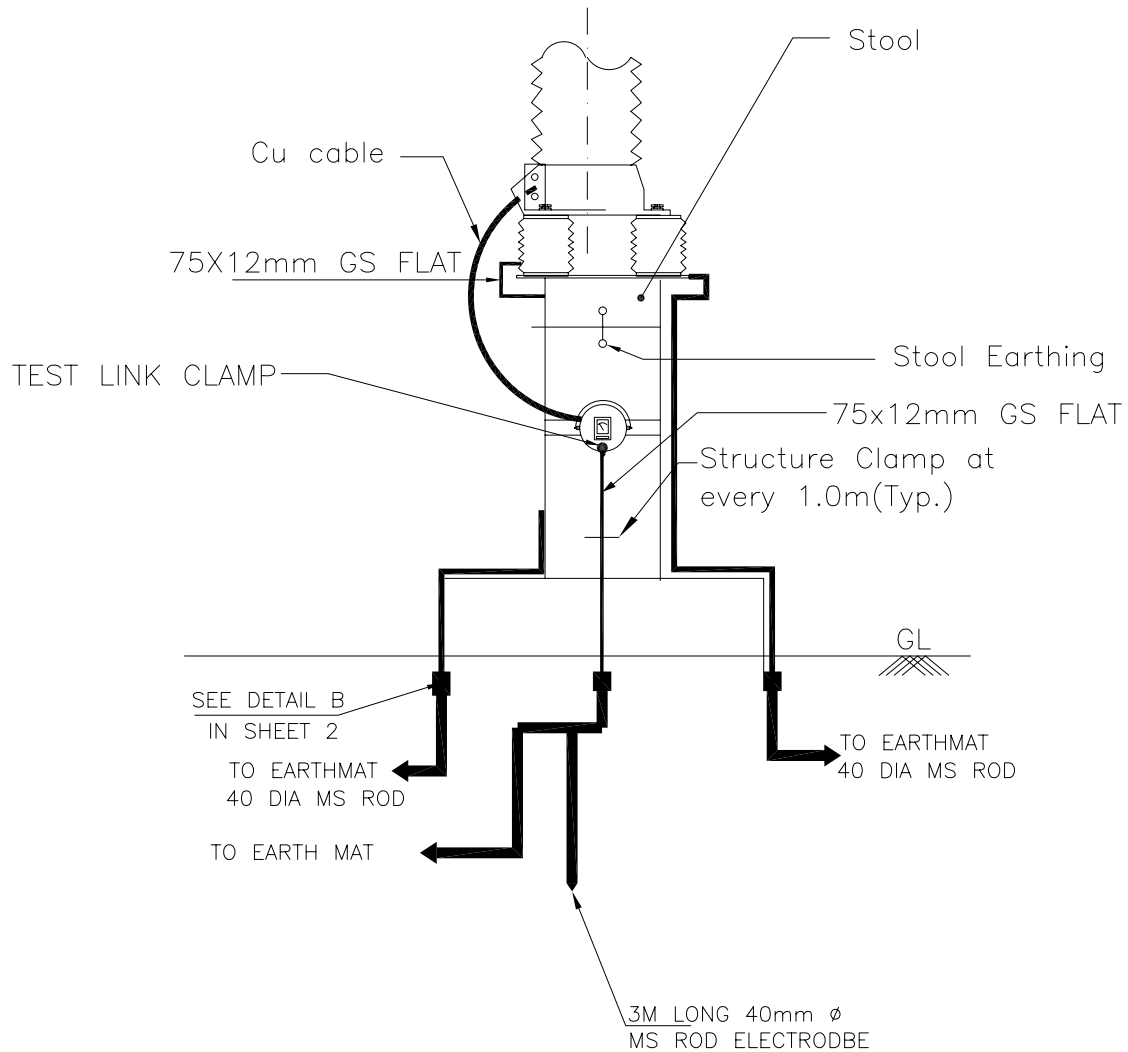


EQUIPMENT EARTHING DETAILS 220kV POST INSULATOR (SOLID CORE TYPE)

DRG. No. TB-4-345-316-007

REV. 00

SHEET No. 4



NOTES;

1. LA SHALL BE EARTHED THROUGH EARTH TERMINAL OF SURGE COUNTER
2. NO. OF ROD ELECTRODE 1 NO. PER PHASE,
3. TEST LINK SHALL HAVE PROVISION TO BOLT TEST LEAD BEFORE ISOLATING THE MAIN EARTHING CONNECTIONS (AS PER SKETCH ABOVE) = 1NO.



EQUIPMENT EARTHING DETAILS
LIGHTNING ARRESTER(198/120kV)

COMPU. DRG. REF.

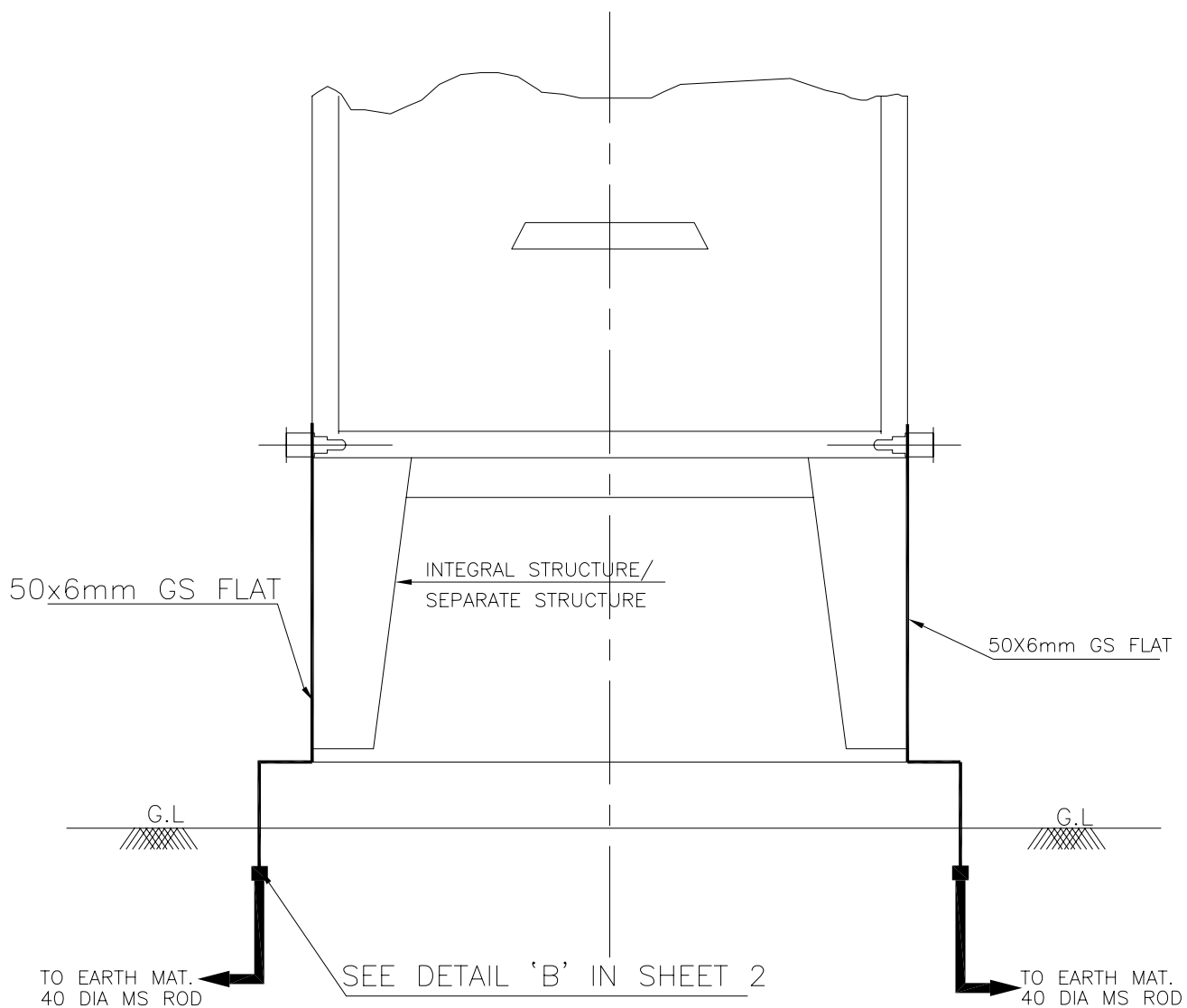
DRG.NO.

TB-4-345-316-007

REV. 00

SHEET No.

5



EQUIPMENT EARTHING DETAILS MARSHALLING KIOSK

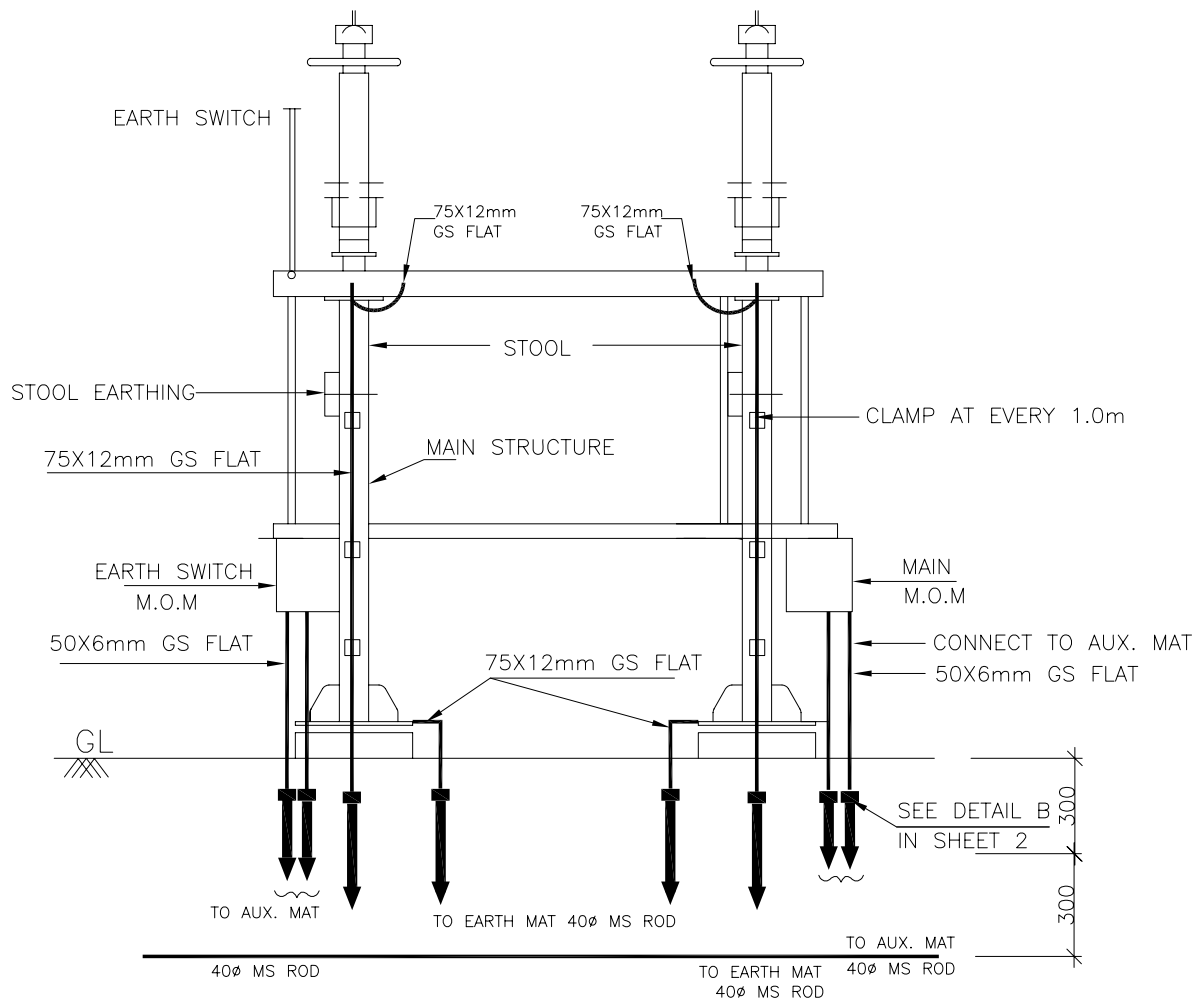
COMPUTERREF.NO.

DRG. No.

TB-4-345-316-007

REV. 00

SHEET No.
6



NOTES

1. AUXILIARY EARTH MAT SHALL BE PROVIDED BELOW EVERY MOM BOX (REFER SHEET 14)



EQUIPMENT EARTHING DETAILS

220kV HORIZONTAL CENTER BREAK ISOLATOR (TYPICAL) WITH ONE EARTH SWITCH

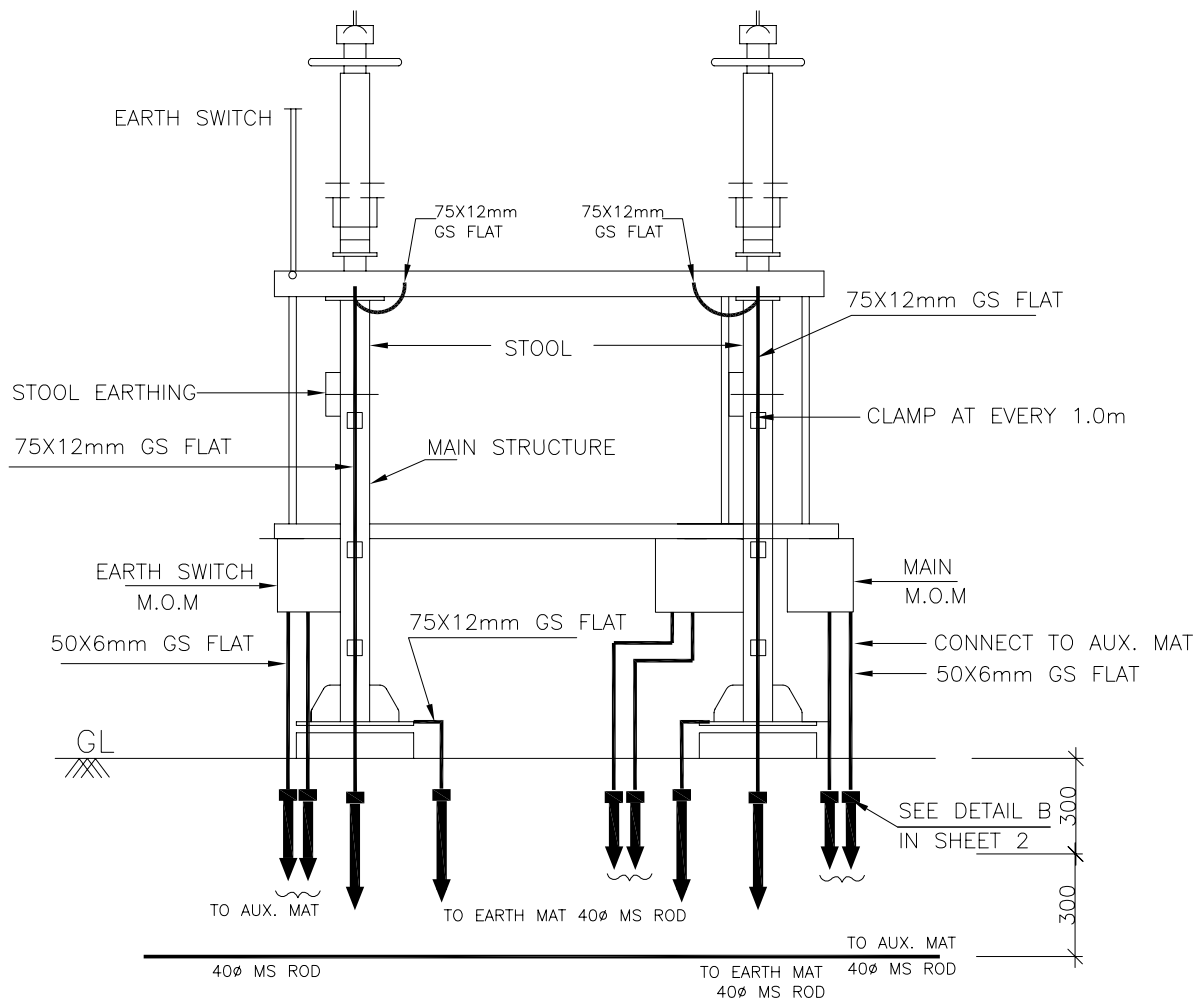
COMPUTERREF.NO.

DRG. No.

TB-4-345-316-007

REV. 00

SHEET No.
7



NOTES

1. AUXILIARY EARTH MAT SHALL BE PROVIDED BELOW EVERY MOM BOX (REFER SHEET 14)



EQUIPMENT EARTHING DETAILS

220kV HORIZONTAL CENTER BREAK ISOLATOR (TYPICAL) WITH TWO EARTH SWITCH

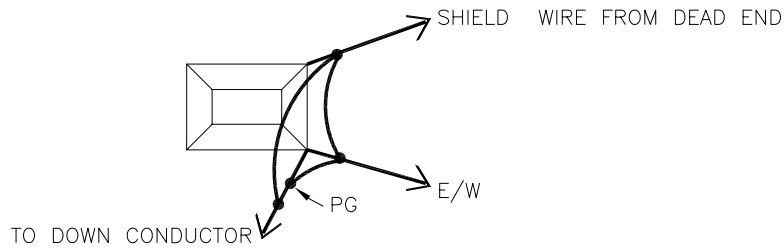
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DRG. No.

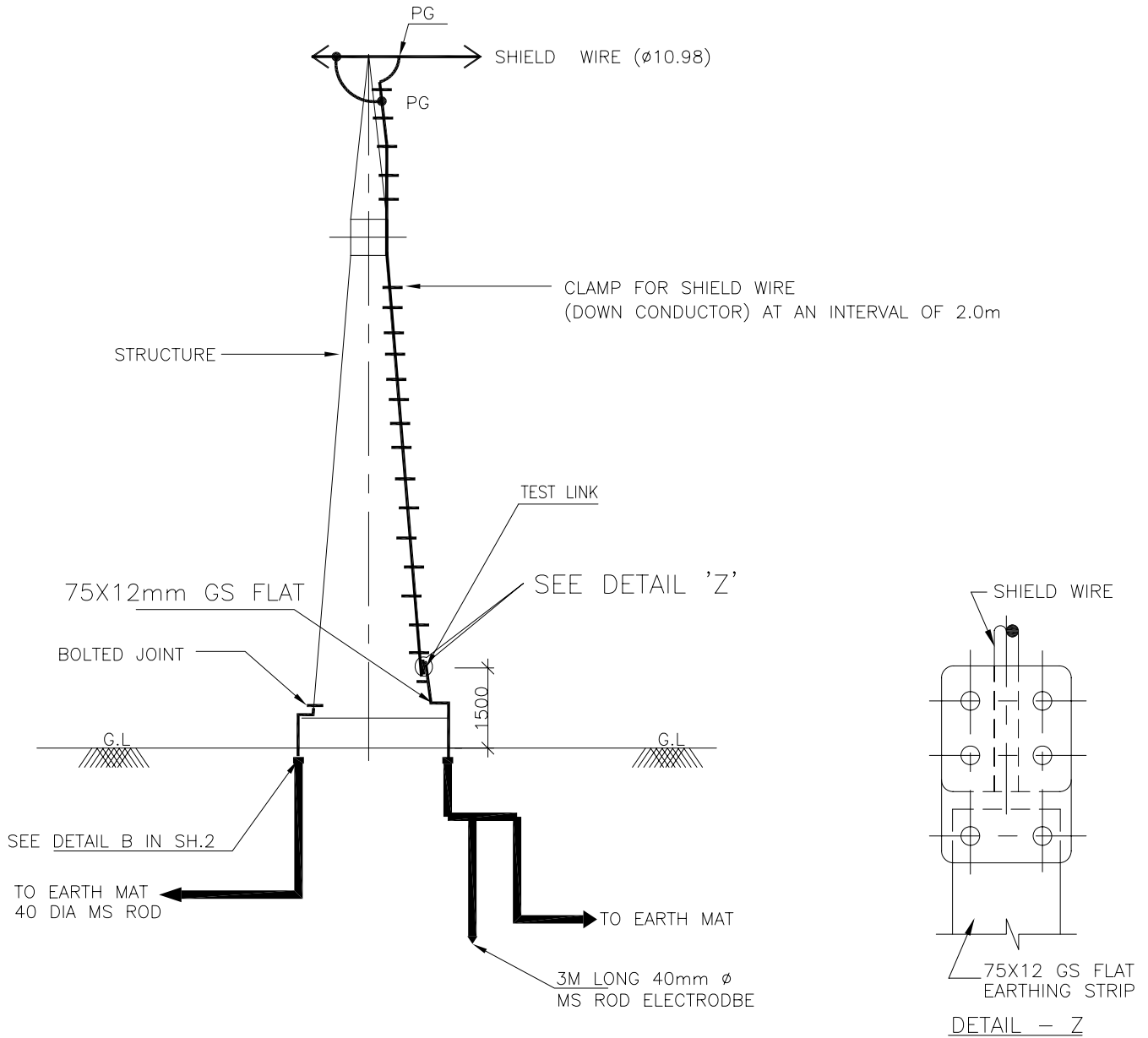
TB-4-345-316-007

REV. 00

SHEET No.
7A



DETAIL WHEN 2 & E/WIRE TERMINATES A TOWER



NOTE:

1. NO. OF ROD ELECTRODE : 1 NO. PER TOWER WITH DOWN CONDUCTOR.



EQUIPMENT EARTHING DETAILS

SHIELD WIRE TOWER

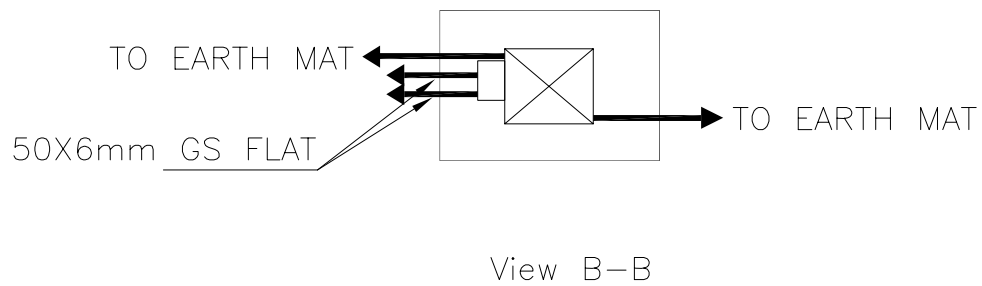
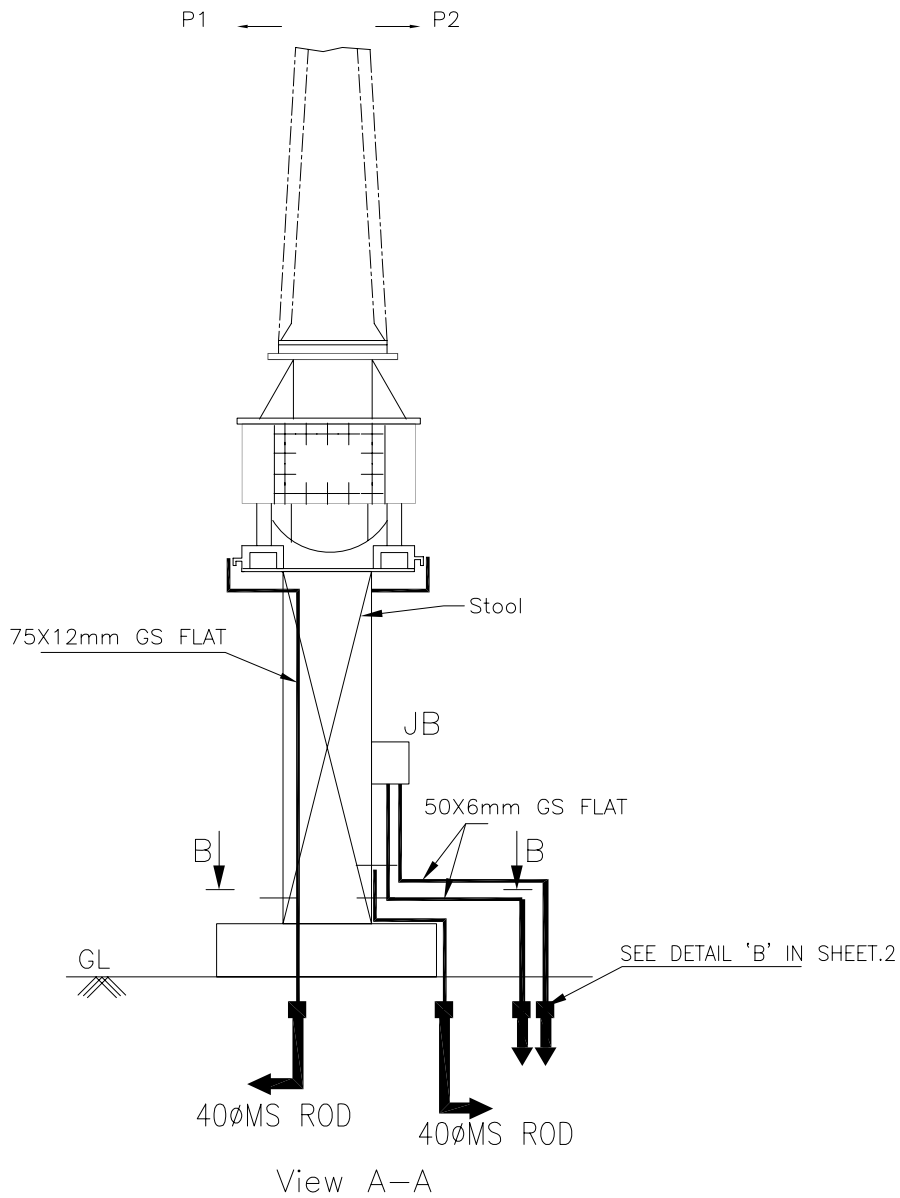
COMPUTERREF.NO.

DRG. No.

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REV. 00

SHEET No.
8



EQUIPMENT EARTHING DETAILS 220 kV Current Transformer

COMPU. DRG. REF.

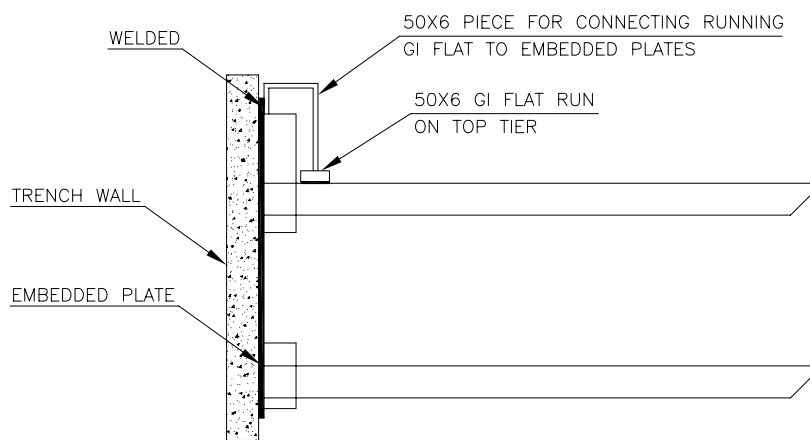
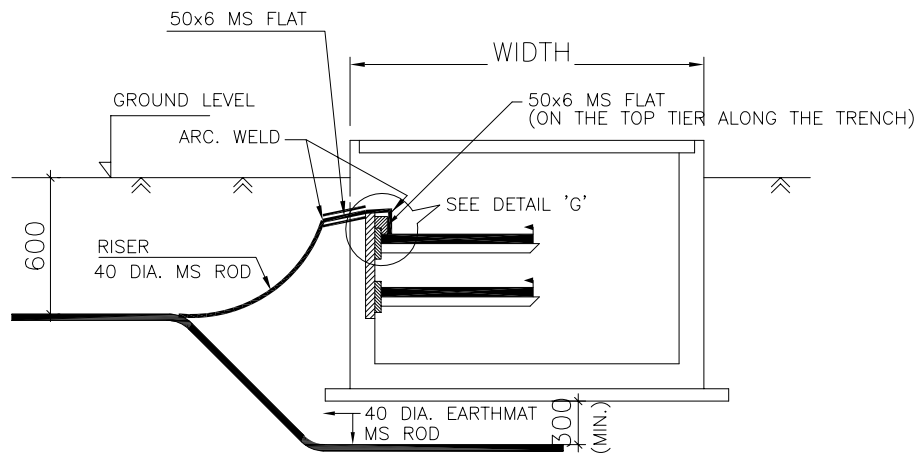
DRG.NO.

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REV. 00

SHEET No.

9



DETAIL 'G'

DETAIL FOR CONNECTING GI FLAT RUNNING HORIZONTAL ON TOP TIER TRENCH TO EMBEDDED PLATE.

NOTE:

1. ALL TRENCHES SHALL BE EARTHED AT AN INTERVAL OF 30M ALONG THE LENGTH OF TRENCH & FREE ENDS.
2. THE EARTH STRIP (50x6 MS FLAT) SHALL BE WELDED TO EMBEDDED PLATE AT EVERY 0.75M INTERVAL.
3. WHERE THE CABLE RACKS ARE PROVIDED ON BOTH SIDES OF THE TRENCH, BOTH SIDES SHALL BE EARTHED AS PER ABOVE.
4. THE MS FLAT SHALL BE FINALLY PAINTED WITH TWO COATS OF RED OXIDE PRIMER & TWO COATS OF POST OFFICE RED ENAMEL PAINT.



EQUIPMENT EARTHING DETAILS CABLE TRENCH

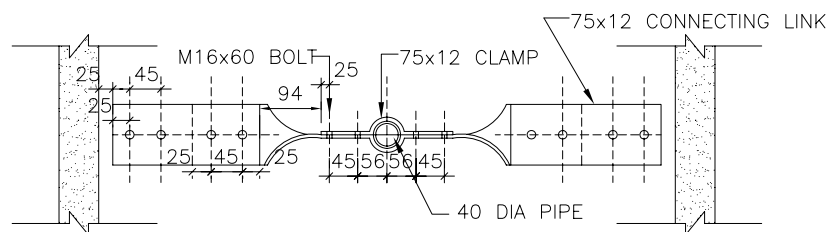
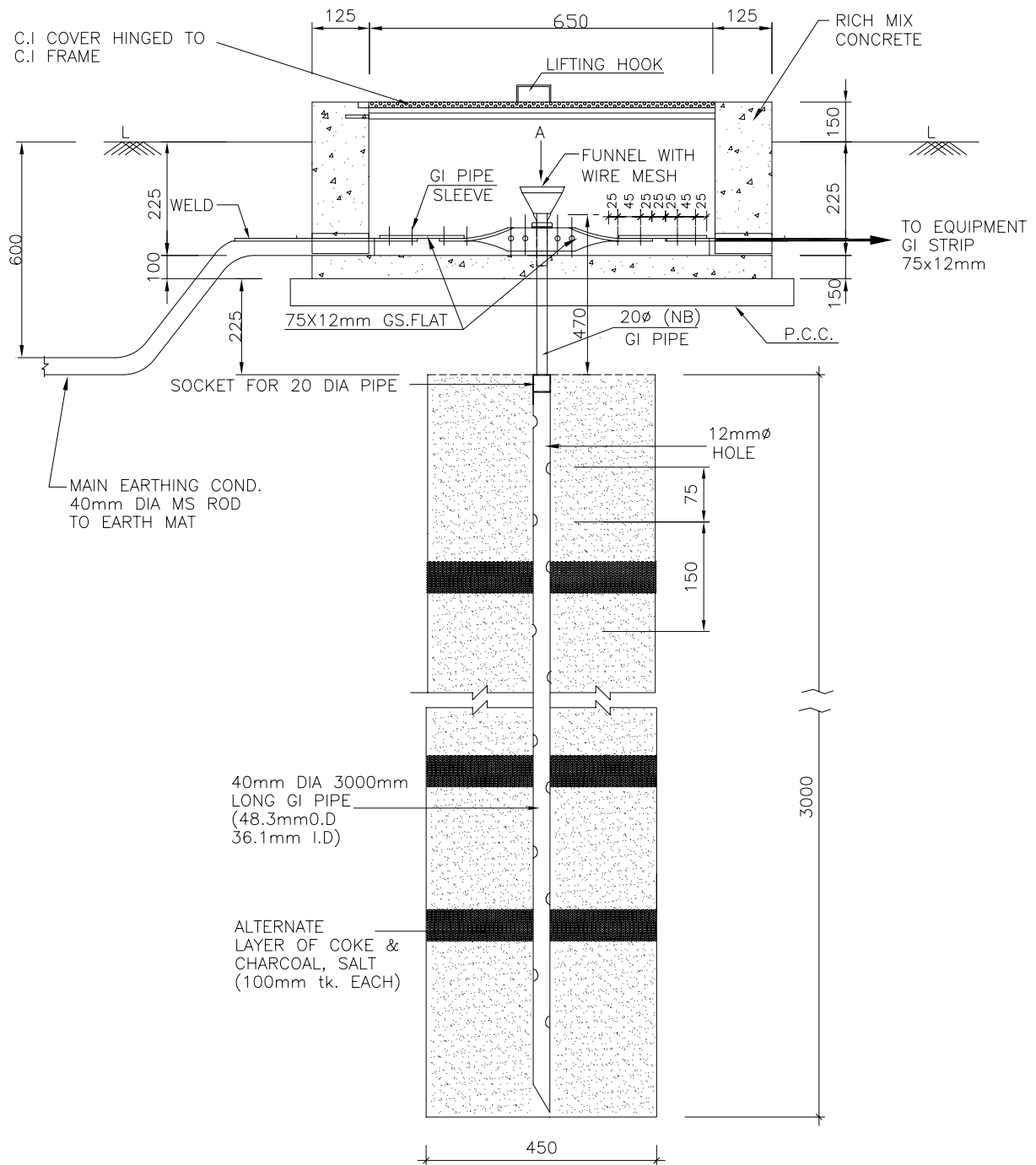
COMPU. DRG. REF.

DRG. NO.

TB-4-345-316-007

REV. 00

SHEET
10



VIEW-A

NOTE:

1. ALL NUTS,BOLTS AND WASHERS, FUNNEL GI PIPE AND WIRE MESH SHALL BE GALVANISED AS PER SPECIFICATION.
2. FUNNEL SHALL BE SECURELY HELD TO THE PIPE.
3. TO BE USED FOR CONNECTING TO NEUTRAL OF POWER TRANSFORMER/REACTOR/NGR



EQUIPMENT EARTHING DETAILS
DETAILS OF PIPE EARTH ELECTRODE
IN TREATED EARTH PIT (ET)

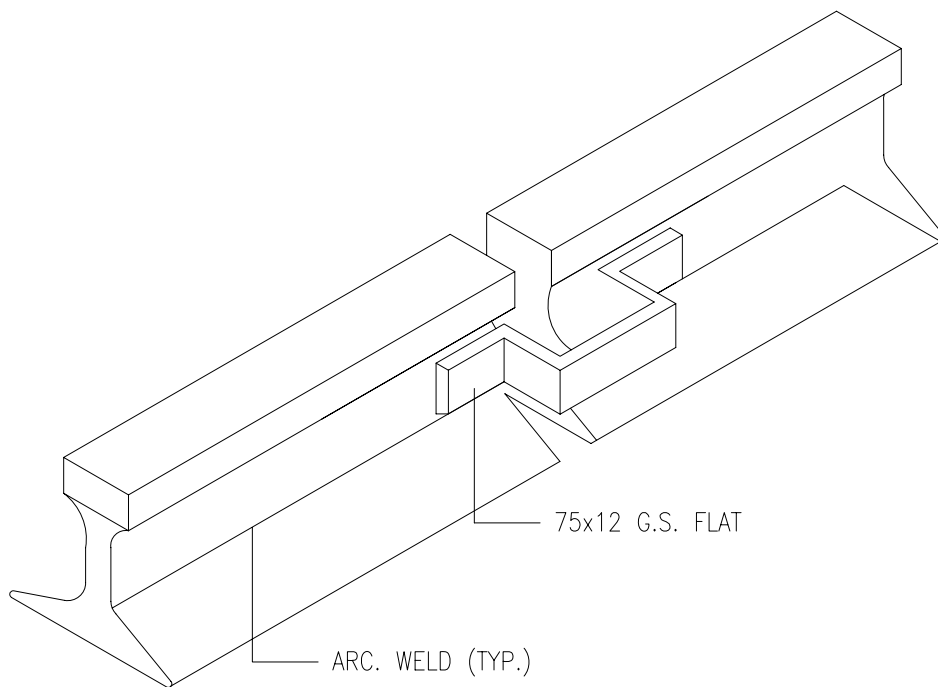
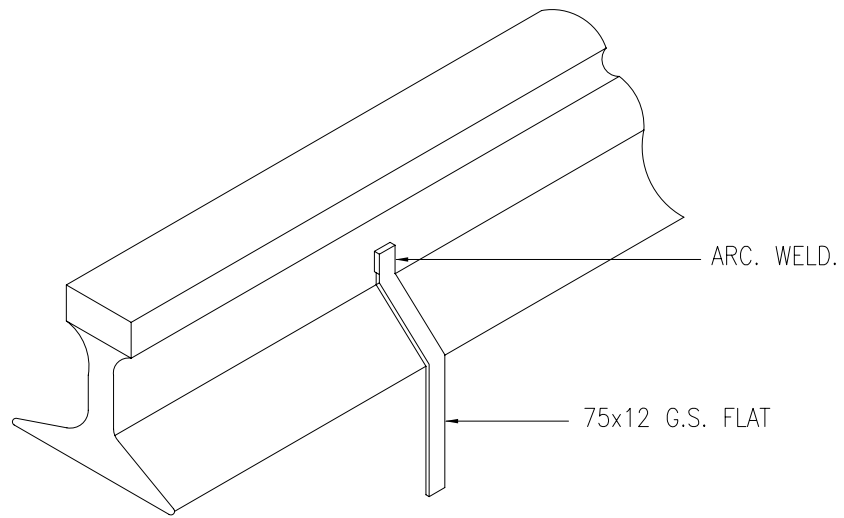
COMPUTERREF.NO.

DRG. No.

TB-4-345-316-007

REV. 00

SHEET No.
11



NOTE:—

1. RAILWAY TRACKS WITHIN SWITCHYARD AREA SHALL BE EARTHED AT BOTH ENDS & AT 30M. SPACING.



EQUIPMENT EARTHING DETAILS

RAIL BONDING

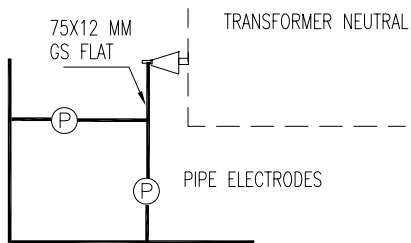
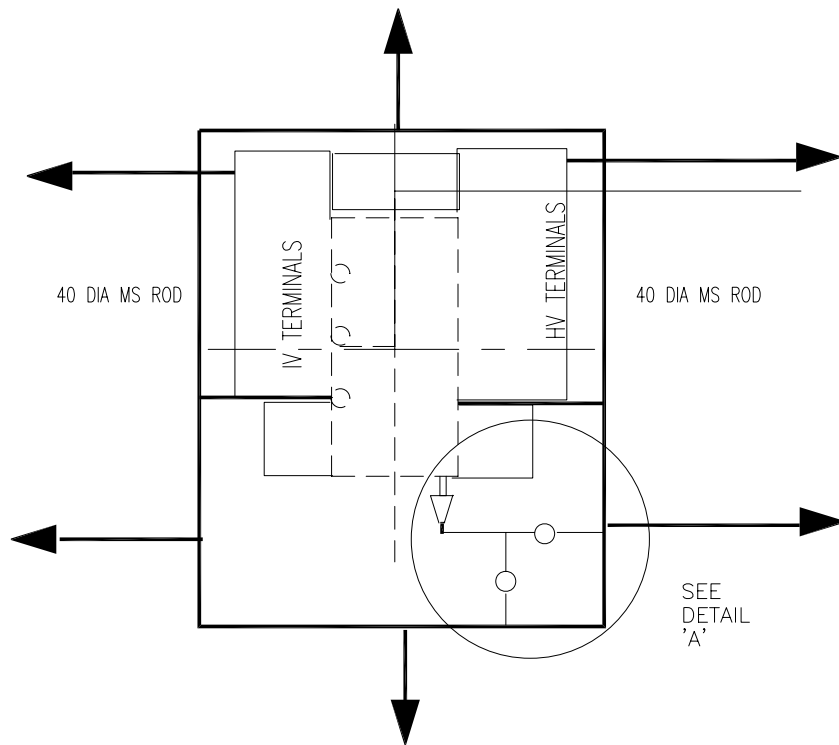
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DRG. NO.

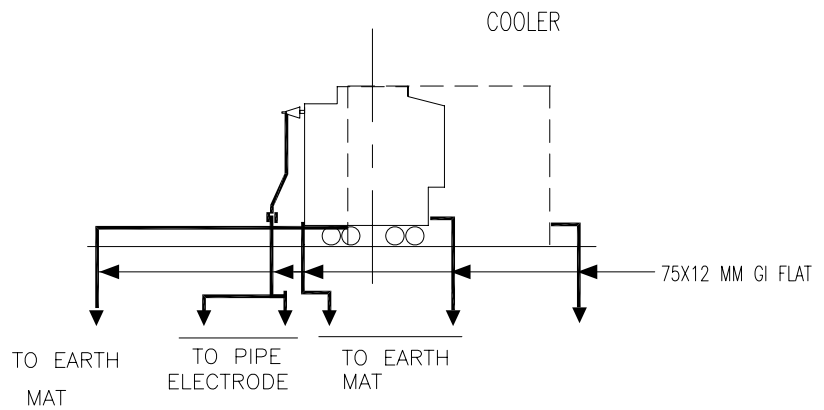
TB-4-345-316-007

REV. 00

SHEET No.
12



DETAIL A



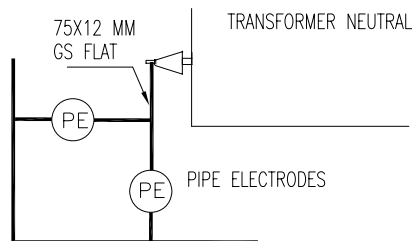
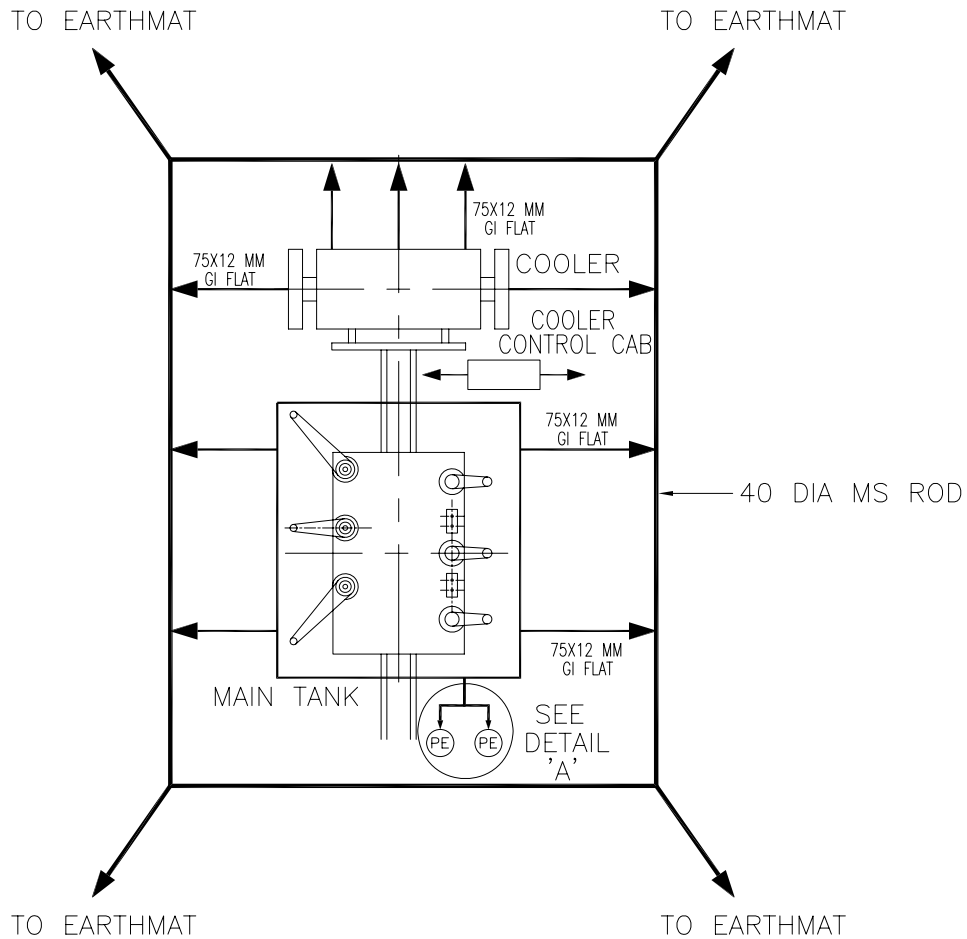
EQUIPMENT EARTHING DETAILS LT TRANSFORMER

DRG. No.

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REV. 00

SHEET No.
13



DETAIL A

NOTES:—

1. EARTH CONTINUITY ACROSS GASKETED JOINTS MUST BE ENSURED USING FLEXIBLE OR FLAT.
2. ALL ACCESSORIES ASSOCIATED WITH TRANSFORMER LIKE COOLING BANKS, RADIATORS, MAIN TANK, MARSHALLING KIOX ETC. SHALL BE CONNECTED TO THE EARTHING GRID AT MINIMUM TWO POINTS.

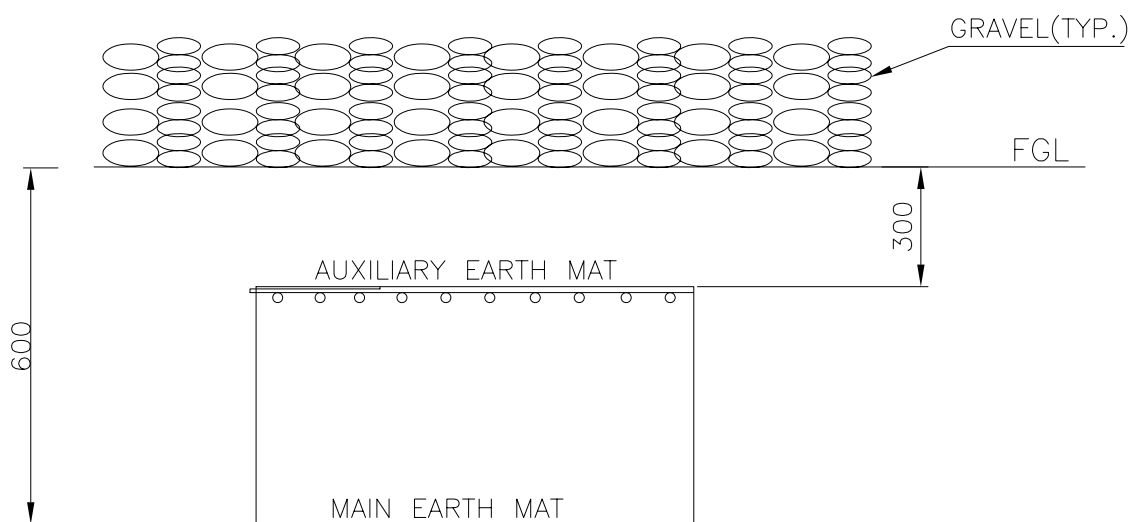
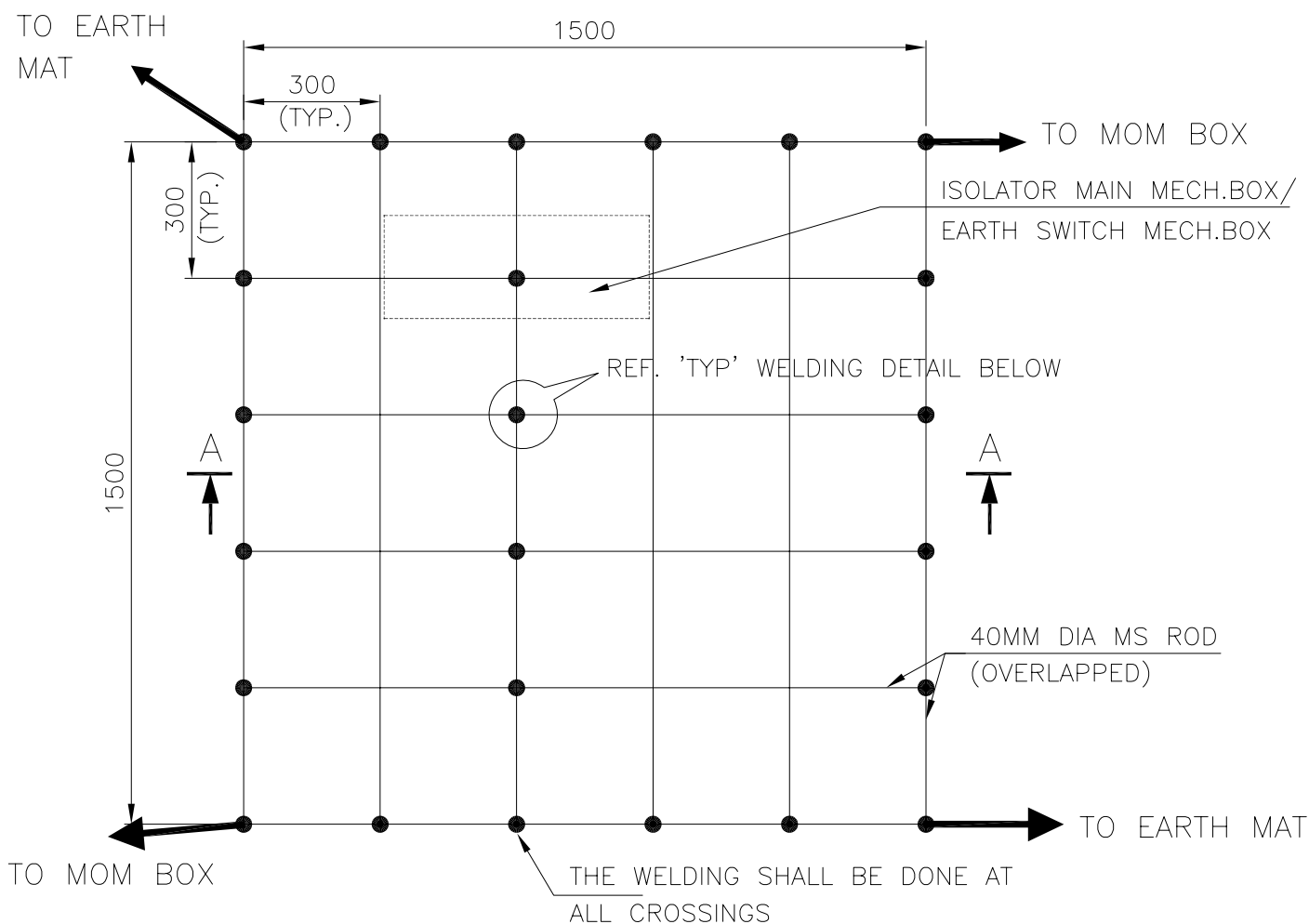


EQUIPMENT EARTHING DETAILS
AUTO TRANSFORMER

DRG. No. TB-4-345-316-007

REV. 00

SHEET No.
13A



SECTION AA

NOTE:

AUX. EARTH MAT SHALL BE SO POSITIONED THAT THE FOOT OF THE OPERATOR ALWAYS LIE OVER THE AUX. EARTH MAT AREA WHILE ATTENDING / OPERATING THE MECH. BOX THE CABLE TRENCH ROUTING SHALL BE PLANNED ACCORDINGLY.



COMPU. DRG. REF.

Report No.

EQUIPMENT EARTHING DETAILS

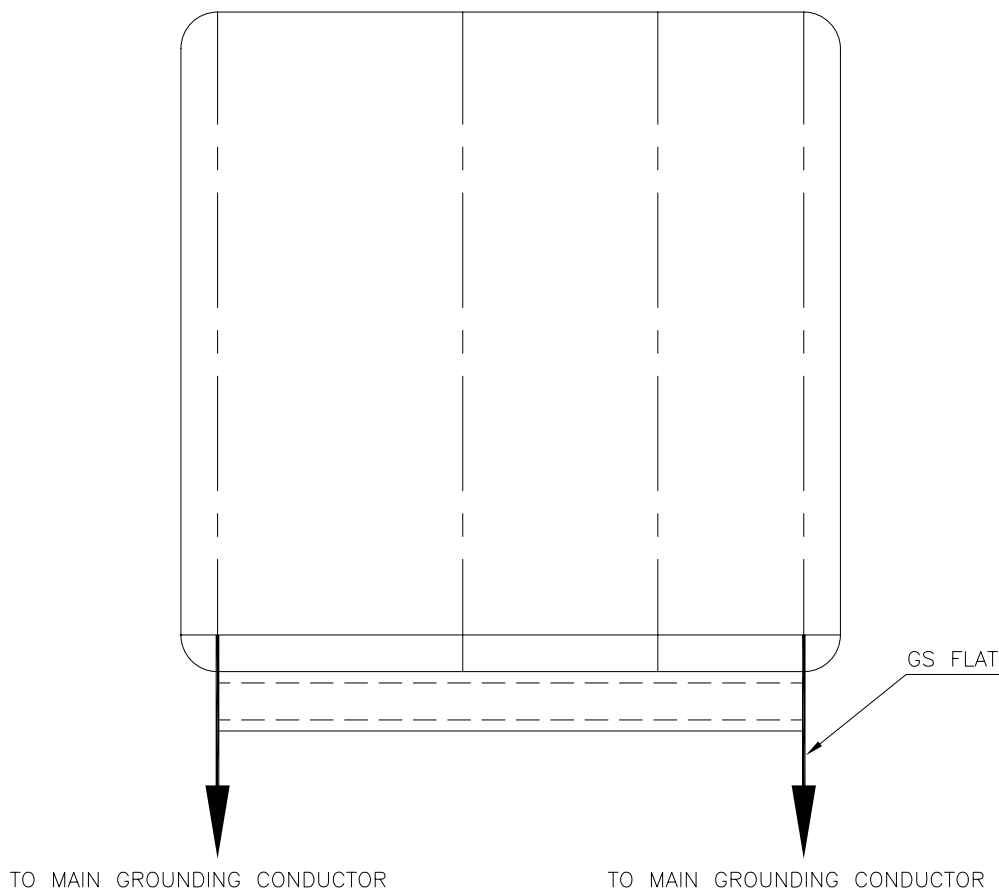
AUXILIARY EARTH MAT FOR ISOLATOR MAIN MECH., E/S
MECH. BOX

TB-4-345-316-007

REV. 00

SHEET No.

14



EQUIPMENT

FLAT SIZE

SWITCHGEAR/ MCC	50X6 MM
AC / DC DISTRIBUTION BOARDS	50X6 MM
CONTROL & RELAY PANELS	50X6 MM
AC KIOSK	50X6 MM



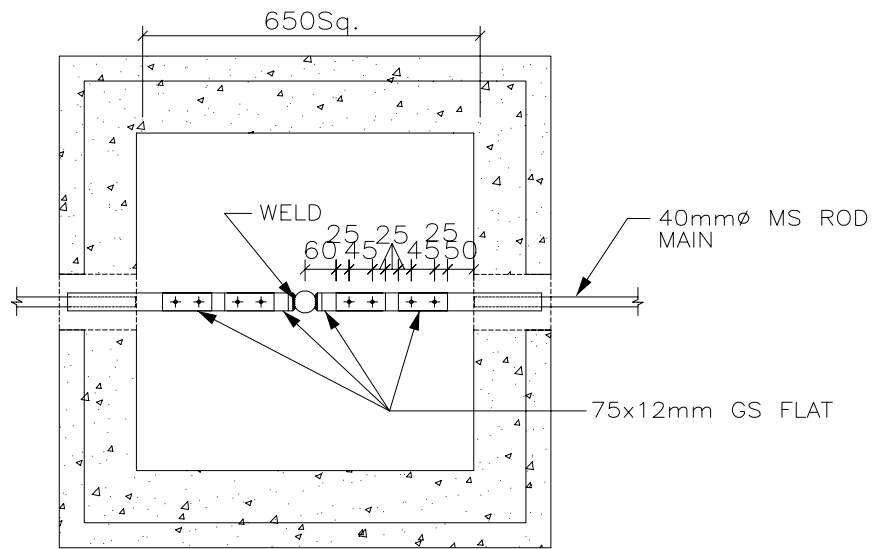
EQUIPMENT EARTHING DETAILS

SWITCHGEAR / MCC / CONTROL AND RELAY BOARD/AC KIOSK

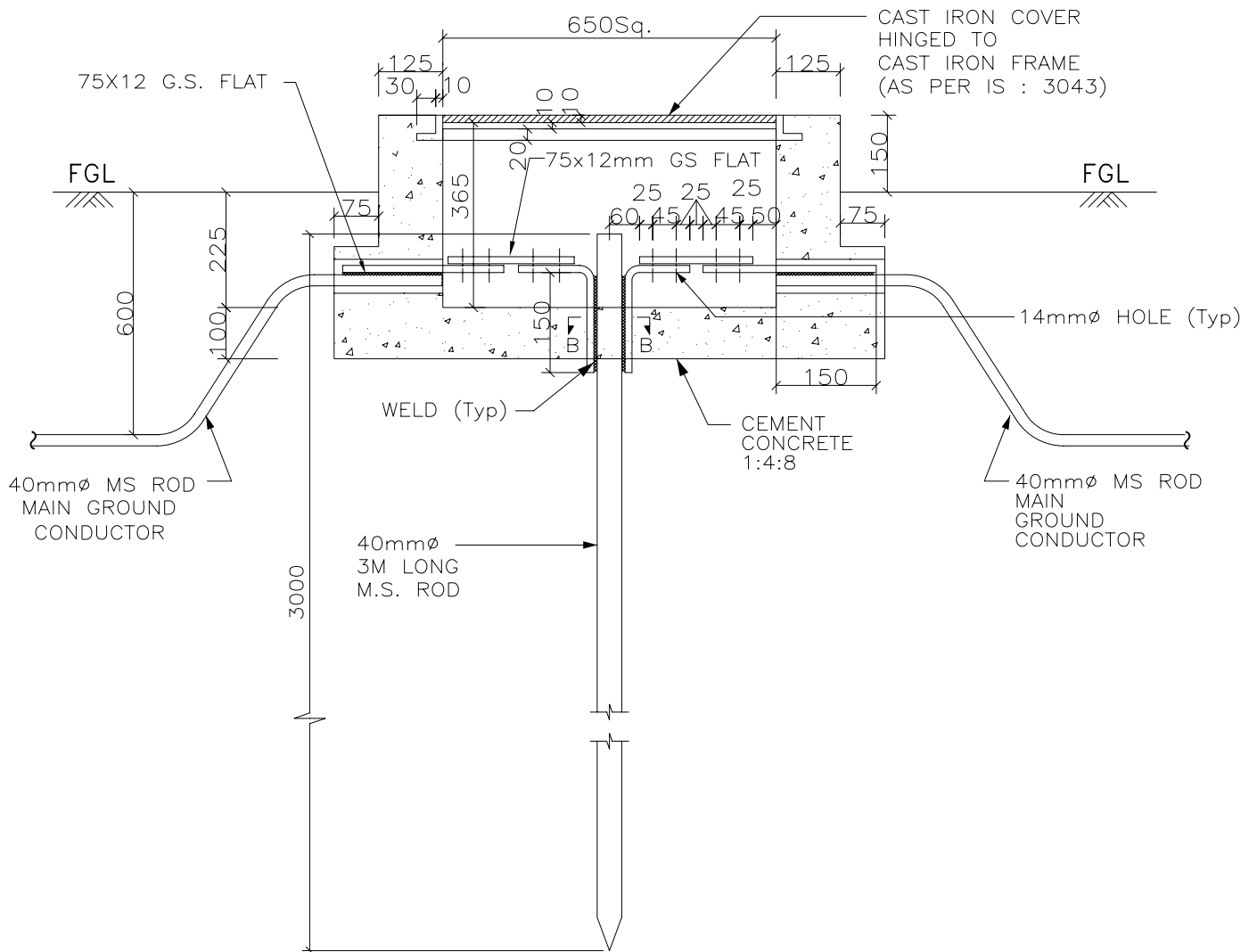
DRG. No. TB-4-345-316-007

REV. 00

SHEET No.
15



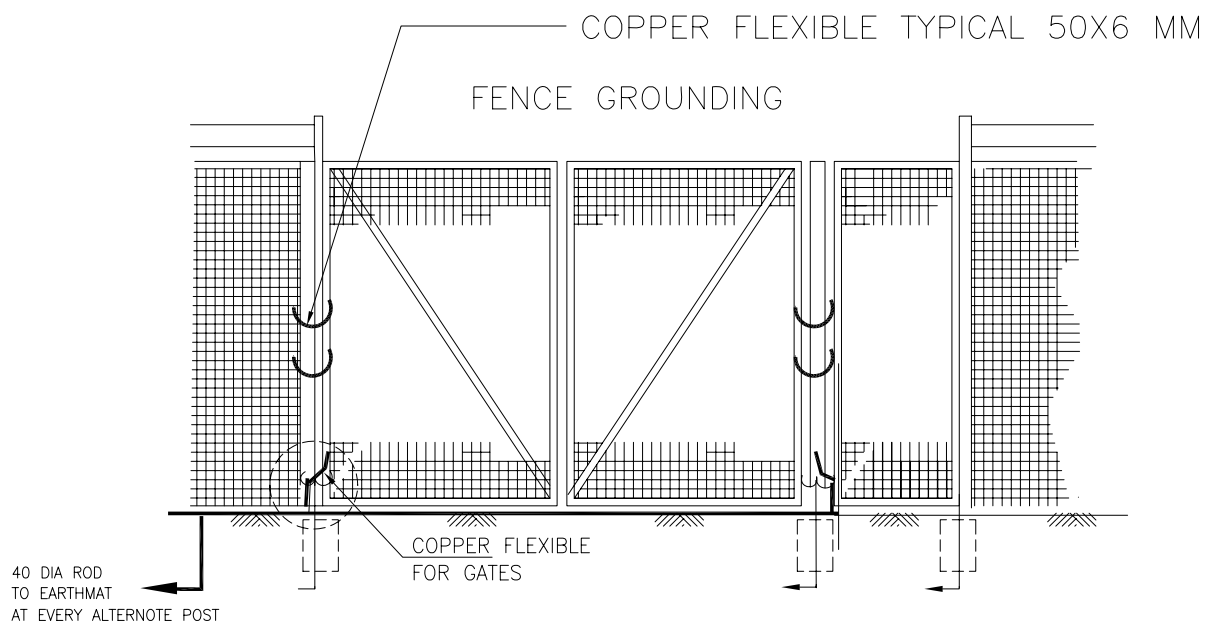
PLAN



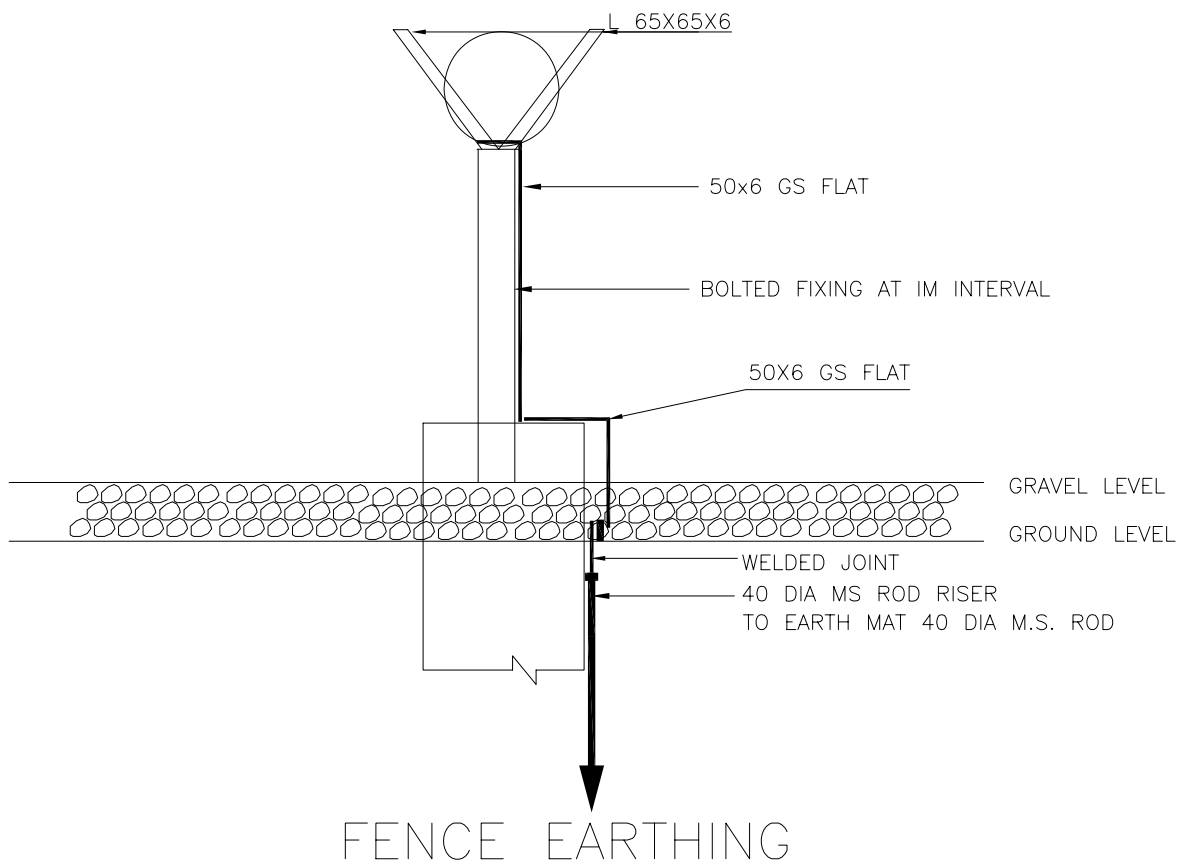
ELEVATION



EQUIPMENT EARTHING DETAILS ROD ELECTRODE WITH TEST LINK FOR LM, TOWER WITH PEAK & LA



EVERY ALTERNOTE FENCE POSTS SHALL BE EARTHED BY 50X6 MM GS FLAT.
50X6 FLAT SHALL BE WELDED TO 65X65X6 ANGLES FORMING V-SHAPE AT THE TOP OF FENCE



EQUIPMENT EARTHING DETAILS FENCE POST

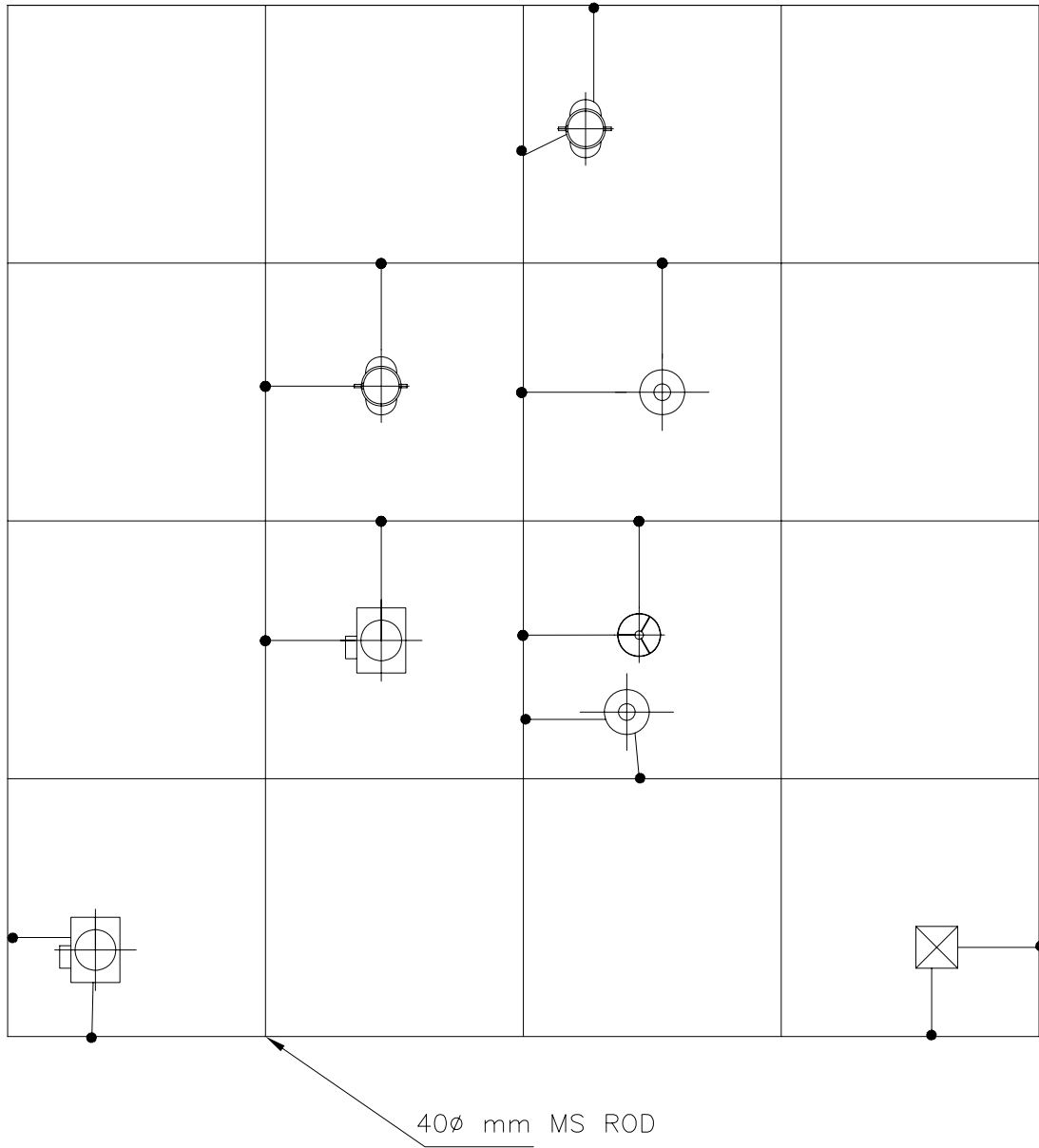
DRG. No.

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REV. 00

SHEET No.
17

MAIN EARTHMAT GRID



• — RISER



EQUIPMENT EARTHING DETAILS

TYPICAL ARRANGEMENT OF EQUIPMENT EARTHING WITH MAIN GRID

COMPU. DRG. REF.

DRG. NO.

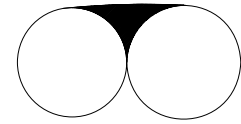
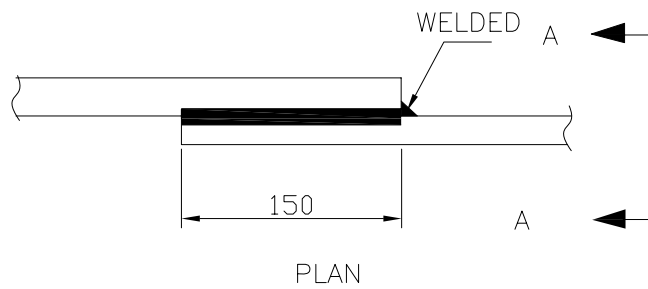
TB-4-345-316-007

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SHEET No.
18

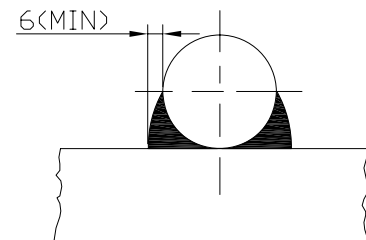
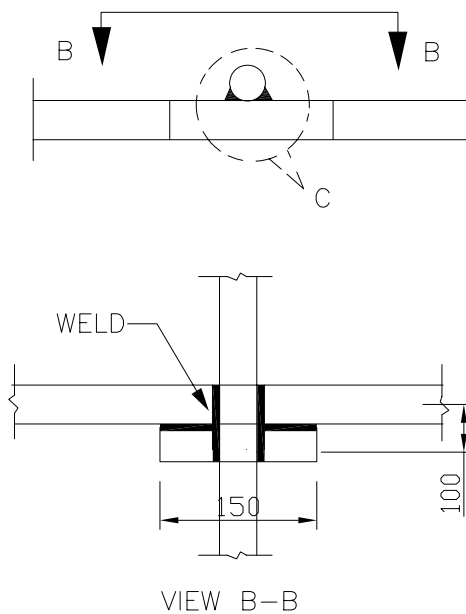
ROD TO ROD

1. STRAIGHT LAP JOINT/RISER



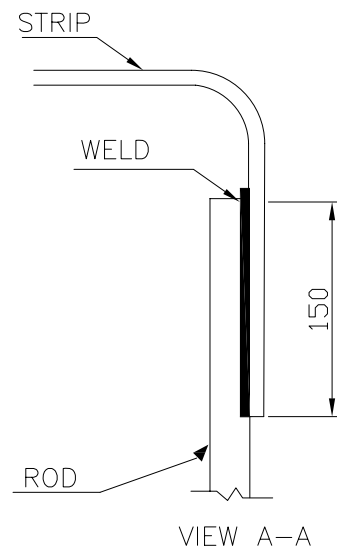
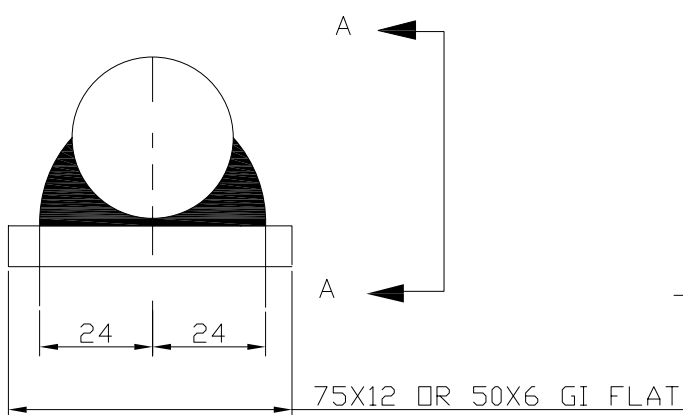
VIEW A-A

2. RIGHT ANGLED JOINT



VIEW C

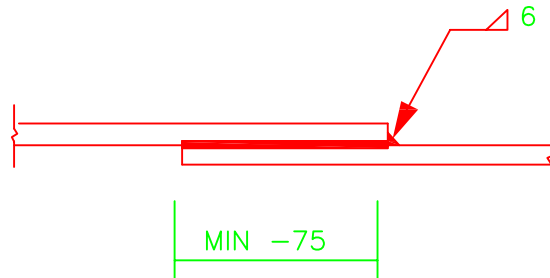
3. ROD TO STRIP



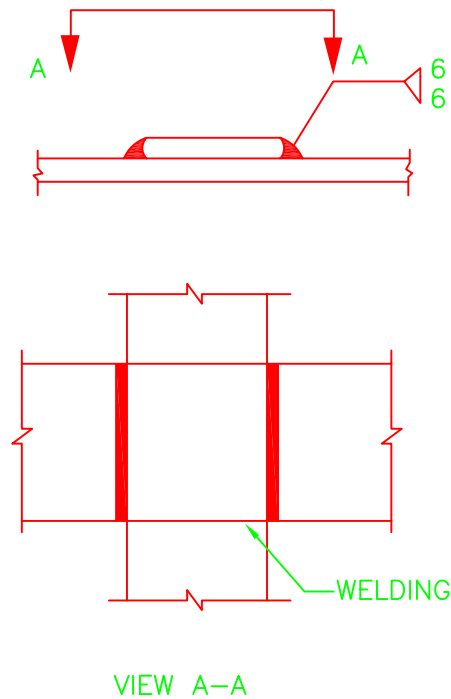
EQUIPMENT EARTHING DETAILS WELDING DETAILS OF ROD

C. STRIP TO STRIP

1. STRAIGHT LAP JOINT/RISER



2. CROSS LAP JOINT



EQUIPMENT EARTHING DETAILS WELDING DETAILS OF FLAT

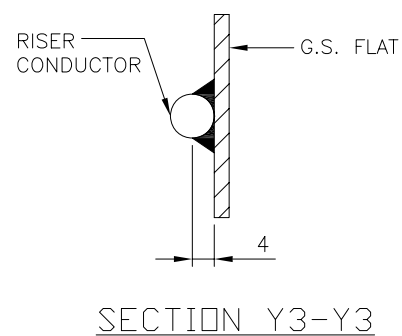
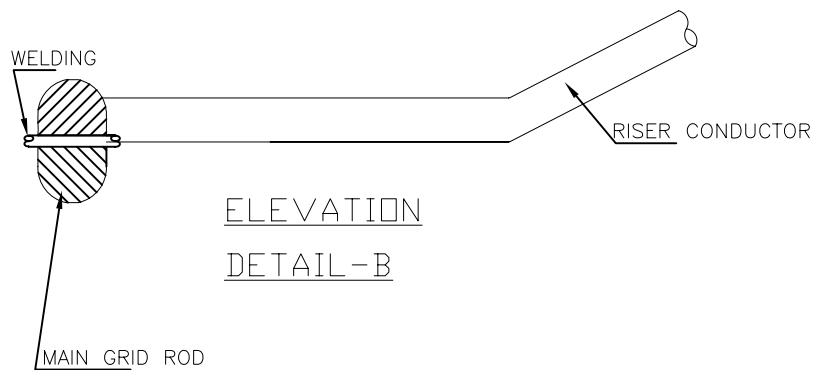
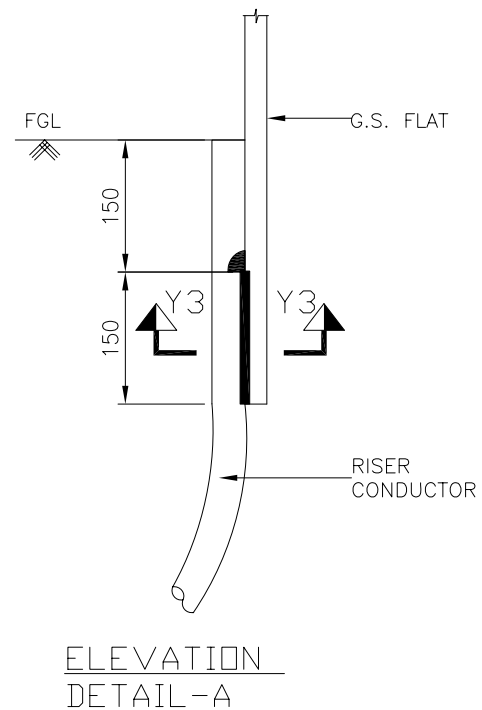
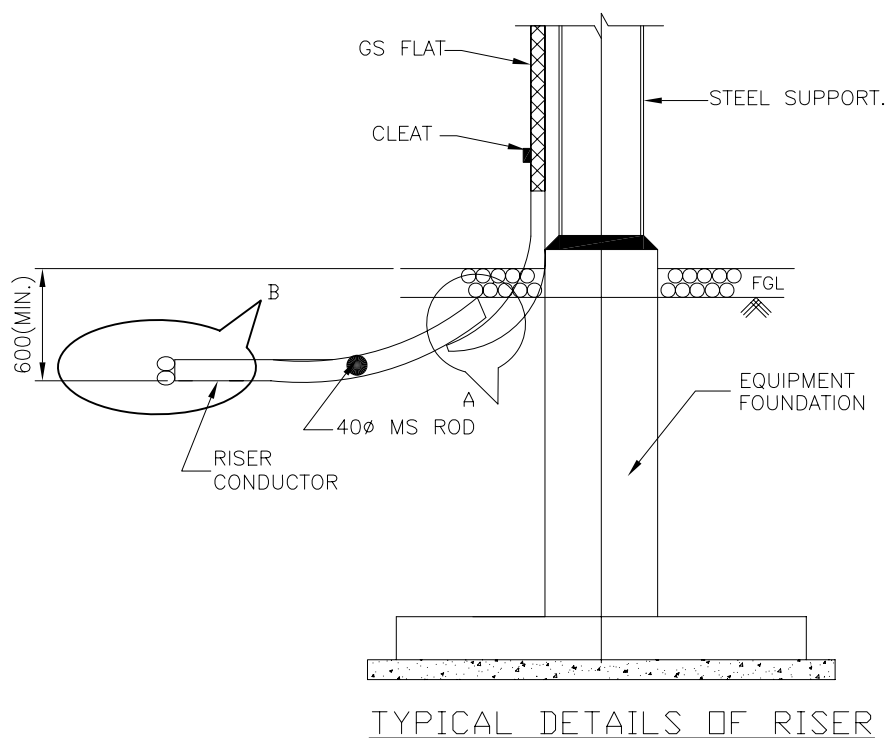
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SHEET No.
20



EQUIPMENT EARTHING DETAILS

WELDING DETAILS

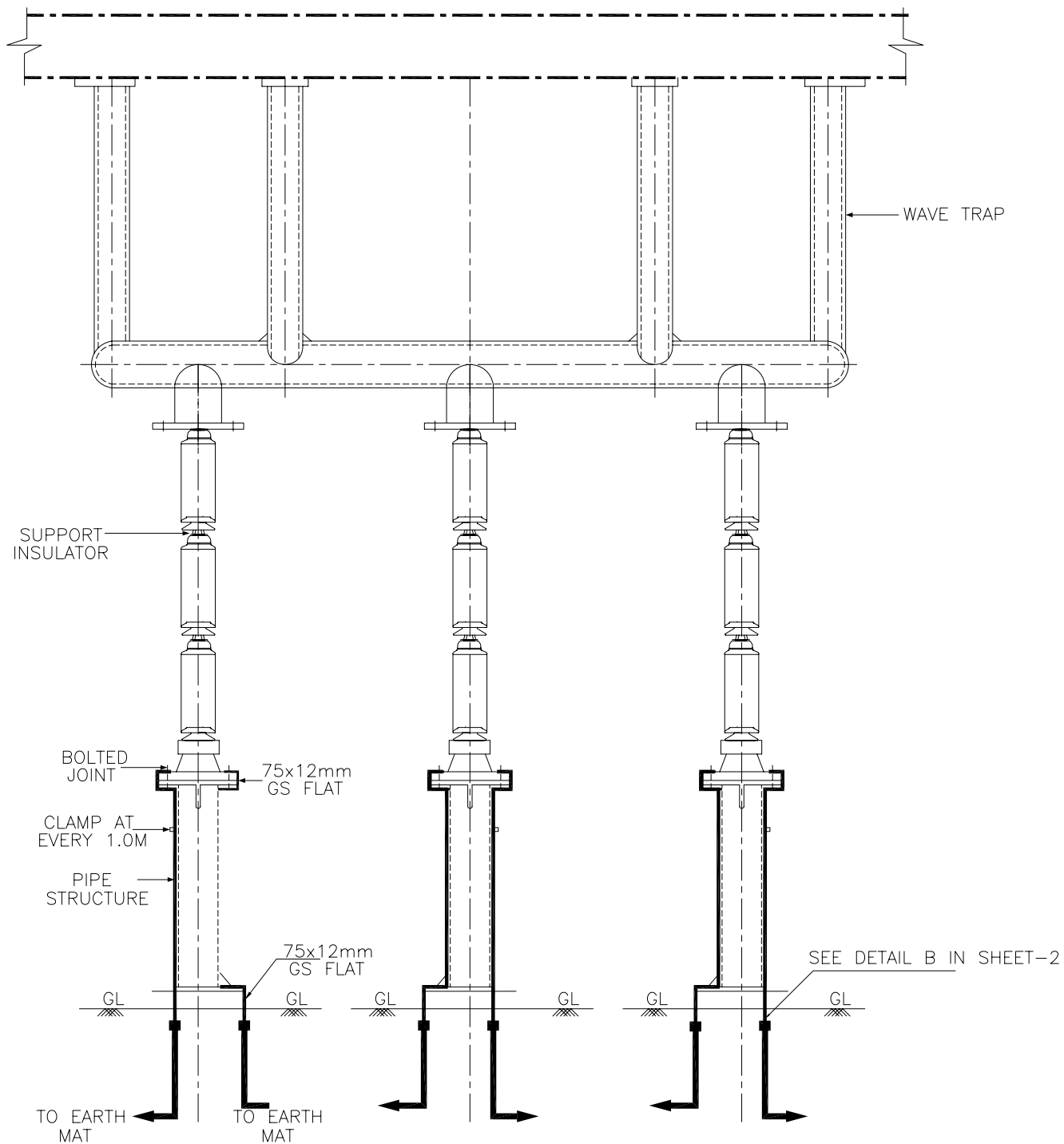
COMPUTER REF. NO.

DRG. No.

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REV. 00

SHEET No.
21



NO. OF RISER=6NO. PER PHASE



EQUIPMENT EARTHING DETAILS 220kV WAVE TRAP

COMPUTERREF.NO.

DRG. No.

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REV. 00

SHEET No.
22