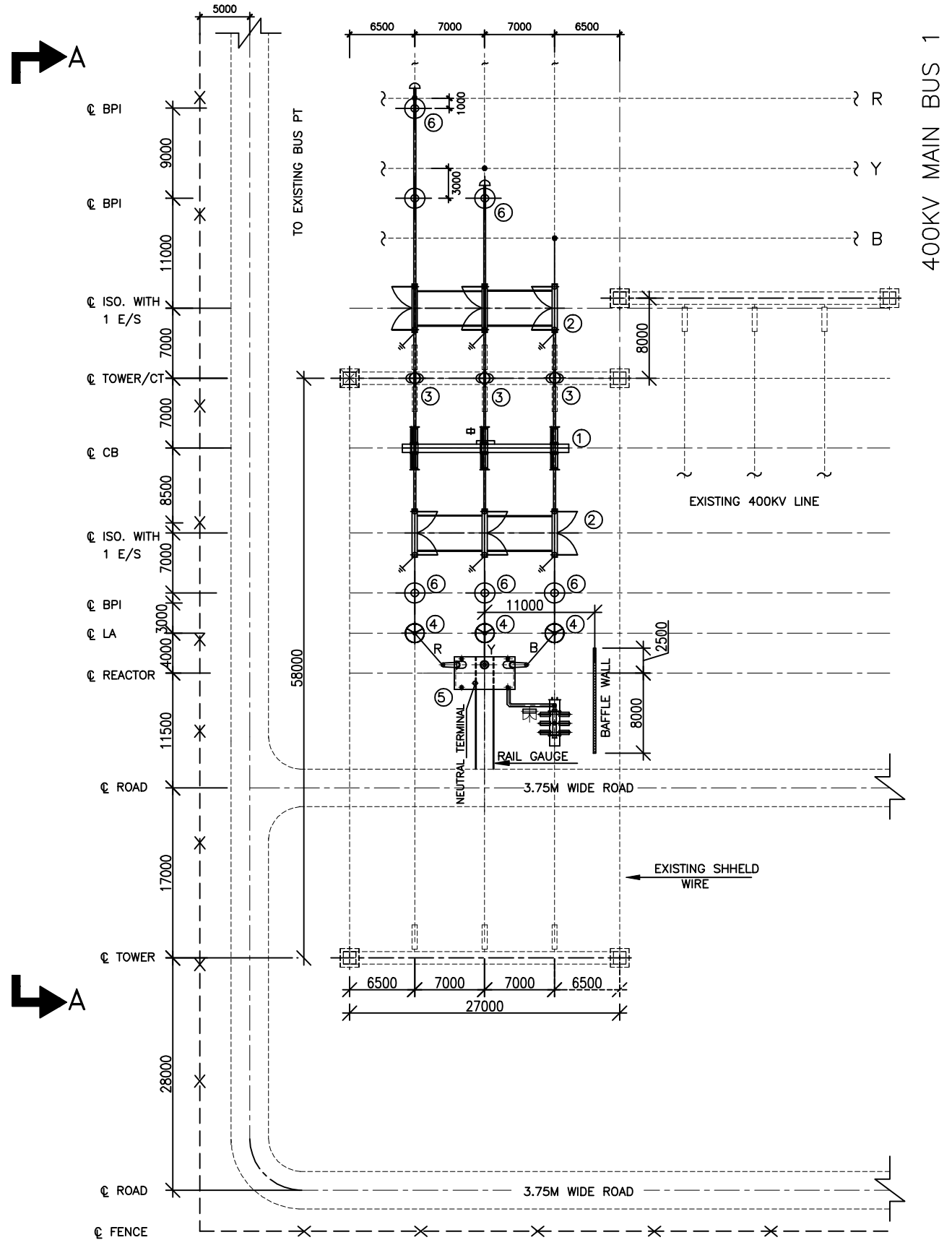


FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

DRAWING No. TB-2-342-316-002

EXISTING 220/400KV
3RD TRANSFORMER BAY



SCHEDULE OF EQUIPMENT

S.NO.	DESCRIPTION	SYMBOL	QTY.
1	400 kV, 2000A, 40 KA FOR 1 SEC, 3-PH SF6 CIRCUIT BREAKER WITHOUT CLOSING RESISTOR		01
2	400KV, 3150A, 40KA FOR 1 SEC, 3-PH. CENTRE BREAK ISOLATOR WITH ONE EARTH SWITCH		02
3	400KV, 2000/1-1A & 500/1-1-1A, 40KA FOR 1 SEC CURRENT TRANSFORMER		03
4	390KV, 10kA Class-3 SURGE ARRESTER		03
5	63MVAR, 400KV REACTOR		01
6	400 kV POST INSULATORS		06

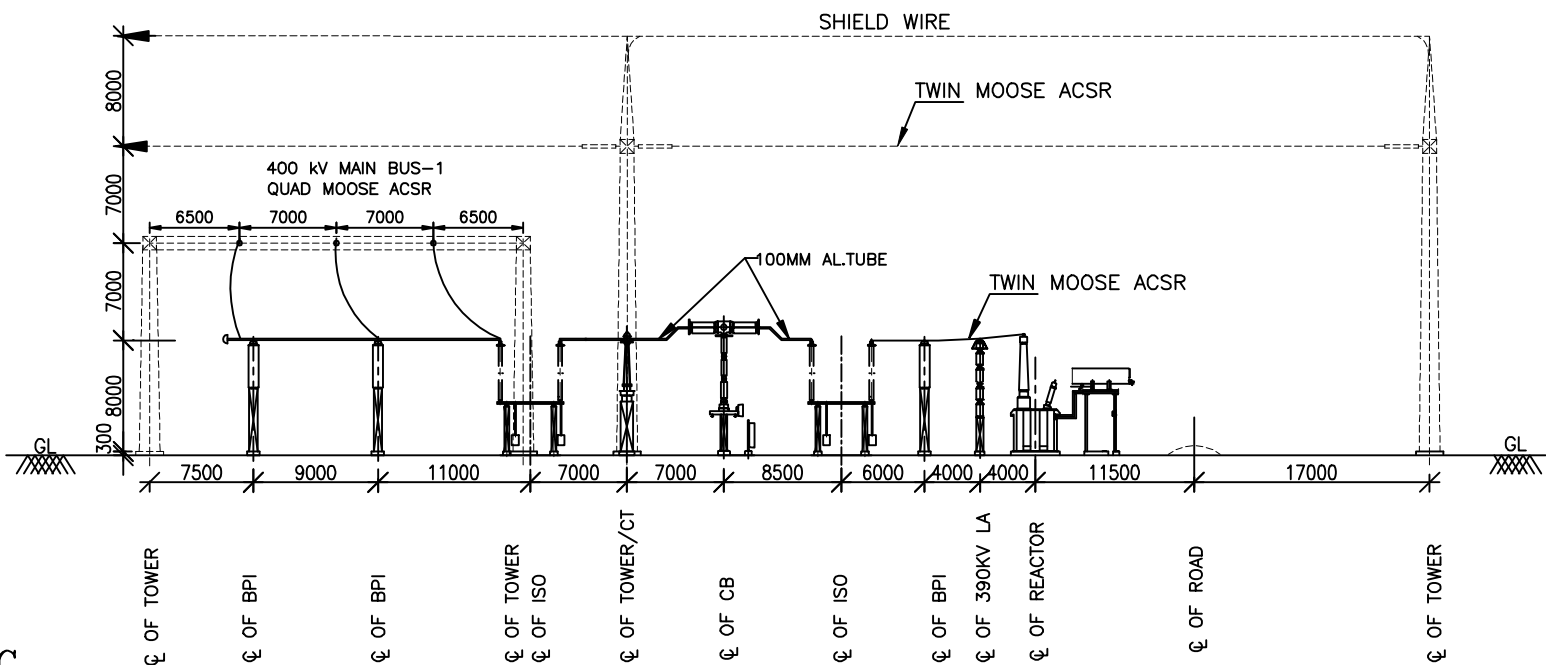
PARTICULARS	400KV
1. BASIC INSULATION LEVEL (KV)	1425 KV
2. MINIMUM CLEARANCE (a) B/W PHASES (FOR RIGID BUS) (b) B/W PHASES (FOR STRUNG BUS) (c) B/W PHASES TO EARTH	4000 MM 4000 MM 3500 MM
3. (a) BAY WIDTH (b) HEIGHT OF MAIN BUS (c) HEIGHT OF JACK BUS	27000 MM 15000 MM 22000 MM
4. HEIGHT OF LIVE POINT OF VARIOUS EQUIPMENTS ISOLATOR, CT, BREAKER ETC.	8000 MM
5. POWER FREQUENCY WITH STAND VOLTAGE	630 KV
6. CREPAGE DISTANCE	10500 MM
7. SECTIONAL CLEARANCE	6500 MM

CONDUCTOR-ALUMINIUM TUBE-100MM	
1. NOMINAL SIZE	100 MM
2. OUTER DIAMETER	114.2 MM
3. INNER DIAMETER	97.18 MM
4. WALL THICKNESS	8.51 MM
5. CROSS SECTION	2825.61SQMM
6. MAX. DC RESIST AT 20° C	-
7. CURRENT RATING AT OUTDOOR	3150
8. WEIGHT PER UNIT LENGTH	7.7 KG/M
9. GRADE OF ALUMINIUM.	63401 WP (RANGE 2) AS PER IS 5082

CONDUCTOR - MOOSE	
1. STANDING AND WIRE DIAMETER	54/3.53(AL) +7/3.53(STEEL)
2. SECTIONAL AREA OF ALUMINIUM	528.5 SQ.MM.
3. TOTAL SECTIONAL AREA	597.00 SQ.MM.
4. OVERALL DIA	31.77 MM.
5. WEIGHT (APPROX.)	2004 KG/M
6. DC RESISTANCE AT 20 °C	0.05552 OHM/KM
7. MINIMUM U.T.S.	161.2 KN

EQUIPMENTS STRUCTURE QUANTITY	
1. 400KV CT STRUCTURE (1Ph)	03
2. LA STRUCTURE-390KV (1Ph)	03
3. ISOLATOR STRUCTURE (3Ph)	02
4. BPI STRUCTURE	06

BUS POST INSULATOR	TOP PCD	BOTTOM PCD	QTY.
400KV	127 MM	300 MM	06



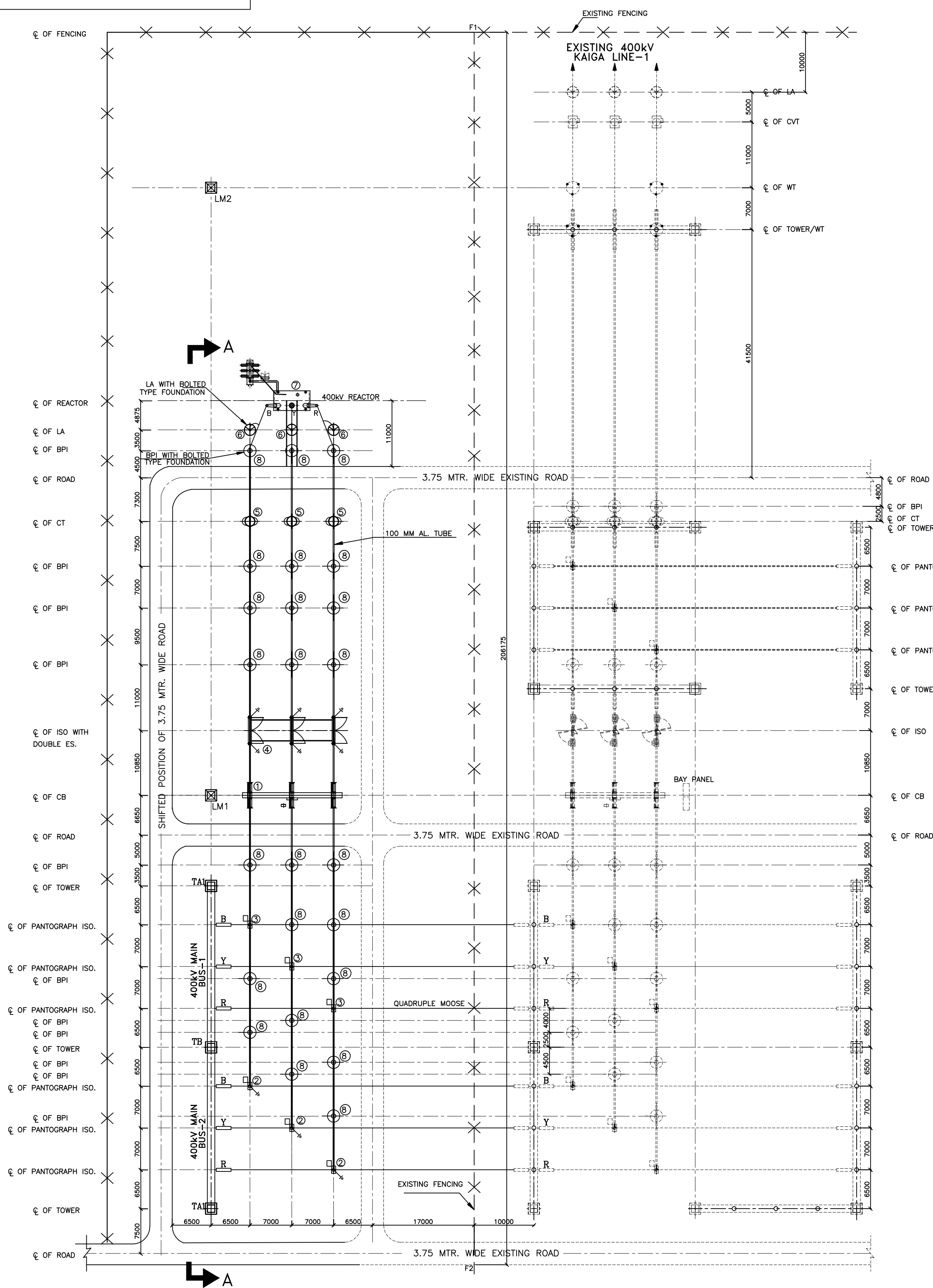
REFERENCE DWG.









DWG.NO.: KPTCL/TECH/SS-400/TLE-1
DWG.TITLE: LAYOUT PLAN FOR MODIFICATION
WORKS AT 400/220 KV S/S TALAGUPPA

NOTES: -

1. ALL DIMENSIONS ARE MM UNLESS OTHERWISE SPECIFIED..
2. ALL HEIGHT ARE ABOVE PLINTH LEVEL UNLESS OTHERWISE SPECIFIED.
3. _____ PRESENT SCOPE
4. _____ EXISTING
5. ALL NON-CUJENT CARRYING METAL PARTS ARE TO BE EARTHED AND CONNECTED TO GROUND MAT.
6. WHILE INSTALLING THE EQUIPMENTS CARE MAY BE ENSURED TO INSTALL THE BREAKER , CTs, ISOLATORS, SURGE ARRESTORS, STRUCTURES IN LINE WITH SIMILAR EQUIPMENTS OF ADJACENT BAYS WHEREVER FEASIBLE.
7. CABLE DUCTS SHALL BE SHOWN SEPERATELY IN CABLE TRENCH DRAWING.
8. GROUND MAT IS TO BE PROVIDED FOR THE NEW REACTOR BAY IN CONSULTATION WITH SEE (R&D).
9. LA PRESSURE RELIEF VALVE SHALL NOT BE TOWARDS REACTOR SIDE/ ANY EQUIPMENT KEPT NEAR SURGE ARRESTER.

ADDITIONAL INFORMATION W.O.No. 80009		ग्राहक/परियोजना का नाम KARNATAKA POWER TRANSMISSION CORPORATION LIMITED	
STATUS OF DRAWING		NAME OF CUSTOMER/PROJECT (INSTALLATION OF 1X63MVAR BUS REACTOR)	
DISTRIBUTION OF PRINTS		भारत हेवी इलेक्ट्रिकल्स लिमिटेड द्वारा निशान परियोजना विभाग BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION	
REV. DATE ALTERED RK 01 10.06.11 CHECKED MM APPROVED DKM		विभाग DEPT. कोड CODE	
REV. DATE ALTERED RK 02 25.08.11 CHECKED MM/DKM APPROVED RS		अनुपात / SCALE	
REV. DATE ALTERED RK 03 25.08.11 CHECKED MM/DKM APPROVED RS		कॉड कोड CARD CODE	
REV. DATE ALTERED RK 04 25.08.11 CHECKED MM/DKM APPROVED RS		ड्राइंग.क./DRAWING NO. TB-2-342-316-002	
REV. DATE ALTERED RK 05 25.08.11 CHECKED MM/DKM APPROVED RS		पृष्ठ क्र./SHEET No. 01	
REV. DATE ALTERED RK 06 25.08.11 CHECKED MM/DKM APPROVED RS		पुनः/REV. 02	



S.NO	DESCRIPTION	SYMBOL	QTY.
1	400kV, 2000A, 40KA FOR 1 SEC., 3-PH. SF6 CIRCUIT BREAKER WITHOUT CLOSING RESISTOR		01
2	400kV, 3150A, 40KA FOR 1 SEC., 3-PH. PANTOGRAPH ISOLATOR WITH ONE EARTH SWITCH		01
3	400kV, 3150A, 40KA FOR 1 SEC., 3-PH. PANTOGRAPH ISOLATOR WITHOUT EARTH SWITCH		01
4	400kV, 3150A, 40KA FOR 1 SEC, 3- PH. CENTRE BREAK ISOLATOR WITH TWO EARTH SWITCH		01
5	400kV, 3000A, 40KA FOR 1 SEC., 1-PH. CURRENT TRANSFORMER		03
6	390kV, 10kA Class-3 SURGE ARRESTER		03
7	63MVAR, 400KV REACTOR		01
8	400KV POST INSULATOR		24

<u>PARTICULARS</u>		<u>400KV</u>
1.	BASIC INSULATION LEVEL (KV)	1425 KV
2.	MINIMUM CLEARANCE	
	(a) B/W PHASES (FOR RIGID BUS)	4000 MM
	(b) B/W PHASES (FOR STRUNG BUS)	4000 MM
	(c) B/W PHASES TO EARTH	3500 MM
3.	(a) BAY WIDTH	27000 MM
	(b) HEIGHT OF MAIN BUS	16000 MM
4.	HEIGHT OF LIVE POINT OF VARIOUS EQUIPMENTS ISOLATOR, CT, BREAKER ETC. FROM PLINTH	8000 MM
5.	POWER FREQUENCY WITH STAND VOLTAGE	630 KV
6.	CREPAGE DISTANCE	10500 MM
7.	SECTIONAL CLEARANCE	6500 MM

CONDUCTOR-ALUMINIUM TUBE-100MM		
1.	NOMINAL SIZE	100 MM
2.	OUTER DIAMETER	114.2 MM
3.	INNER DIAMETER	97.18 MM
4.	WALL THICKNESS	8.51 MM
5.	CROSS SECTION	2825.61SQMM
6.	MAX. DC RESIST AT 20° C	—
7.	CURRENT RATING AT OUTDOOR	3150A
8.	WEIGHT PER UNIT LENGTH	7.7 KG/M
9.	GRADE OF ALUMINIUM.	63041 WP (RANGE 2) AS PER IS 5082

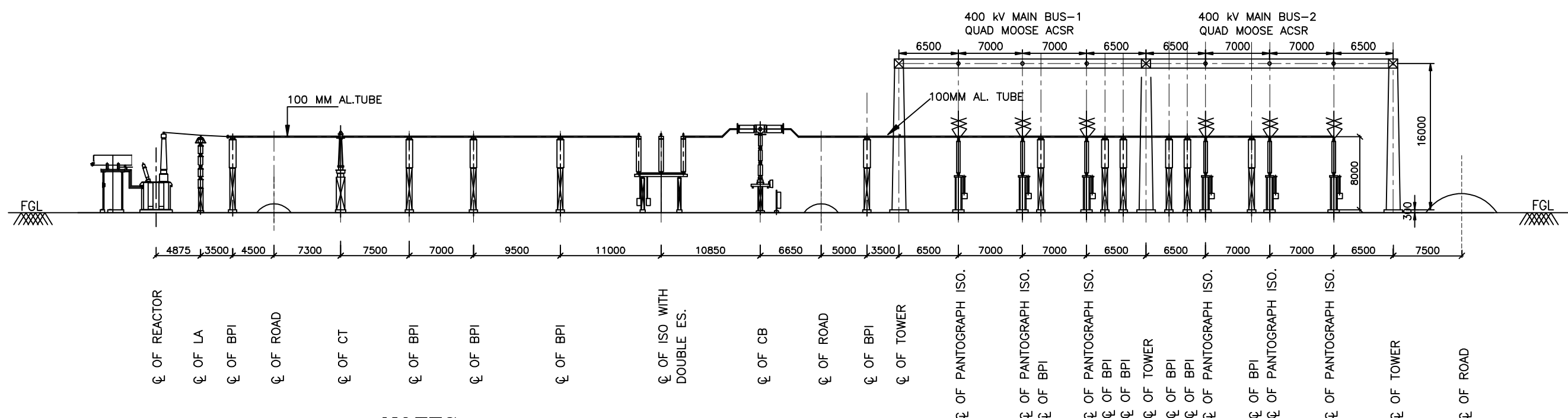
CONDUCTOR - MOOSE		
1.	STANDING AND WIRE DIAMETER	54/3.53(AL) +7/3.53(STEEL)
2.	SECTIONAL AREA OF ALUMINIUM	528.5 SQ.MM.
3.	TOTAL SECTIONAL AREA	597.00 SQ.MM.
4.	OVERALL DIA	31.77 MM.
5.	WEIGHT (APPROX.)	2004 KG/M
6.	DC RESISTANCE AT 20 °C	0.05552 OHM/KM
7.	MINIMUM U.T.S.	161.2 KN

BEAMS			
SL.NO.	BEAM DESIGNATION	BEAM WIDTH	QTY.
1	BM1	27000 MM	02

EQUIPMENTS STRUCTURE QUANTITY		
1.	400kV CT STRUCTURE (1Ph)	03
2.	LA STRUCTURE-390kV (1Ph)	03
3.	ISOLATOR STRUCTURE (3Ph)	03
4.	BPI STRUCTURE	24


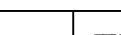
SL.NO.	TOWER DESIGNATION	STR. HEIGHT	QTY.
1	TA1	16000 MM	02
2	TB	16000 MM	01
3	LM	49500 MM	02

<u>BUS POST INSULATOR</u>	<u>TOP PCD</u>	<u>BOTTOM PCD</u>	<u>QTY.</u>
400kV	127 MM	300 MM	24



- NOTES: —**
1. ALL DIMENSIONS ARE MM UNLESS OTHERWISE SPECIFIED..
 2. ALL HEIGHT ARE ABOVE PLINTH LEVEL UNLESS OTHERWISE SPECIFIED.
 3. _____ PRESENT SCOPE
 4. _____ EXISTING
 5. ALL NON-CURRENT CARRYING METAL PARTS ARE TO BE EARTHED AND CONNECTED TO GROUND MAT.
 6. WHILE INSTALLING THE EQUIPMENTS CARE MAY BE ENSURED TO INSTALL THE BREAKER , CTs, ISOLATORS, SURGE ARRESTORS, STRUCTURES IN LINE WITH SIMILAR EQUIPMENTS OF ADJACENT BAYS WHEREVER FEASIBLE.
 7. CABLE DUCTS SHALL BE SHOWN SEPERATELY IN CABLE TRENCH DRAWING.
 8. GROUND MAT IS TO BE PROVIDED FOR THE NEW REACTOR BAY IN CONSULTATION WITH SEE (R&D).
 9. LA COMING BETWEEN RAIL TRACK AND REACTOR MUST HAVE REMOVABLE TYPE STEEL STRUCTURE SO THAT THESE CAN BE REMOVED WHEN REACTOR HAS TO BE TAKEN OUT FOR REPAIR/ REPLACEMENT.
 10. LA PRESSURE RELIEF VALVE SHALL NOT BE TOWARDS REACTOR SIDE/ ANY EQUIPMENT KEPT NEAR SURGE ARRESTER.
 11. FENCE SECTION F1-F2 SHALL BE DISMANTLED

DWG.NO. KPTCL/TECH/SS-400/GTR-1(R1) 11. FENCE SEC
DWG.TITLE: DETAILED LAYOUT PLAN FOR PROVIDING
BUS REACTOR AT 400/220/33 KV GUTTUR STATION

ADDITIONAL INFORMATION W.O.No. 80009				ग्राहक/परियोजना का नाम KARNATAKA POWER TRANSMISSION CORPORATION LIMITED (INSTALLATION OF 1X63MVAR BUS REACTOR)						
STATUS OF DRAWING				NAME OF CUSTOMER/PROJECT						
DISTRIBUTION OF PRINTS				<div><div></div><div>भारत हेवी इलेक्ट्रिकल्स लिमिटेड ट्रांसमिशन परियोजना विभाग BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION</div></div>						
REV.	DATE	ALTERED	RK	विभाग DEPT.		अनुपात / SCALE	कार्ड कोड CARD CODE	नाम /NAME	हस्ता./SIGN.	दि./DATE
		CHECKED	MM							
01	23.06.11	APPROVED	DKM					JUGENDRA	JUGENDRA	31.01.11
ZONE	DRAWING REVISED DUE TO CHANGE IN LAYOUT BY KPTCL			शीर्षक/TITLE				डाईग.क्र./DRAWING NO.		पुनः/REV.
				LAYOUT PLAN & SECTION FOR MODIFICATION WORKS AT 400/220KV S/S GUTTUR				TB-2-342-316-002A		02
				पृष्ठ क्र./SHEET No. 01				खाली पृष्ठ/NEXT SHEET -		