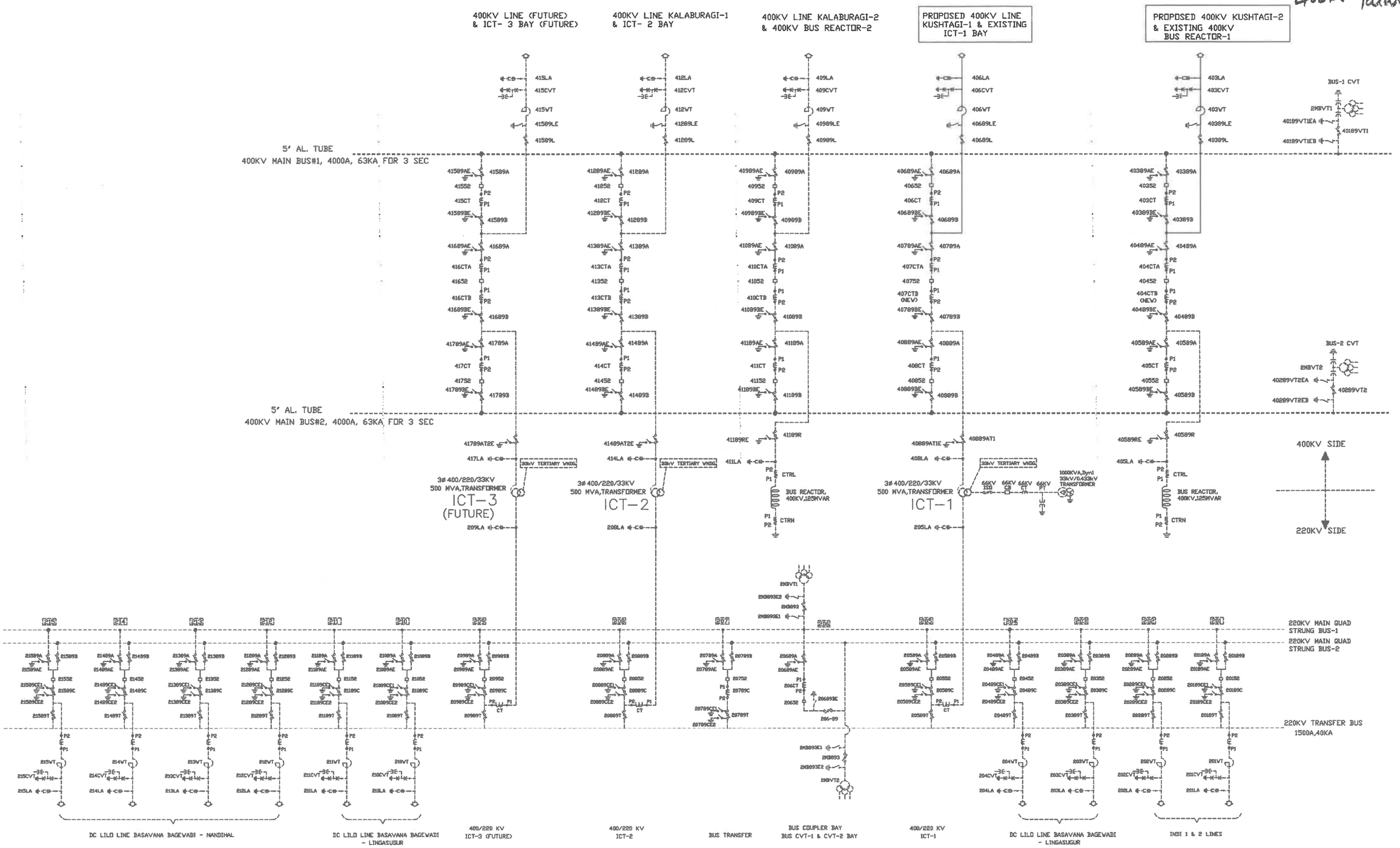
1. 400/220 kV Yalwar Substation

400KV Yalwar



NOTES:-

1. SOLID LINE INDICATES PROPOSED AND DOTTED LINE INDICATES EXISTING.

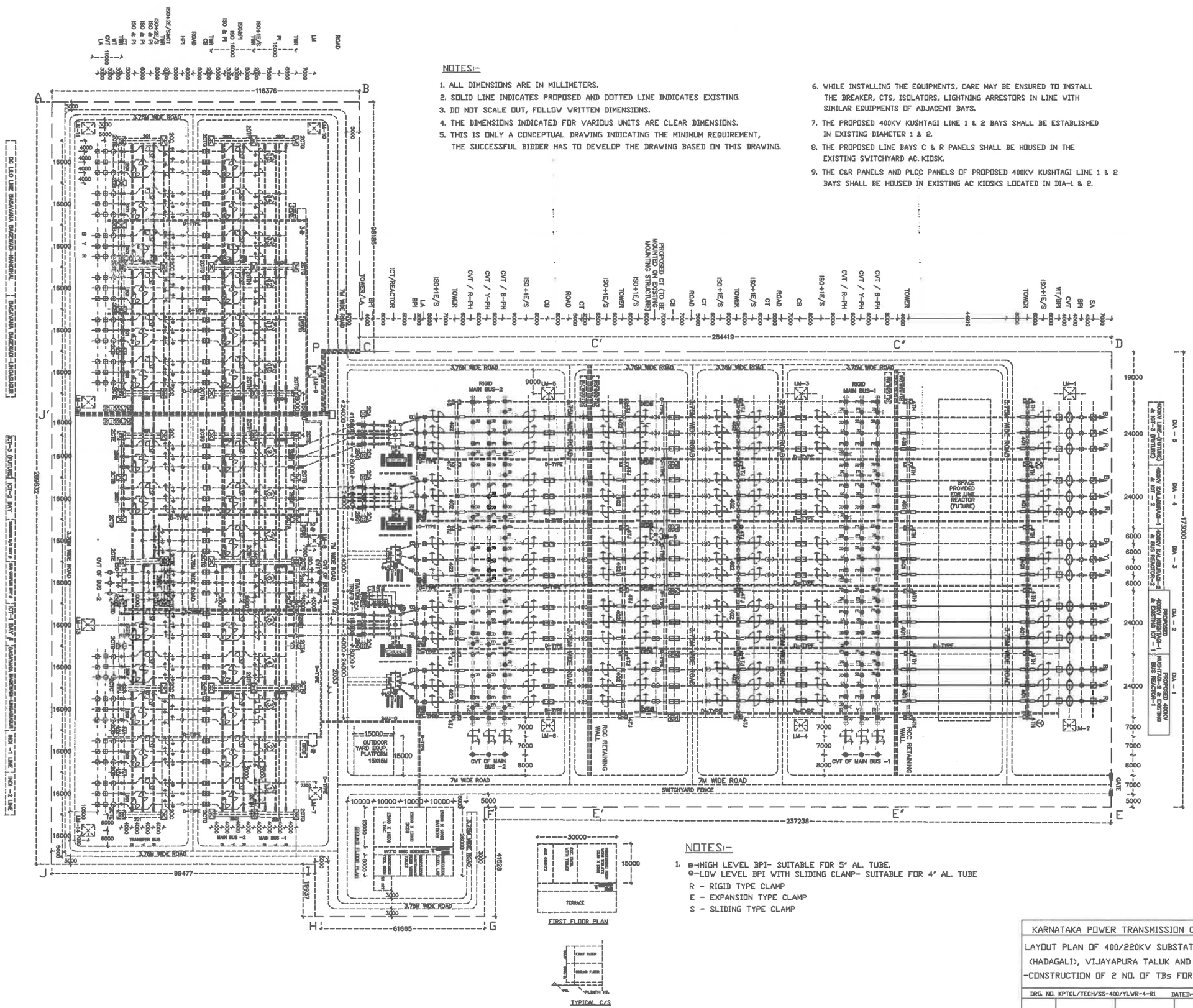
KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

SINGLE LINE DIAGRAM OF 400/220KV SUBSTATION AT YALWAR (HADAGALI), VIJAYAPURA TALUK AND VIJAYAPURA DIST.
- CONSTRUCTION OF 2 NO. OF TBs FOR KUSHTAGI 1 & 2 LINES

DRG. NO. KPTCL/TECH/SS-400/YLWR-1-R1			DATED:- 22.07.2021	SCALE :- N.T.S.
A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SOLID LINE INDICATES PROPOSED AND DOTTED LINE INDICATES EXISTING.
3. DO NOT SCALE OUT, FOLLOW WRITTEN DIMENSIONS.
4. THE DIMENSIONS INDICATED FOR VARIOUS UNITS ARE CLEAR DIMENSIONS.
5. THIS IS ONLY A CONCEPTUAL DRAWING INDICATING THE MINIMUM REQUIREMENT, THE SUCCESSFUL BIDDER HAS TO DEVELOP THE DRAWING BASED ON THIS DRAWING.
6. WHILE INSTALLING THE EQUIPMENTS, CARE MAY BE ENSURED TO INSTALL THE BREAKER, CTS, ISOLATORS, LIGHTNING ARRESTORS IN LINE WITH SIMILAR EQUIPMENTS OF ADJACENT BAYS.
7. THE PROPOSED 400KV KUSHTAGI LINE 1 & 2 BAYS SHALL BE ESTABLISHED IN EXISTING DIAMETER 1 & 2.
8. THE PROPOSED LINE BAYS C & R PANELS SHALL BE HOUSED IN THE EXISTING SWITCHYARD AC. KIOSK.
9. THE C&R PANELS AND PLCC PANELS OF PROPOSED 400KV KUSHTAGI LINE 1 & 2 BAYS SHALL BE HOUSED IN EXISTING AC KIOSKS LOCATED IN DIA-1 & 2.



NOTES:-

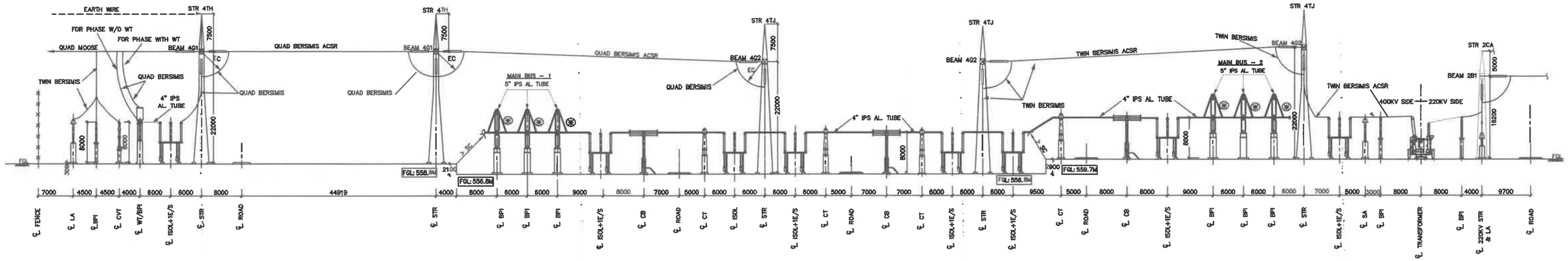
1. ⊖-HIGH LEVEL BPI- SUITABLE FOR 5" AL. TUBE.
   ⊖-LOW LEVEL BPI WITH SLIDING CLAMP- SUITABLE FOR 4" AL. TUBE
   R - RIGID TYPE CLAMP
   E - EXPANSION TYPE CLAMP
   S - SLIDING TYPE CLAMP

SHEET 1 OF 1

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

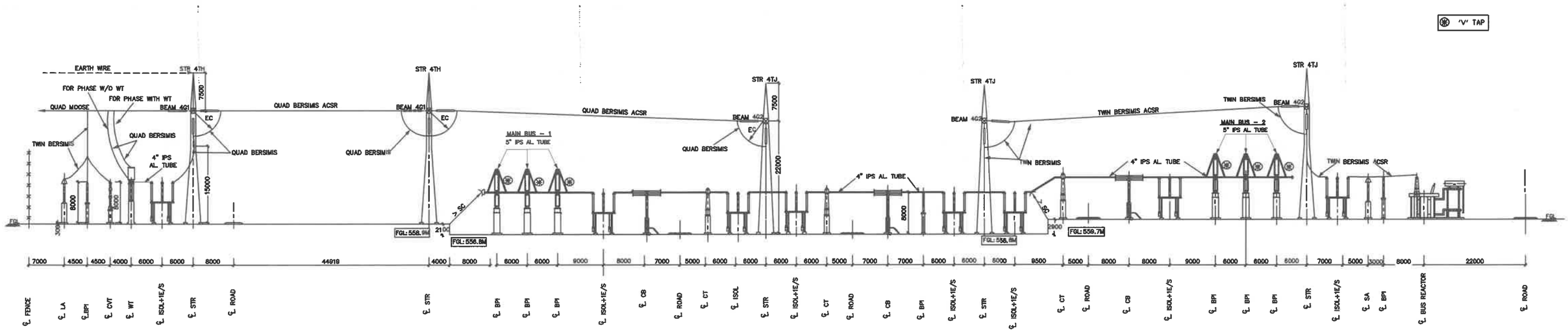
LAYOUT PLAN OF 400/220KV SUBSTATION IN YALWAR (HADAGALI), VIJAYAPURA TALUK AND VIJAYAPURA DIST. -CONSTRUCTION OF 2 NO. OF TBs FOR KUSHTAGI 1&2 LINES

DRG. NO. KPTCL/TECH/SS-400/YLWR-4-R1			DATED:- 22.07.2021	SCALE :- N.T.S.
AE	AEE	EE	SEE (TECH)	CEE (P&C)
DRN	CHD	SUB	REC	APPROVED

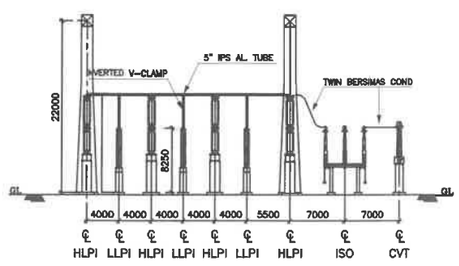


400KV KALABURAGI-1 LINE & ICT-2 BAY

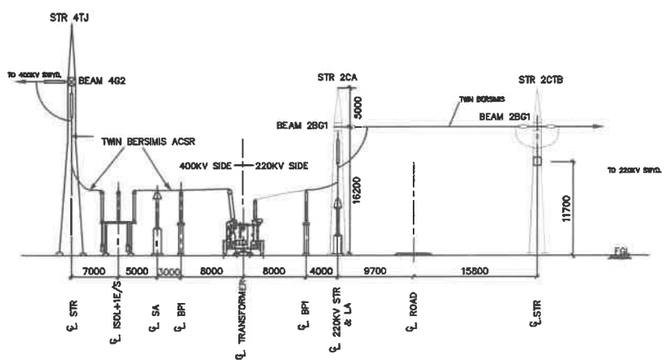
'V' TAP



400KV KALABURAGI-2 LINE AND BUS REACTOR -2 BAY



400KV MAIN BUS-1/2 CVT BAY



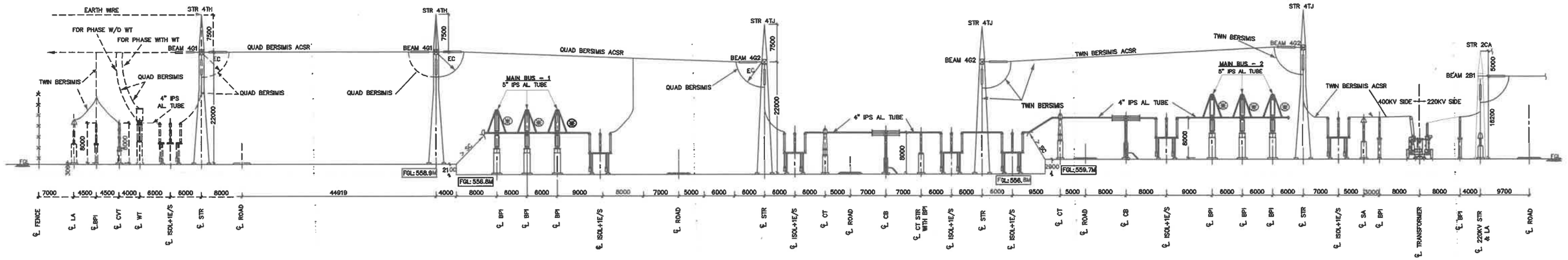
TRANSFORMER BAY (400/220KV TRANSFORMER SECTION)

SHEET 1 OF 3

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

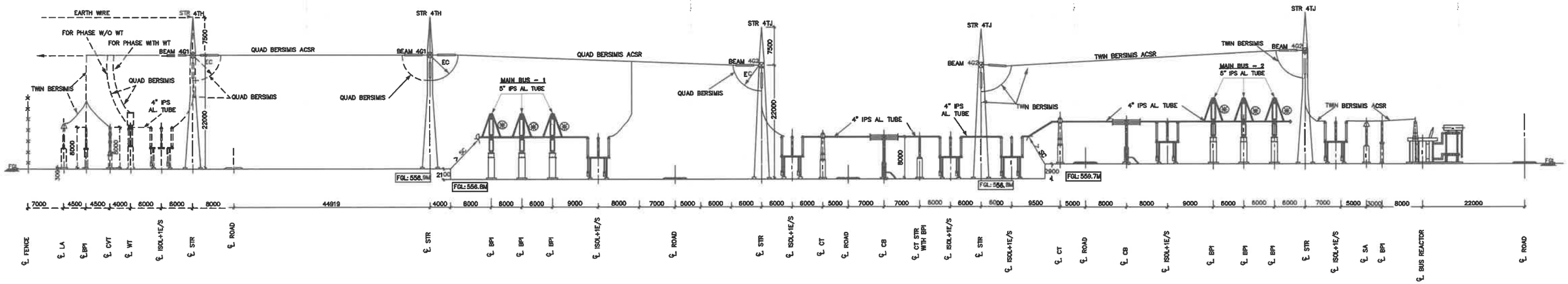
CROSS SECTION THROUGH VARIOUS 400 & 220KV BAYS AT 400/220KV YALWAR (HADAGALI), VIJAYAPURA TALUK AND VIJAYAPURA DIST.

DRG.NO.KPTCL/TECH/SS-400/YLWR-5		DATE:- 09.04.2021		SCALE:- N.T.S
A.E	A.E.E	E.E	S.E(TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED



400KV KUSHTAGI (FUTURE) LINE & ICT-1 BAY

'V' TAP



400KV KUSHTAGI (FUTURE) LINE AND BUS REACTOR -1 BAY

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

CROSS SECTION THROUGH VARIOUS 400 & 220KV BAYS AT 400/220KV YALWAR (HADAGALI), VIJAYAPURA TALUK AND VIJAYAPURA DIST.

DRG.NO.KPTCL/TECH/SS-400/YLWR-5			DATE:- 09.04.2021	SCALE:- N.T.S
A.E	A.E.E	E.E	S.E(TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED

EARTHMAT FOR THE PROPOSED 400 KV STATION @ DONI,GADAG DISTRICT.

IMPORTANT

* NOT TO SCALE

* THE NO OF CAST IRON PIPE ELECTRODES SHALL BE PROVIDED AS PER GUIDELINES (ITEM 2, 4, 5 & 12 OF GUIDELINES)

* BEFORE EXECUTION PLEASE CAREFULLY GO THROUGH THE ENCLOSED GUIDELINES *

BTP

* ALL DIMENSIONS ARE IN METER

SALIENT DESIGN FEATURES

AREA COVERED BY EARTHMAT IN SQ MTR	80697
DEPTH OF BURIAL OF EARTHMAT IN MTR	0.9
SPACING BETWEEN MAT CONDUCTOR (M.S. FLAT) IN MTR	8
SIZE OF EARTHMAT CONDUCTOR (M.S.FLAT) IN MM	50 X 8 MM

SPREADING OF GRANITE METAL JELLY OF SIZE 20/25 MM TO A HEIGHT OF 100 MM OVER THE EQUIPMENT BAYS ONLY.

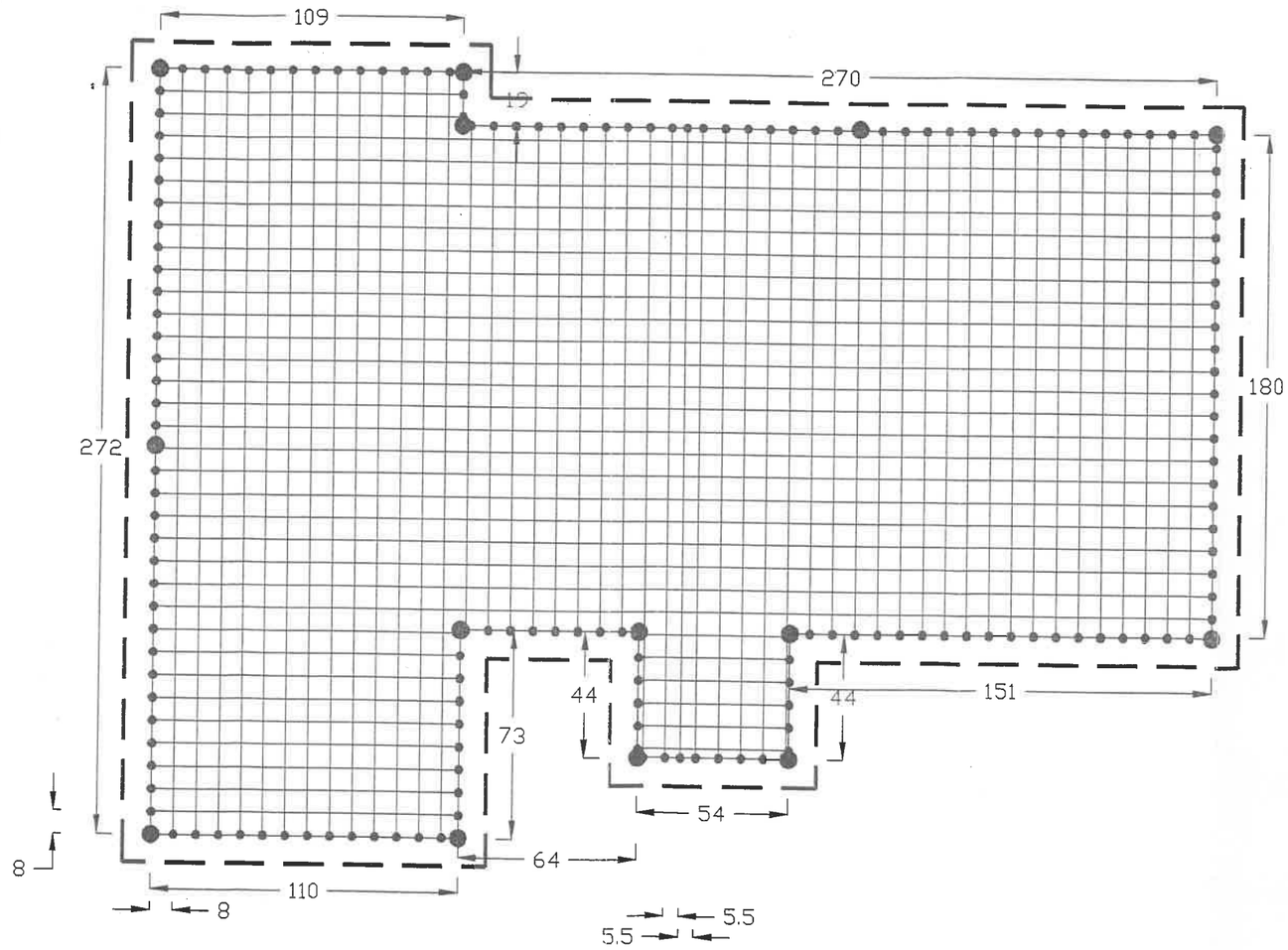
BILL OF MATERIALS (APPROXIMATE QUANTITY) FOR EARTHMAT FORMATION & FENCING.

(AS PER THE LAYOUT DRAWING NO.KPTCL/TECH/SS-400/DNI-1 DATED: 22-07.2013) of CEE (P&C), KPTCL, Bangalore

1.Excavation,formation,refilling	10068	Cmtr.
2.Material for formation of earthmat as per specification		
a)M.S.Flat 50 X 8 MM	22602	Mtr.
b)MS Round rods 25 mm dia,1.05 Mt. long	172	No.
c)G.I.Flats 50 X 8 MM for earth connection	7538	Mtr.
d)Cast iron pipe electrodes of 100 mm Id,13 mm thick,2.75 mtr.long	124	No.
e)Spreading of Granite metal jelly of size 20/25 mm size to a height of 100 mm	Equip.Bays only	

CONSIDERING TRANSFORMER CAPACITY
3 X 500 MVA, 400/220KV

NOTE:
Fence shall be provided as per approved layout drawing.



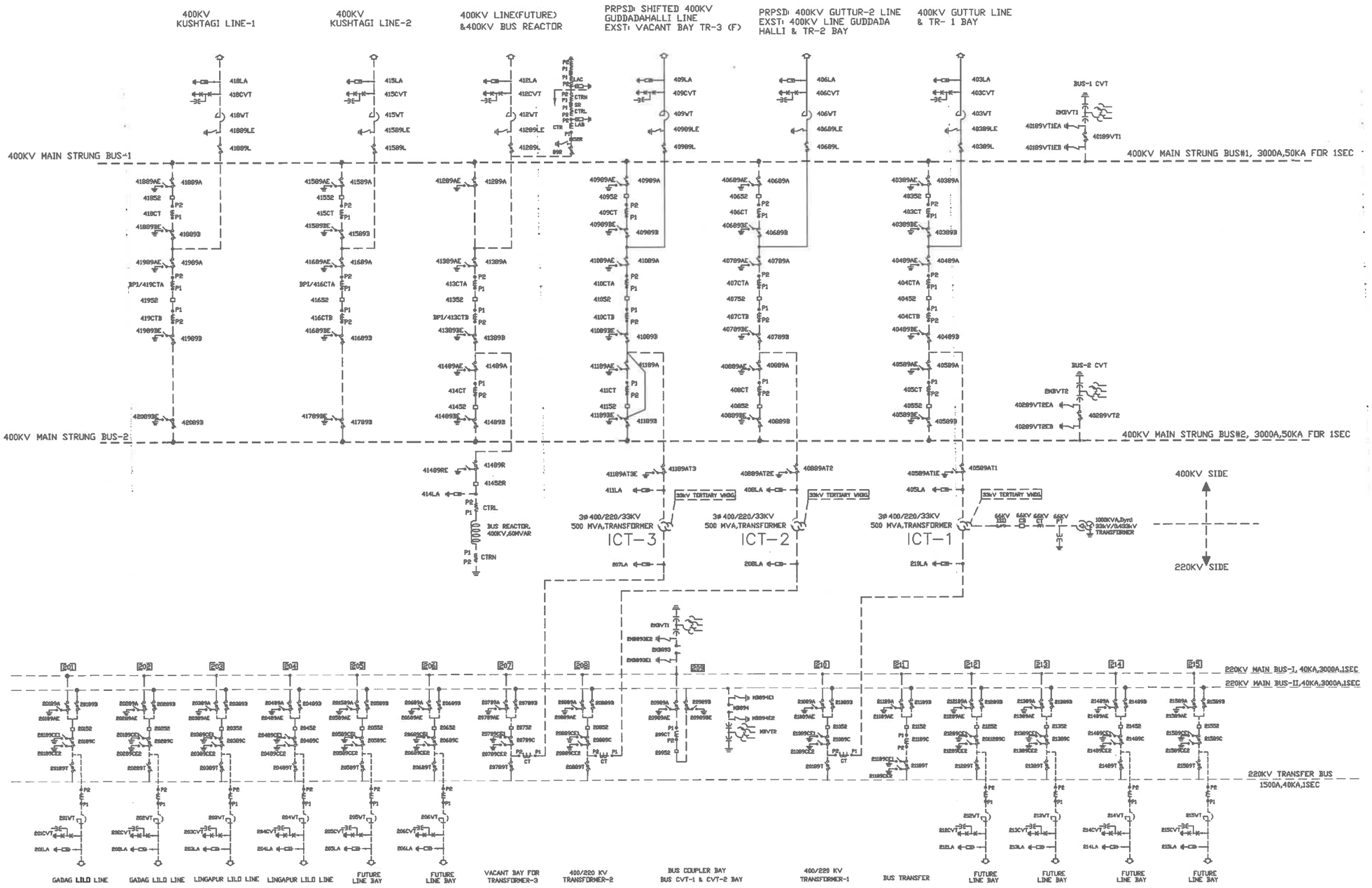
FENCE SHALL BE AT A MINIMUM DISTANCE OF 1.5 METERS AWAY FROM THE PERIPHERY OF THE STATION EARTHMAT

• 25 MM DIA M.S. ROUND RODS OF LENGTH ONE METER TO BE DRIVEN AS SHOWN

● C.I.PIPE ELECTRODES PROPOSED (REF.ENCLOSED SKETCH)

R & D CENTRE, K P T C L			
DRG NO. CEE/SEE/R&D/EEE/KCO-126/F102(5) Dtd. 13-11-2013			
13/11/13	Sunitha M.H 14/11		
AEEE	EEE	SEE	CEE

2. 400/220/33 kV Doni Substation

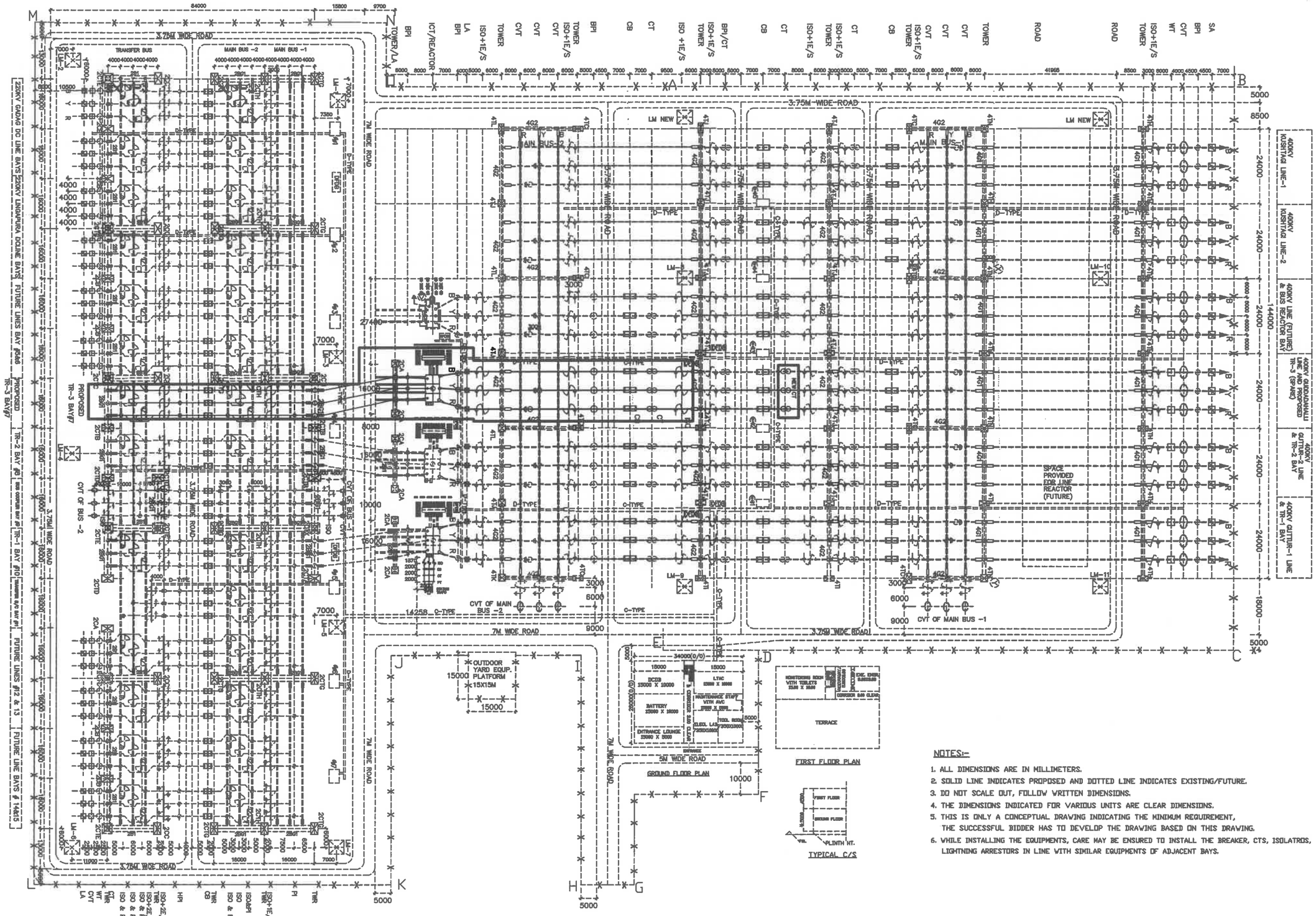


NOTE: SOLID LINE INDICATES PROPOSED AND DOTTED LINE INDICATES EXISTING/ FUTURE.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

SINGLE LINE DIAGRAM OF 400/220/33KV S/S AT DONI (GADAG):- MODIFICATION WORKS - CONVERSION OF 400KV GUTTUR-DONI LINE FROM SC TO DC WITH QUAD MOOSE CONDUCTOR.

DRG. NO. KPTCL/TECH/SS-400/DNI-1-R2			DATED:- 20.09.2021	SCALE :- N.T.S.
A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED



NOTES:-

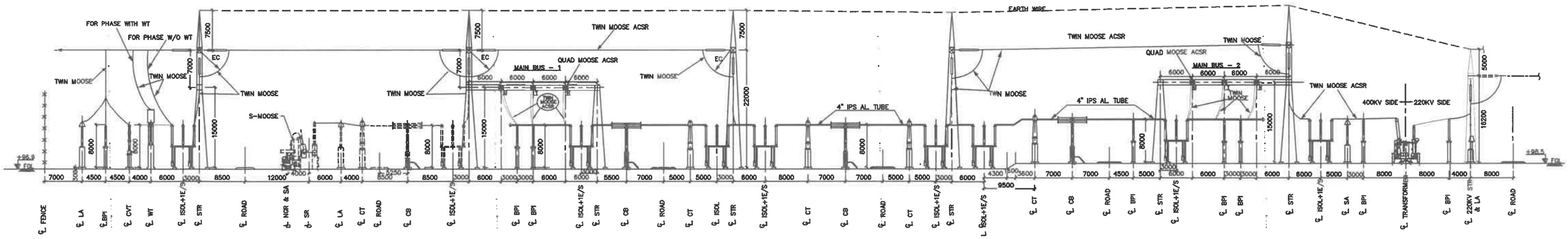
1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. SOLID LINE INDICATES PROPOSED AND DOTTED LINE INDICATES EXISTING/FUTURE.
3. DO NOT SCALE OUT, FOLLOW WRITTEN DIMENSIONS.
4. THE DIMENSIONS INDICATED FOR VARIOUS UNITS ARE CLEAR DIMENSIONS.
5. THIS IS ONLY A CONCEPTUAL DRAWING INDICATING THE MINIMUM REQUIREMENT, THE SUCCESSFUL BIDDER HAS TO DEVELOP THE DRAWING BASED ON THIS DRAWING.
6. WHILE INSTALLING THE EQUIPMENTS, CARE MAY BE ENSURED TO INSTALL THE BREAKER, CTS, ISOLATROS, LIGHTNING ARRESTORS IN LINE WITH SIMILAR EQUIPMENTS OF ADJACENT BAYS.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

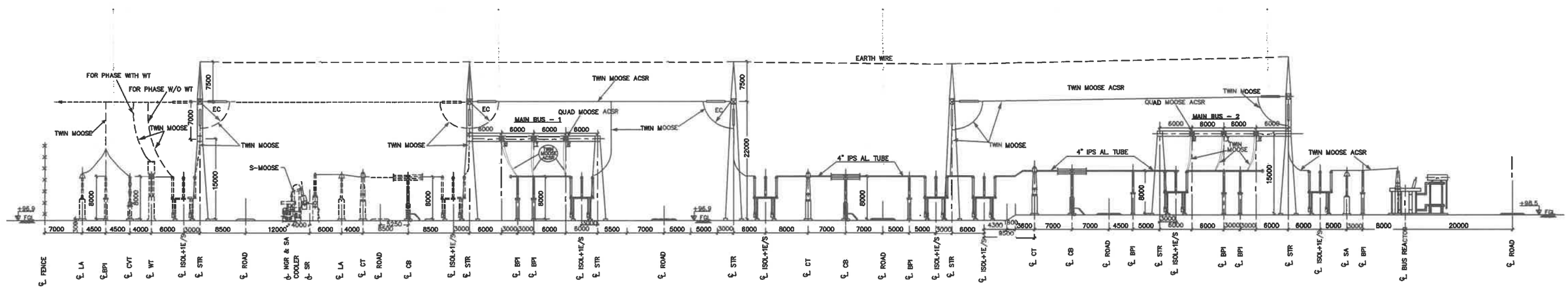
LAYOUT PLAN OF 400/220KV S/S AT DONI (GADAG) - PROVIDING SPARE 400/220KV 500MVA, ICT

DRG. NO. KPTCL/TECH/SS-400/DNI-4-R3	DATED:- 05.03.2024	SCALE :- N.T.S.

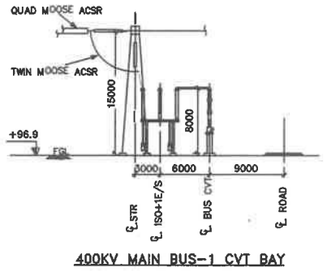
A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED



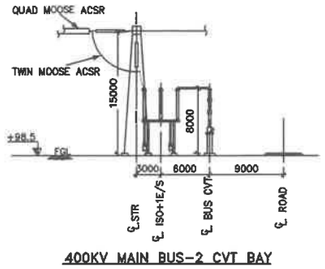
400KV LINE & TRANSFORMER BAY



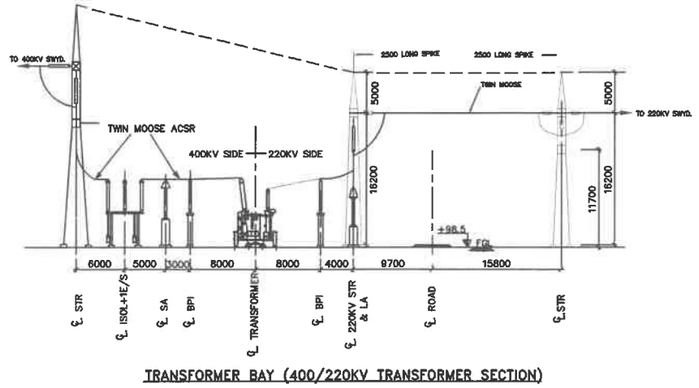
400KV LINE WITH LINE REACTOR BAY AND BUS REACTOR BAY



400KV MAIN BUS-1 CVT BAY



400KV MAIN BUS-2 CVT BAY



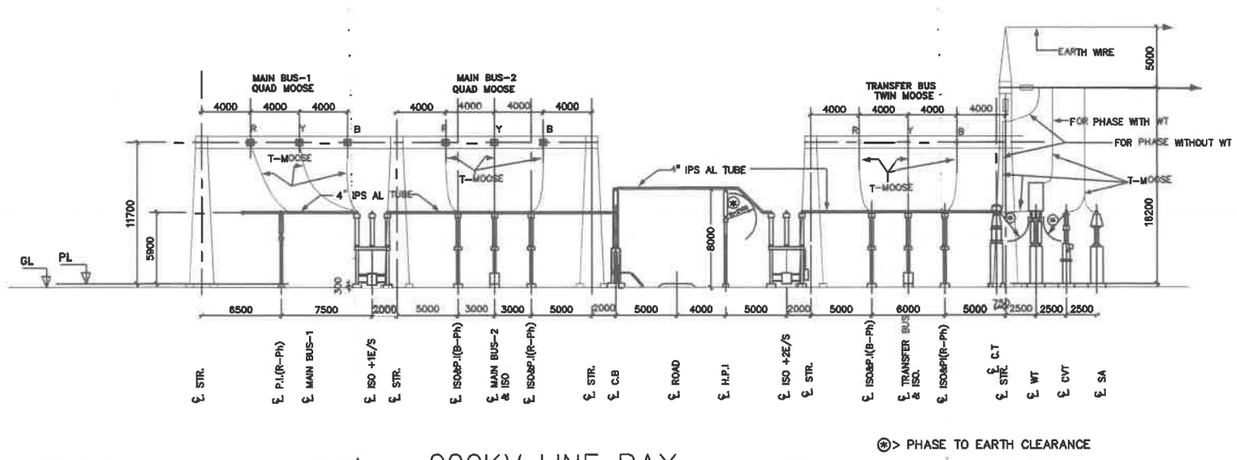
TRANSFORMER BAY (400/220KV TRANSFORMER SECTION)

SHEET 1 OF 2

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

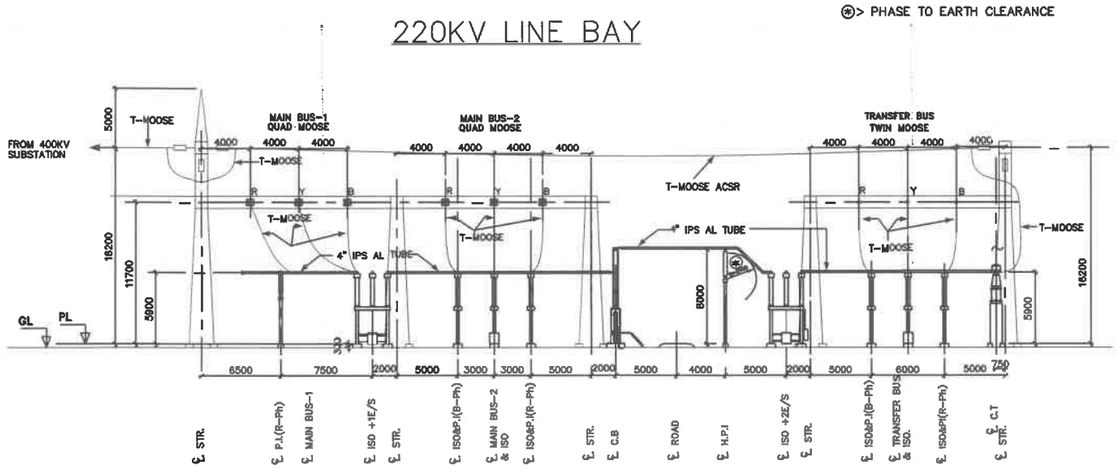
CROSS SECTION THROUGH VARIOUS 400 & 220KV BAYS AT 400/220KV SUB STATION, DONI(GADAG)

DRG.NO.KPTCL/TECH/SS-400/DNI-5		DATE:- 22.07.2013		SCALE:- N.T.S
	A.E.E	E.E	S.E(TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED



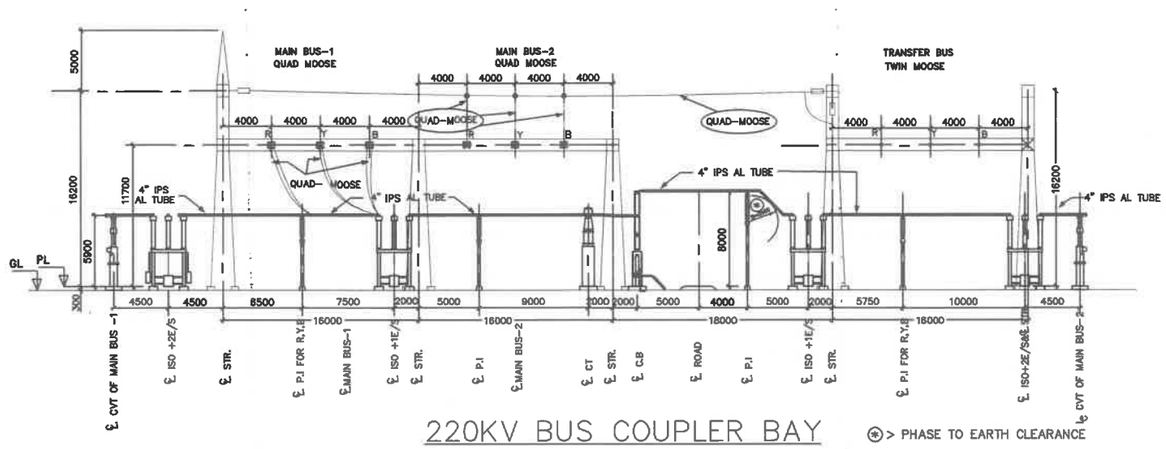
@> PHASE TO EARTH CLEARANCE

220KV LINE BAY



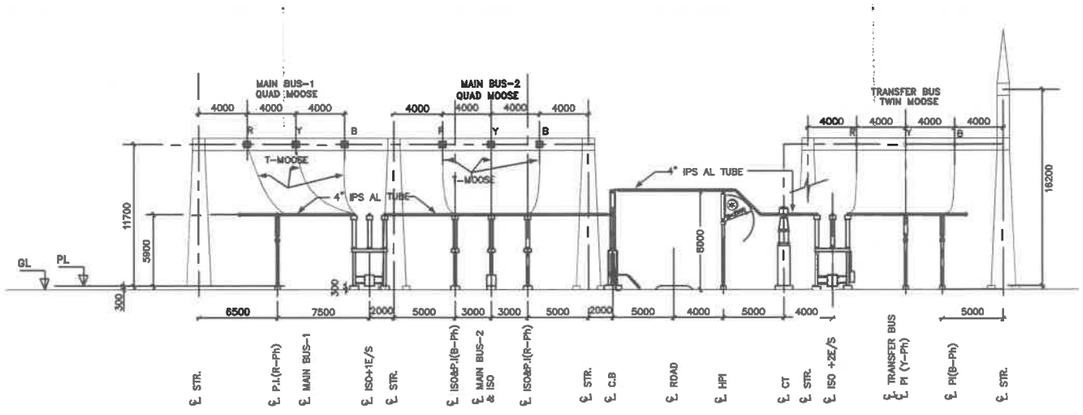
400/220KV TRANSFORMER BAY 220KV SIDE

@> PHASE TO EARTH CLEARANCE



220KV BUS COUPLER BAY

@> PHASE TO EARTH CLEARANCE



220KV TRANSFER BUS COUPLER BAY

@> PHASE TO EARTH CLEARANCE

SHEET 2 OF 2

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

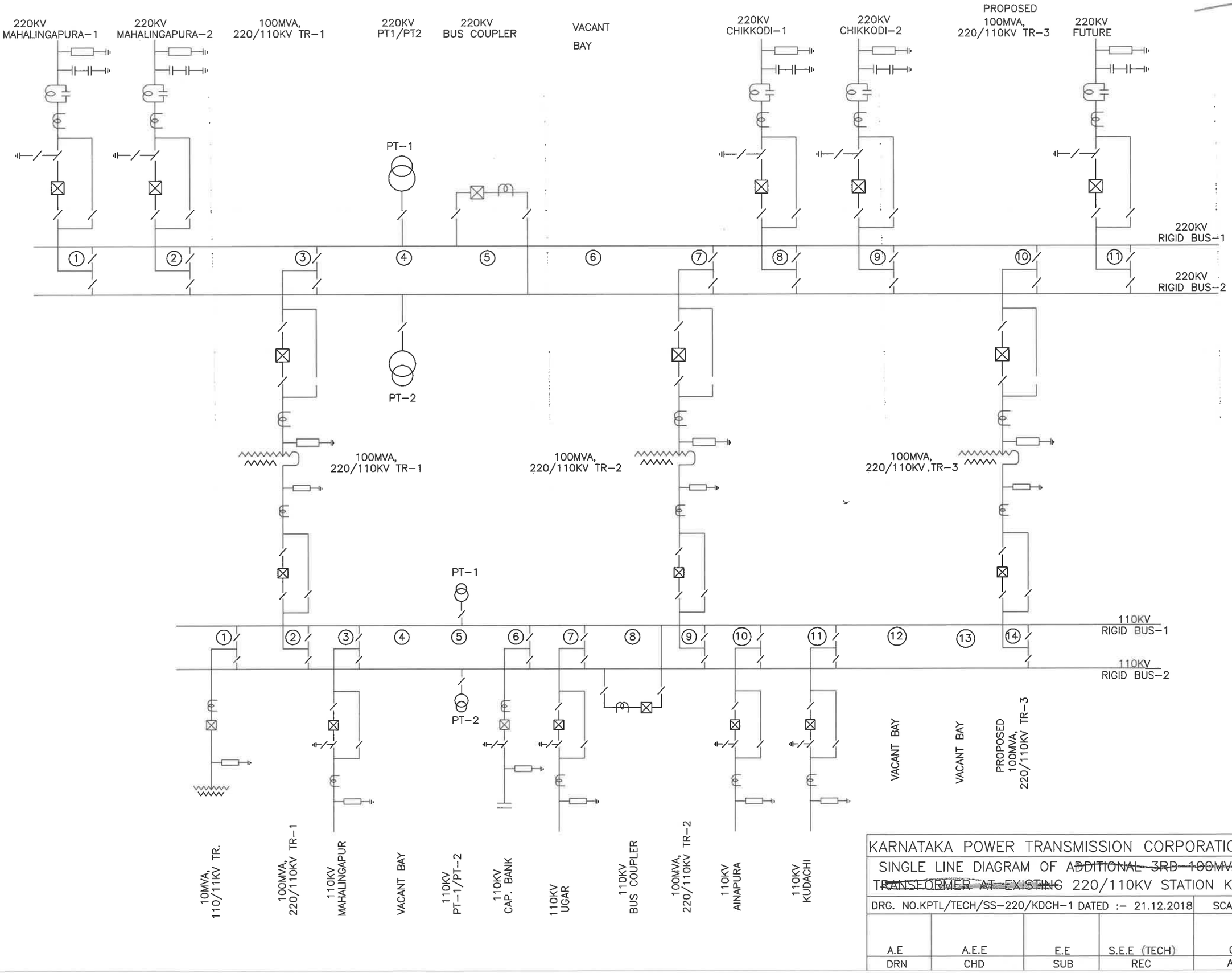
CROSS SECTION THROUGH VARIOUS 400 & 220KV BAYS AT 400/220/33KV SUB STATION, DONI(GADAG)

DRG.NO.KPTCL/TECH/SS-400/GADAG-5	DATE:- 22.07.2013	SCALE:- N.T.S

	A.E.E	E.E	S.E(TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED

3. 220/110 kV Kudachi Substation

Kerdeuchi



KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

SINGLE LINE DIAGRAM OF ~~ADDITIONAL 3RD 100MVA, POWER TRANSFORMER AT EXISTING~~ 220/110KV STATION KUDACHI.

DRG. NO.KPTL/TECH/SS–220/KDCH–1 DATED :– 21.12.2018 | SCALE :– NTS

A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (G)
DRN	CHD	SUB	REC	APPROVED

HIGH PI-MOUNTING STRUCTURE SUITABLE FOR BOLTED TYPE FOUNDATION

220KV FUTURE

PROPOSED 100MVA, 220/110KV TR-3

220KV CHIKKODI-2

220KV CHIKKODI-1

100MVA, 220/110KV TR-2

VACANT BAY

220KV BUS COUPLER

220KV PT-1/ PT-2

100MVA, 220/110KV TR-1

220KV MAHALINGAPURA-2

220KV MAHALINGAPURA-1

220KV YARD

110KV YARD

5M WIDE ROAD

PLINTH MOUNTED 2X250 KVA 11KV/415V AUX.TR.

DG SET ROOM 3.0X2.7 | TOOL ROOM 3.0X2.7 | TOILET 3.0X2.7 | BATTERY ROOM 7.4X5.7

LTAC ROOM 11.0X8.7 | PLCC ROOM 7.4X5,7

3.0M WIDE PASSAGE

CONTROL ROOM 19.0X10.0

⊛ 1T1 WITH 2.5M EXTENSION

PROPOSED 100MVA, 220/110KV TR-3

VACANT BAY

VACANT BAY

110KV KUDACHI

110KV AINAPURA

100MVA, 220/110KV TR-2

110KV BUS COUPLER

110KV UGAR

110KV CAP. BANK

110KV PT-1/ PT-2

VACANT BAY

110KV MAHALINGAPURA

100MVA, 220/110KV TR-1

110/11KV TR.

4.0 M ROAD

NOTE:-

1. ALL DIMENSIONS ARE IN METRES.
2. ALL NON-CURRENT CARRYING METALIC PARTS ARE TO BE EARTHED CONNECTED TO GROUND MAT.
3. GROUND MAT IS TO BE PROVIDED FOR THE EXTENTION PORTION ALSO IN CONSULTATION WITH SEE (R&D).
4. ⊛ EXISTING LIGHTING/LIGHTNING MAST LM5 SHALL BE SHIFTED IF REQUIRED AS PER FIELD CONDITION.
5. PROPOSED 3RD 100MVA SHALL BE PROVIDED IN BAY NO.10 NEXT TO EXISTING CHIKKODI-2 LINE.
6. ALL THE EQUIPMENTS SHALL BE PROVIDED IN LINE WITH SIMILAR EQUIPMENT OF ADJACENT BAYS.
7. C & D TYPE DUCTS SHALL BE CONSTRUCTED IN THE PROPOSED BAY AS PER SITE CONDITION.
8. SOME OF THE EXISTING DETAILS ARE NOT SHOWN FOR CLARITY.
9. THICK LINE INDICATE PROPOSED ARRANGEMENT & GREY LINE INDICATES EXISTING.
10. EXISTING STRUCTURES (2T2, 1T2) AND BUS ARE UTILISED FOR THE PROPOSED WORK.

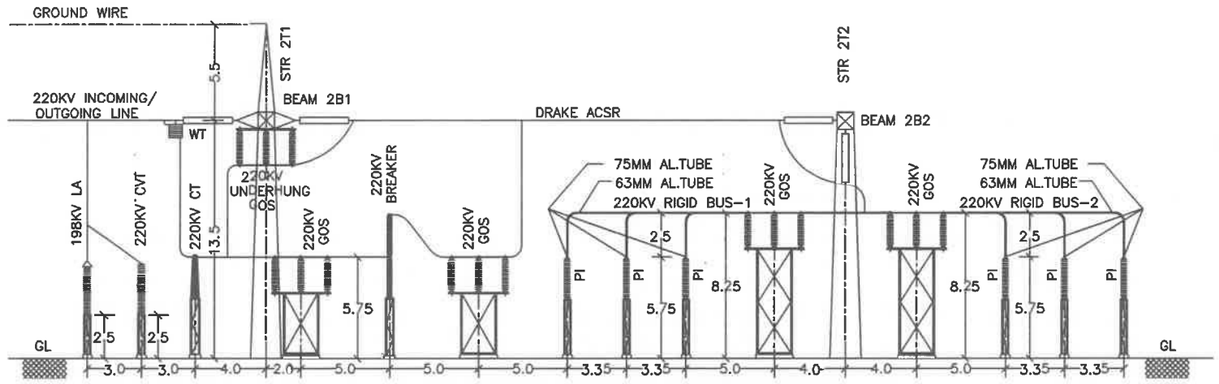
SHEET 1 OF 2

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

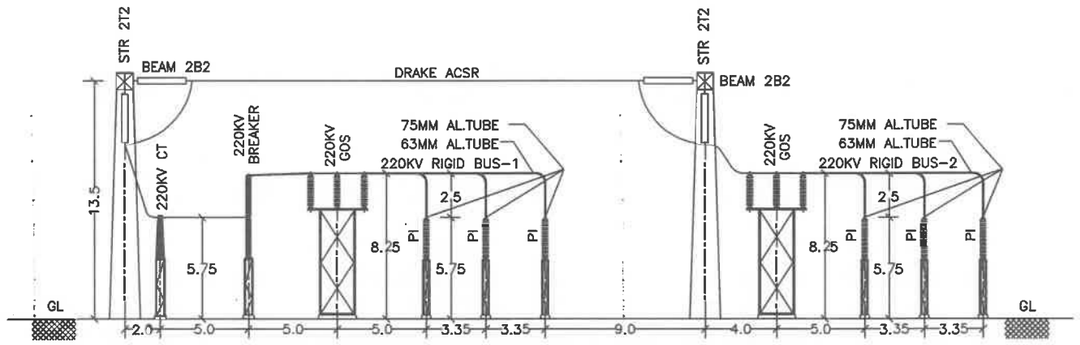
DETAILED LAYOUT PLAN OF ~~ADDITIONAL 3RD 100MVA POWER TRANSFORMER AT EXISTING~~ 220/110KV SUB STATION KUDACHI

DRG. NO. KPTCL/ TECH/ SS-220/ KDCH-2/R2 DATED:- 21.12.2018 | SCALE :- 1 : 500

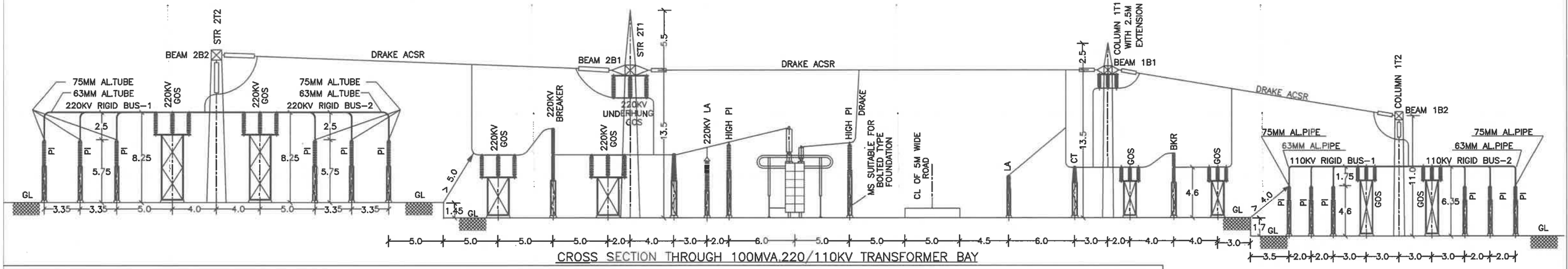
A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (G)
DRN	CHD	SUB	REC	APPROVED



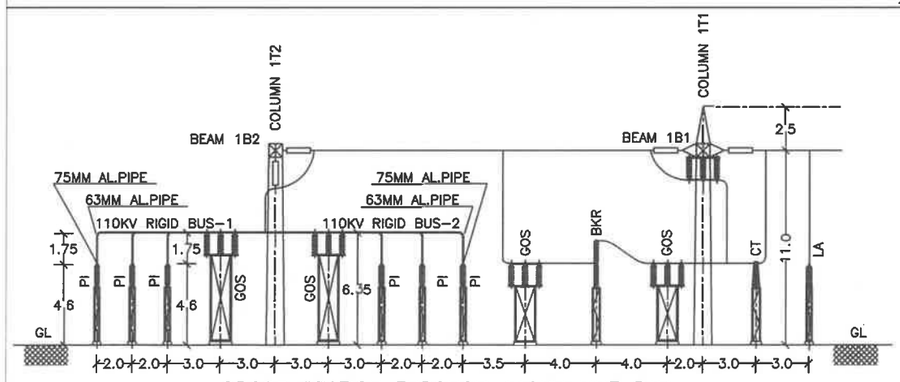
CROSS SECTION THROUGH 220KV LINE BAY



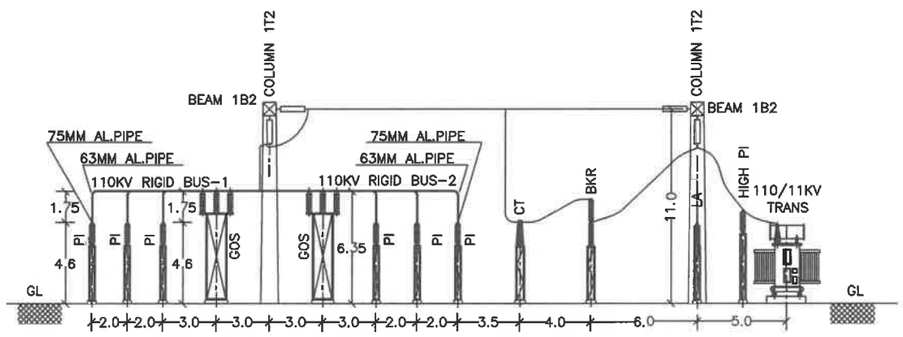
CROSS SECTION THROUGH 220KV BUS COUPLER BAY



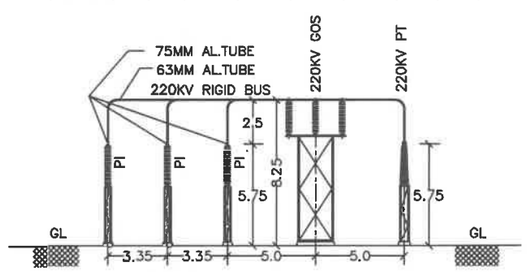
CROSS SECTION THROUGH 100MVA,220/110KV TRANSFORMER BAY



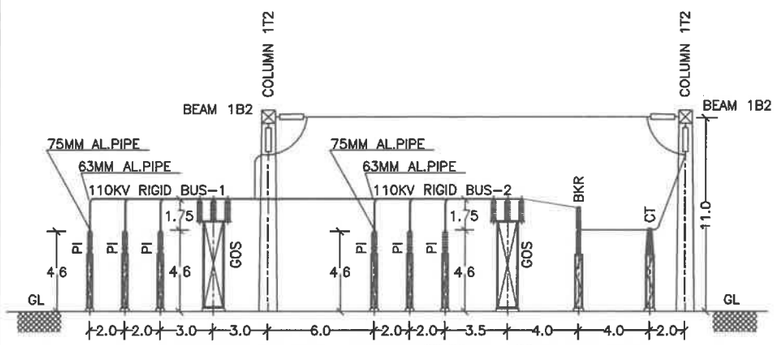
CROSS SECTION THROUGH 110KV LINE BAY



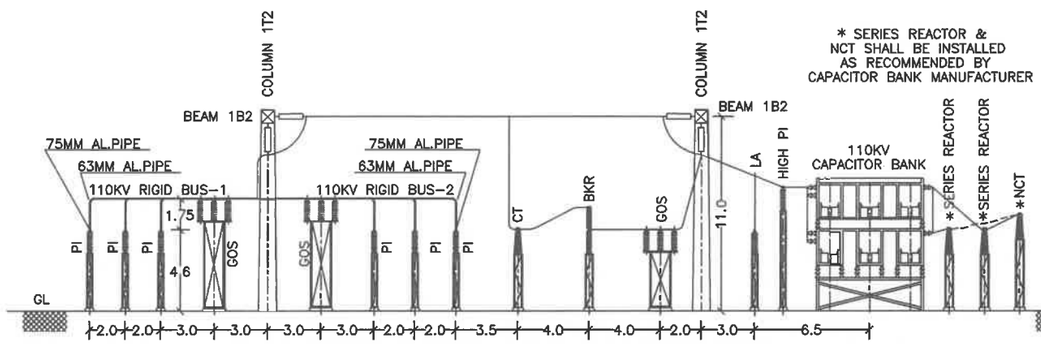
CROSS SECTION THROUGH 110KV TRANSFORMER BAY



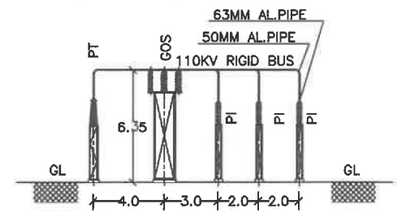
CROSS SECTION THROUGH 220KV PT BAY



CROSS SECTION THROUGH BUS COUPLER BAY



CROSS SECTION THROUGH 110KV CAPACITOR BANK BAY



CROSS SECTION THROUGH 110KV PT BAY

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

CROSS SECTION THROUGH VARIOUS 220 & 110KV BAYS AT 220KV STATION, KUDACHI USING RIGID TYPE MAIN BUS

DRG. NO. KPTCL/SS-220/ KDCH-5	DATE:- 9.5.2001	SCALE:- 1 : 250

P.Parvathi	A.E.E	A.E.E	E.E	S.E(TECH)	C.E.E (G)
DRN	VER	CHD	SUB	REC	APPROVED

EARTHMAT FOR 220 KV NEW SUBSTATION AT KUDACHI

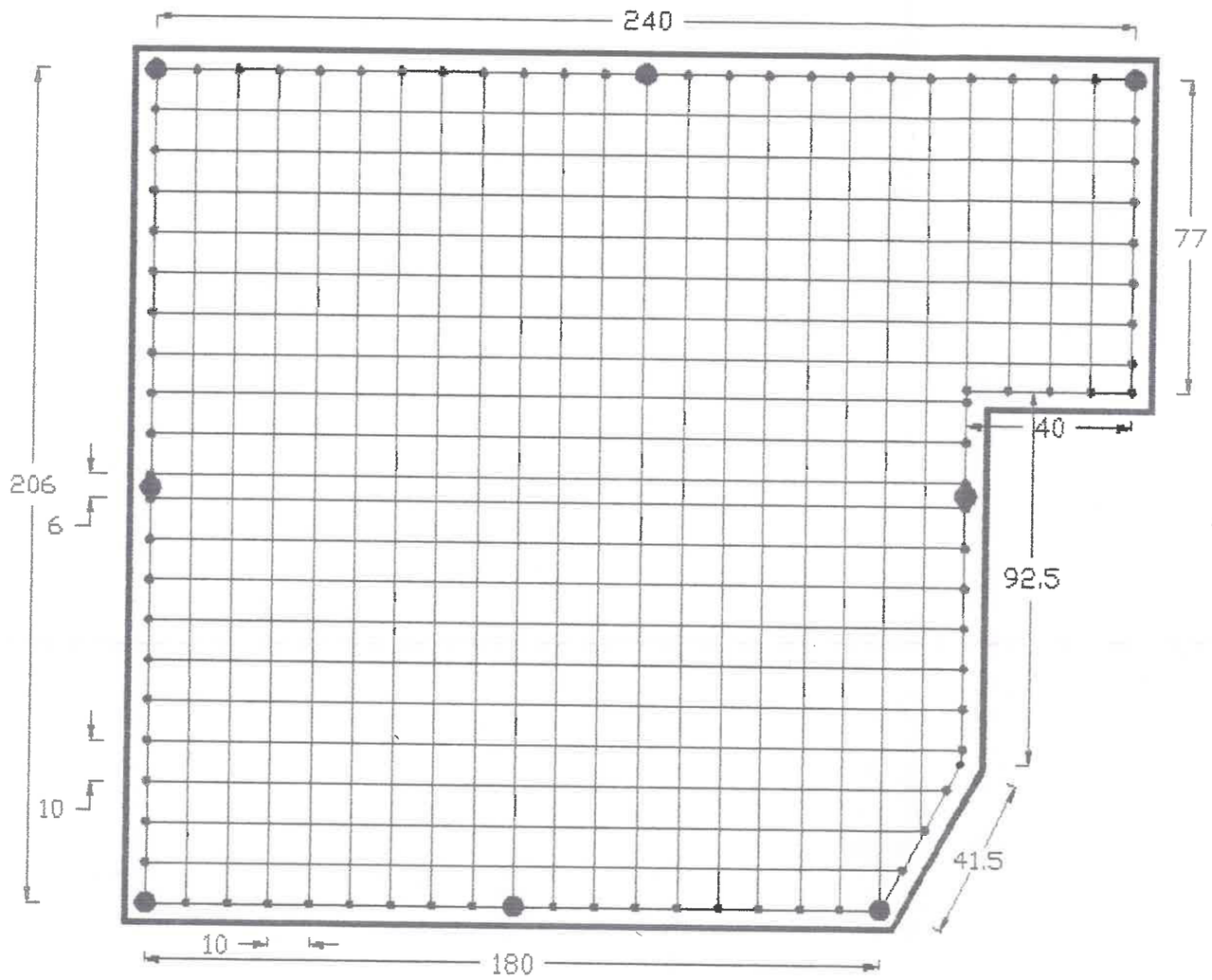
IMPORTANT

* BEFORE EXECUTION PLEASE CAREFULLY GO THROUGH THE ENCLOSED GUIDELINES *THE NO. OF CAST IRON ELECTRODES SHALL BE PROVIDED AS PER GUIDELINES (ITEM 2, 4 , 5 & 12 OF THE GUIDELINES)

NOT TO SCALE ALL DIMENSIONS ARE IN METER

• 25 MM DIA ROUND RODS OF LENGTH ONE METRE TO BE DRIVEN AS SHOWN

AREA COVERED BY EARTHMAT IN SQ MTR 43915 DESIGNED SPACING BETWEEN MAT CONDUCTOR IN MTR 10 DEPTH OF BURIAL OF MAT IN MTR 0.90 SIZE OF EARTHMAT CONDUCTOR IN MM 50 X 6



NOTE

SINCE THE PROPOSED STATION IS HAVING THREE RL'S,THE EARTHMAT SHALL BE LAID AT A DEPTH OF 0.9 MTRS IN EACH RL'S AND EARTHMAT OF EACH RL SHALL BE INTERCONNECTED AT ALL INTERSECTIONS BY WELDING.

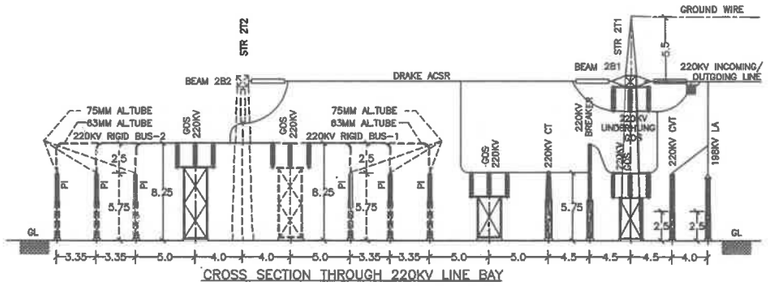
FENCE SHALL BE AT A MINIMUM DISTANCE OF 1.5 METERS AWAY FROM THE PERIPHERY OF THE STATION EARTHMAT

ADDITIONAL C.I.PIPE ELECTRODES PROPOSED (REF.ENCLOSED SKETCH)

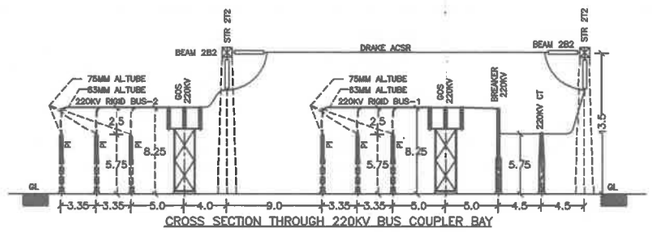
K	P	T	C	L
AEE	EEE	SEE	CEE(R&D)	

4. 220/110 kV Mahalingapura Substation

Mahalingapura



CROSS SECTION THROUGH 220KV LINE BAY



CROSS SECTION THROUGH 220KV BUS COUPLER BAY

NOTE:-

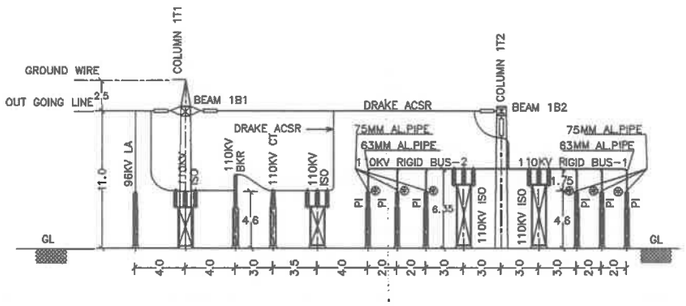
1. ALL DIMENSIONS ARE IN METRES.
2. ALL NON-CURRENT CARRYING METALIC PARTS ARE TO BE EARTHED CONNECTED TO GROUND MAT.
3. GROUND MAT IS TO BE PROVIDED IF REQUIRED IN CONSULTATION WITH SEE (R&D).
4. IN ORDER TO PROVIDE PROPOSED 220KV LINE BAY, 220KV BUS COUPLER BAY SHALL BE SHIFTED TO BAY NO. 10 AS INDICATED IN THE DRAWING.
5. PROPOSED 220KV LINE BAY SHALL BE PROVIDED IN BAY NO.3 NEXT TO EXISTING HUBLI LINE.
6. ALL THE EQUIPMENTS SHALL BE PROVIDED IN LINE WITH SIMILAR EQUIPMENT OF ADJACENT BAYS.
7. D TYPE DUCTS SHALL BE CONSTRUCTED IN THE PROPOSED BAY AS PER SITE CONDITION.
8. SOME OF THE EXISTING DETAILS ARE NOT SHOWN FOR CLARITY.
9. THICK LINE INDICATE PROPOSED ARRANGEMENT & DOTTED LINE INDICATES EXISTING.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

LAYOUT PLAN & CROSS SECTION OF 220KV BIDNAL LINE TB AT EXISTING 220/110KV SUB STATION MAHALINGAPURA

DRG.NO.KPTCL/TECH/SS-220/ MHL-2-R3			DATE:-10.07.2019	SCALE:- NTS
A.E	A.E.E	E.E	S.E (TECH)	C.E.E (P & C)
DRN	CHD	SUB	REC	APPROVED

Mahalingapur



CROSS SECTION THROUGH 110KV LINE BAY

NOTE:-

1. ALL DIMENSIONS ARE IN METRES.
2. ALL NON-CURRENT CARRYING METALIC PARTS ARE TO BE EARTHED CONNECTED TO GROUND MAT.
3. GROUND MAT IS TO BE PROVIDED IF REQUIRED IN CONSULTATION WITH SEE (R&D).
4. IN ORDER TO PROVIDE PROPOSED 220KV LINE BAY, 220KV BUS COUPLER BAY SHALL BE SHIFTED TO BAY NO. 10 AS INDICATED IN THE DRAWING.
5. PROPOSED 220KV LINE BAY SHALL BE PROVIDED IN BAY NO.3 NEXT TO EXISTING HUBLI LINE.
6. ALL THE EQUIPMENTS SHALL BE PROVIDED IN LINE WITH SIMILAR EQUIPMENT OF ADJACENT BAYS.
7. D TYPE DUCTS SHALL BE CONSTRUCTED IN THE PROPOSED BAY AS PER SITE CONDITION.
8. SOME OF THE EXISTING DETAILS ARE NOT SHOWN FOR CLARITY.
9. THICK LINE INDICATE PROPOSED ARRANGEMENT & DOTTED LINE INDICATES EXISTING.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

LAYOUT PLAN & CROSS SECTION OF 220KV MAHALINGAPURA INDICATING PROPOSED 110KV BAYS.

DRG.NO.KPTCL/TECH/SS-220/ MHL-2-R3			DATE:-28.10.2020	SCALE:- NTS
A.E	A.E.E	E.E	S.E (TECH)	C.E.E (P & C)
DRN	CHD	SUB	REC	APPROVED

ADDITIONAL EARTHMAT DESIGN FOR THE 220/110/33/11 KV SUB-STATION @ MAHALINGAPURA IN MUDHOL (T), BAGALKOT (D).

IMPORTANT

* NOT TO SCALE

* THE NO OF CAST IRON PIPE ELECTRODES SHALL BE PROVIDED AS PER GUIDELINES *

* BEFORE EXECUTION PLEASE CAREFULLY GO THROUGH THE ENCLOSED GUIDELINES *

* ALL DIMENSIONS ARE IN METER

SALIENT DESIGN FEATURES

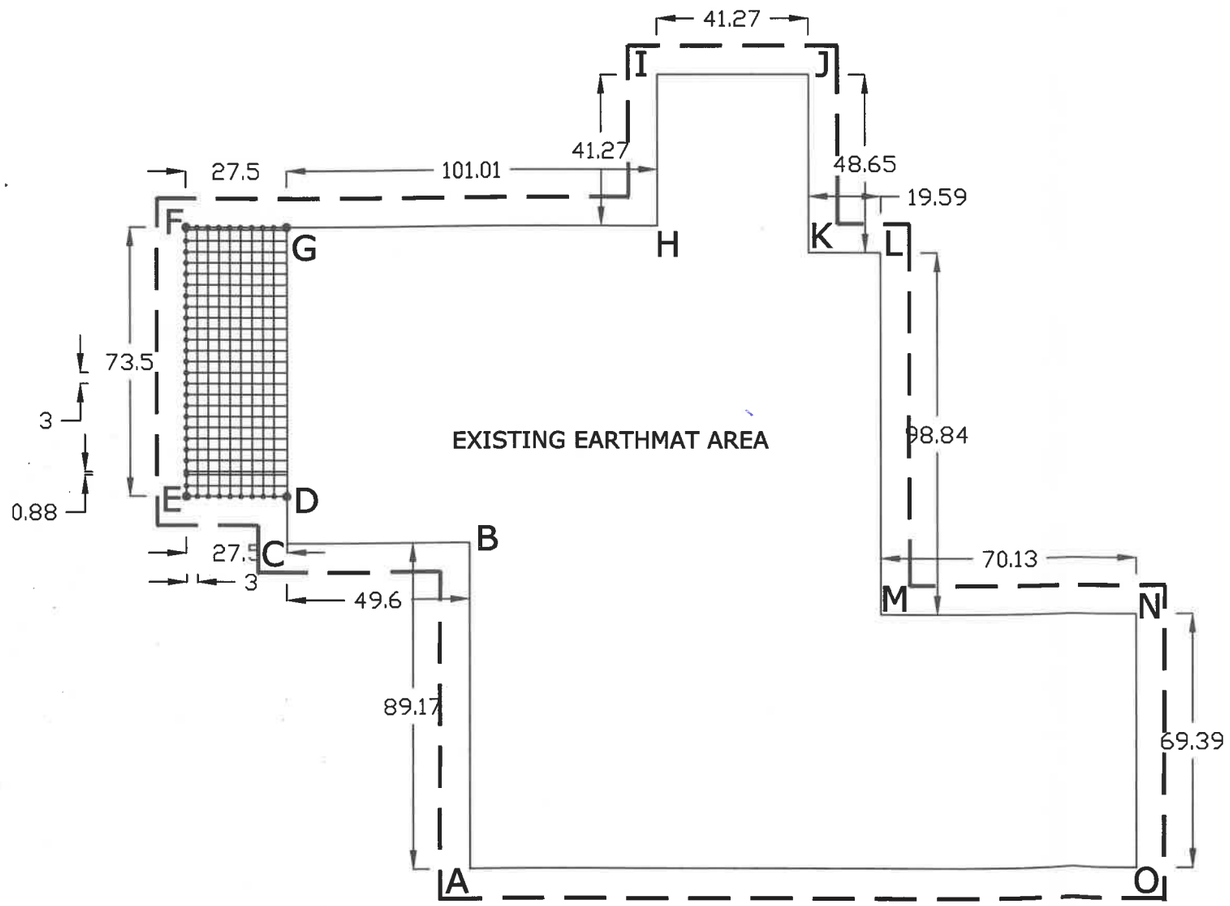
AREA COVERED BY EARTHMAT IN SQ MTR (EXISTING + ADDITIONAL)	32555
AREA COVERED BY EARTHMAT IN SQ MTR (ADDITIONAL)	2021
DEPTH OF BURIAL OF EARTHMAT IN MTR	0.9
SPACING BETWEEN MAT CONDUCTOR (M.S. FLAT) IN MTR	3 (EXISTING 20M, 8M & 3M)
SIZE OF EARTHMAT CONDUCTOR (M.S.FLAT) IN MM	50 X 6 MM

SPREADING OF GRANITE METAL JELLY OF SIZE 20/25 MM TO A HEIGHT OF 100 MM OVER THE EQUIPMENT BAYS ONLY.

BILL OF MATERIALS (APPROXIMATE QUANTITY) FOR EARTHMAT FORMATION & FENCING.

(AS PER THE LAYOUT DRAWING NO.NIL)

1.Excavation,formation,refilling	730	Cmtr.
2.Material for formation of earthmat as per specification		
a)M.S.Flat 50 X 6 MM	1623	Mtr.
b)MS Round rods 25 mm dia,1.05 Mt. long	40	No.
c)G.I.Flats 50 X 6 MM for earth connection	254	Mtr.
d)Cast iron pipe electrodes of 100 mm Id,13 mm thick,2.75 mtr.long	3	No.
e)Spreading of Granite metal jelly of size 20/25 mm size to a height of 100 mm	Equipment bays	



NOTE :

1. TRANSFORMER CAPACITY CONSIDERED FOR DESIGN: 3 x 100 MVA, 220/110 kV + 2 x 20 MVA, 110/33 KV & 2 x 20 MVA, 110/11 KV VOLTAGE CLASS.
2. 'ABCDGHIJKLMNOA' INDICATES EXISTING EARTHMAT OF AREA 30534 SQ MTR WITH 50 x 6 MM FLAT SPACED AT 20 M, 8 M & 3 M.
3. 'DEFGD' INDICATES PROPOSED ADDITIONAL EARTHMAT OF AREA 2021 SQ MTR WITH 50 x 6 MM FLAT WITH 3 MTR SPACING.
4. THE PROPOSED ADDITIONAL EARTHMAT SHALL BE CONNECTED TO EXISTING EARTHMAT BY CONTINUOUS WELDING DULY OBSERVING R&D GUIDELINES.
5. EXISTING FENCE SHALL BE SHIFTED TO OUTER BOUNDARY BY MAINTAINING MINIMUM DISTANCE OF 1.5 MTR FROM THE EARTHMAT PHERIPHERY.

— — FENCE SHALL BE AT A MINIMUM DISTANCE OF 1.5 METERS AWAY FROM THE PERIPHERY OF THE STATION EARTHMAT

• 25 MM DIA M.S. ROUND RODS OF LENGTH ONE METER TO BE DRIVEN AS SHOWN

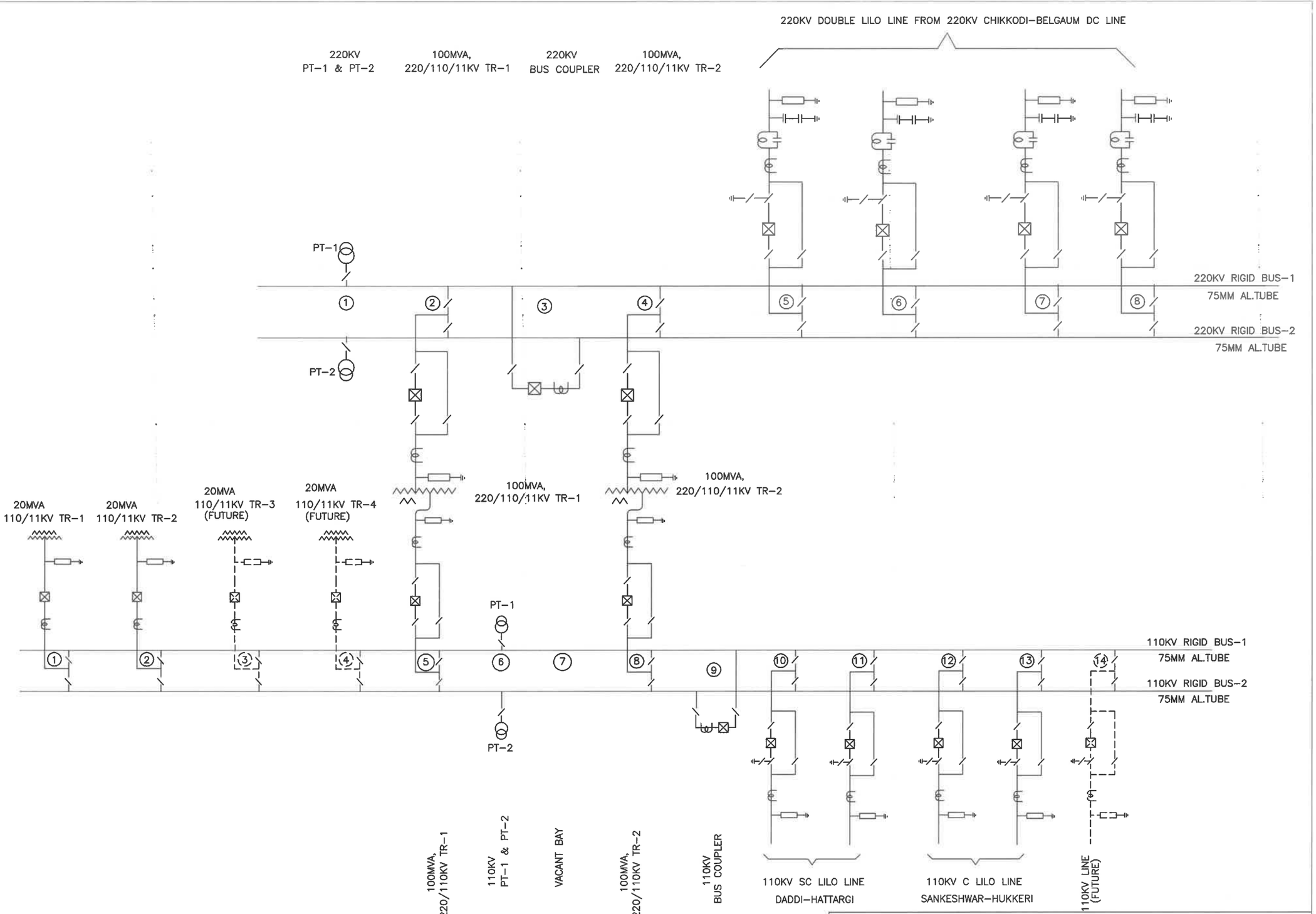
● ADDITIONAL C.I.PIPE ELECTRODES PROPOSED (MIN 5.5 MTR SPACING SHALL BE MAINTAINED BETWEEN ANY TWO ELECTRODES)

R & D CENTRE, K P T C L		
DRG NO. SEE/R&D/EEE/KCO-116/F-83(1) Dtd. 12-4-2021		
17/4/21	17/4/21	17/4
AEEE	EEE	SEE

17/04/2021

5. 220/110/11 kV Hattaragi Substation

Aeques

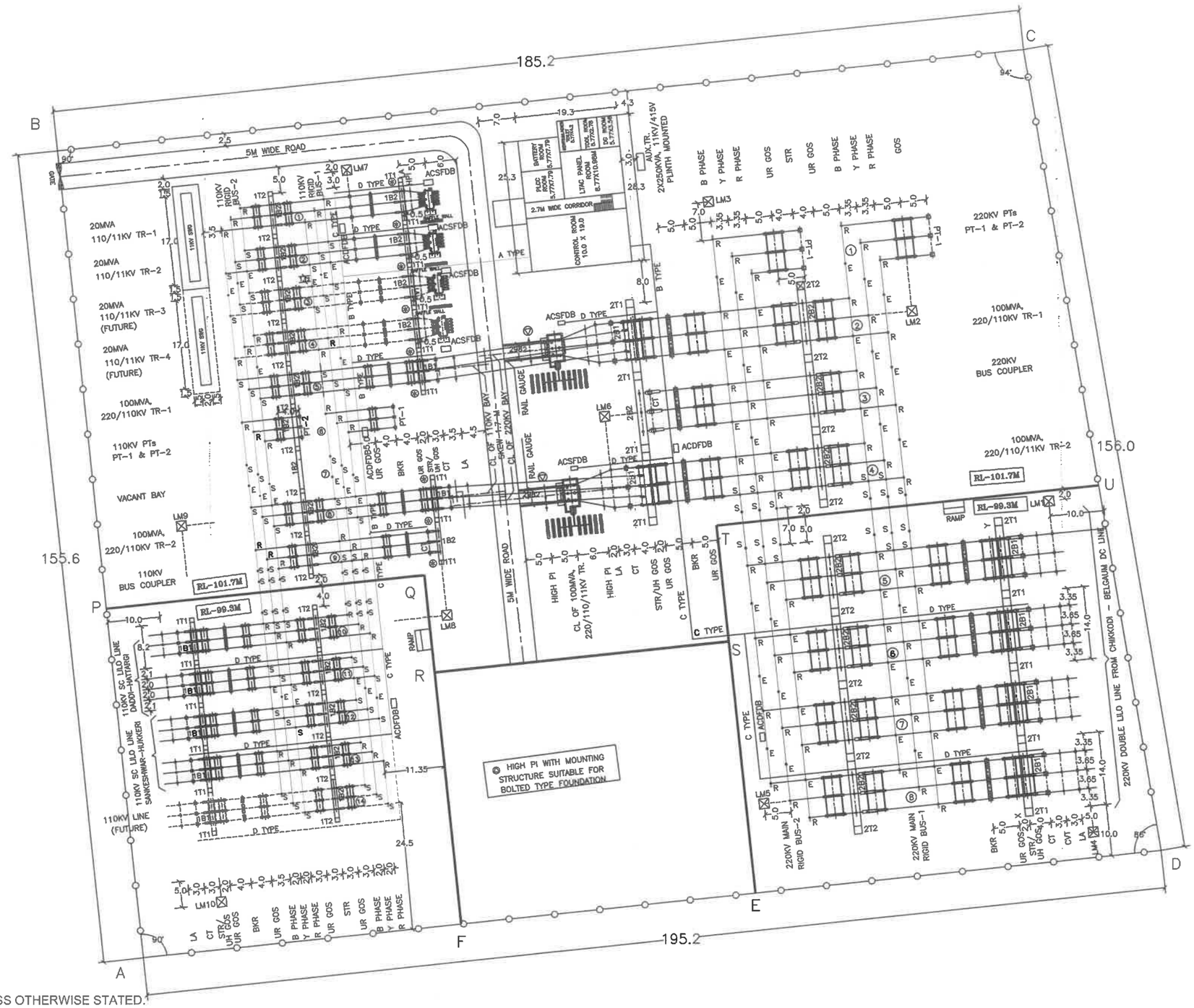


KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

SINGLE LINE DIAGRAM OF 220/110/11KV SUB–STATION IN THE PREMISES OF M/S AEQUS SEZ PVT. LTD AT HATTARAGI VILLAGE, HUKKERI TALUK, BELAGAVI DISTRICT.

DRG. NO.KPTCL/TECH/SS–220/AEQUS–1–R1	DATED:–14.01.2019	SCALE :– N.T.S

A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED



NOTES:

1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
2. RAIL TRACKS ARE PROPOSED FOR MOVEMENT OF 220/110KV TRANSFORMERS FROM BED TO EXISTING ROAD.
3. FOR BILL OF MATERIALS OF EQUIPMENTS/ STATION STRUCTURES AND MOUNTING STRUCTURES REFER ANNEXURE - SCHEDULE OF QUANTITIES.
4. OTHER REFERENCE DRAWINGS - a) SINGLE LINE DIAGRAM,b) SITE PLAN, c)CROSS-SECTION.
5. THE TYPICAL LAYOUT IS DEVELOPED FOR THE GENERAL GUIDANCE OF THE BIDDER REGARDING CONCEPT OF THE PROJECT. THE DETAILED DESIGN HAS TO BE FURNISHED BY THE BIDDER.
6. ALLOCATION OF 220KV & 110KV LINE BAYS ARE INDICATIVE ONLY. SAME SHALL BE FINALISED DURING EXECUTION AS PER ORIENTATION OF LINES

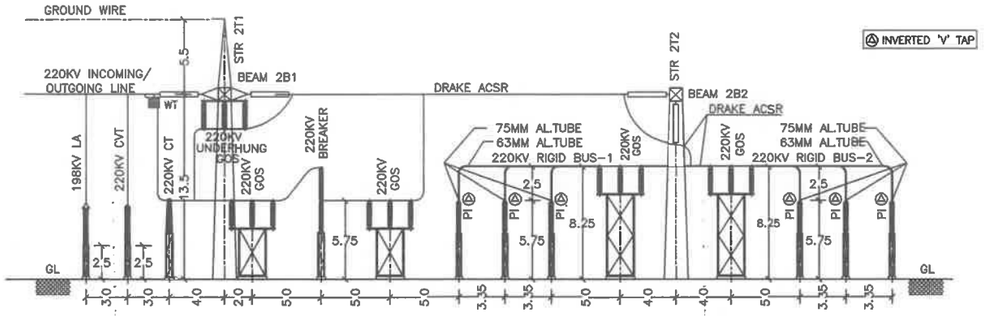
KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

DETAILED LAYOUT PLAN OF PROPOSED 220/110/11KV SUB STATION IN THE PREMISES OF M/S AEQUS SEZ PVT. LTD AT HATTARGI VILLAGE, HUKKERI TALUK, BELAGAVI DISTRICT.

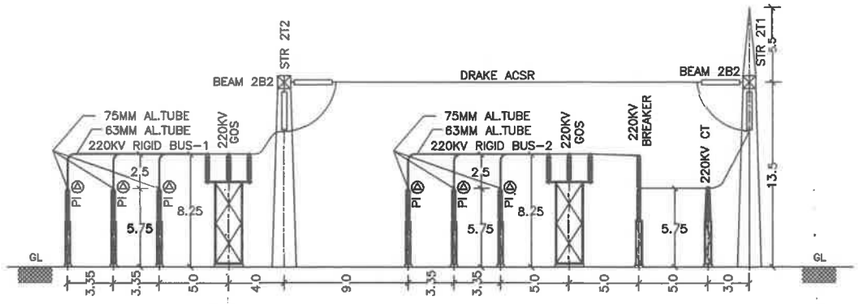
DRG. NO. KPTCL/ TECH/ SS-220/AEQUS-4-R1 DATED:- 14.01.2019 SCALE :- N.T.S.

NOTE:-
ALL DIMENSIONS ARE IN METRES.

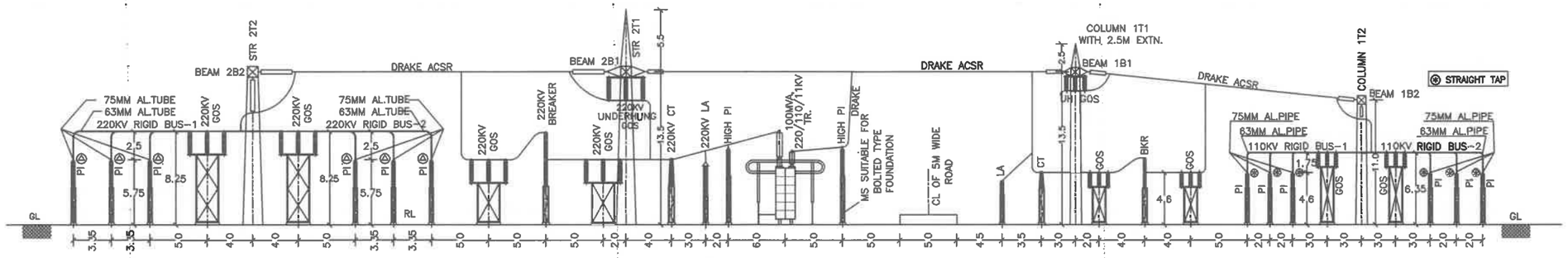
A.E	A.E.E	E.E	S.E.E (TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED



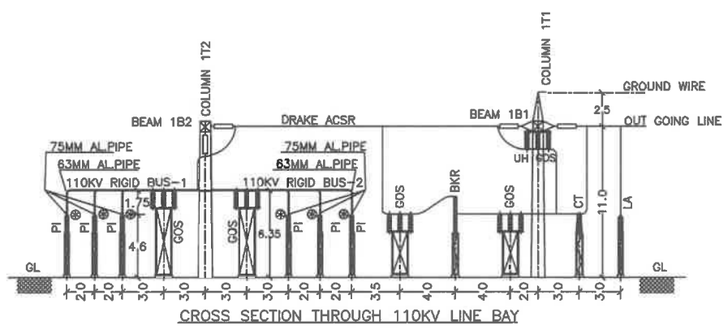
CROSS SECTION THROUGH 220KV LINE BAY



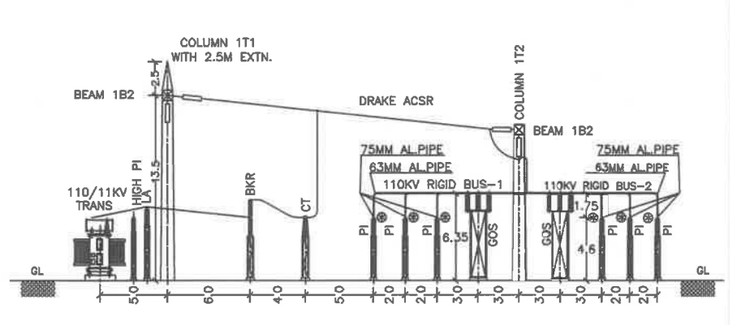
CROSS SECTION THROUGH 220KV BUS COUPLER BAY



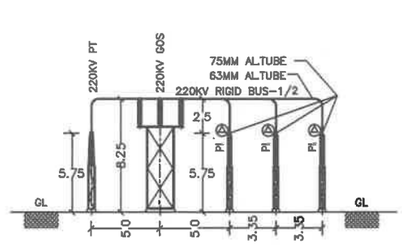
CROSS SECTION THROUGH 100MVA,220/110KV TRANSFORMER BAY



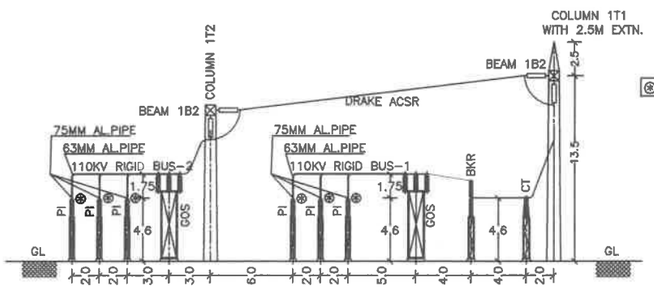
CROSS SECTION THROUGH 110KV LINE BAY



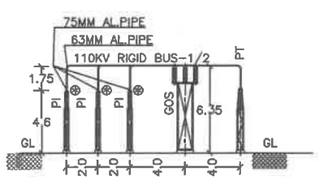
CROSS SECTION THROUGH 110/11KV TRANSFORMER BAY



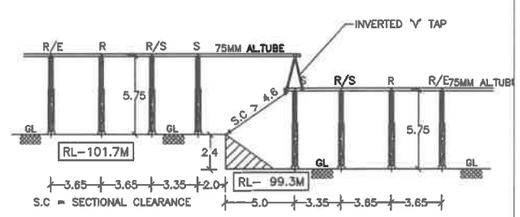
CROSS SECTION THROUGH 220KV PT BAY



CROSS SECTION THROUGH BUS COUPLER BAY

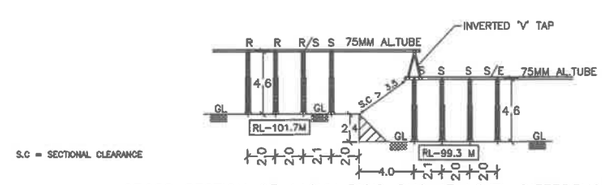


CROSS SECTION THROUGH 110KV PT BAY (PT-1 / PT-2)



CROSS SECTION OF 220KV RIGID BUS AT LEVEL DIFFERENCE POINT BETWEEN BAY NO.4 & 5

NOTE:-
ALL DIMENSIONS ARE IN METRES.



CROSS SECTION OF 110KV RIGID BUS AT LEVEL DIFFERENCE POINT BETWEEN BAY NO.9 & 10

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

CROSS SECTION THROUGH VARIOUS 220KV & 110KV BAYS AT 220/110KV STATION IN THE PREMISES OF M/S AEQUS SEZ PVT. LTD AT HATTARGI VILLAGE, HUKKERI TALUK, BELAGAVI DISTRICT.

DRG. NO. KPTCL/SS-220/AEQUS-5-R1			DATE:-14.01.2019	SCALE:- N.T.S
A.E	A.E.E	E.E	S.E (TECH)	C.E.E (P&C)
DRN	CHD	SUB	REC	APPROVED

EARTHMAT FOR THE PROPOSED 220/110/11 KV STATION @ PREMISES OF M/S AEQUS PVT. LTD. AT HATTARGI IN HUKKERI TALUK,BELAGAVI DISTRICT.

IMPORTANT

* THE NO OF CAST IRON PIPE ELECTRODES SHALL BE PROVIDED AS PER GUIDELINES (ITEM 2, 4, 5 & 12 OF GUIDELINES)

* BEFORE EXECUTION PLEASE CAREFULLY GO THROUGH THE ENCLOSED GUIDELINES *

BTP

* NOT TO SCALE

* ALL DIMENSIONS ARE IN METER

SALIENT DESIGN FEATURES

AREA COVERED BY EARTHMAT IN SQ MTR	37843
DEPTH OF BURIAL OF EARTHMAT IN MTR	0.9
SPACING BETWEEN MAT CONDUCTOR (M.S. FLAT) IN MTR	3
SIZE OF EARTHMAT CONDUCTOR (M.S.FLAT) IN MM	75 X 12 MM

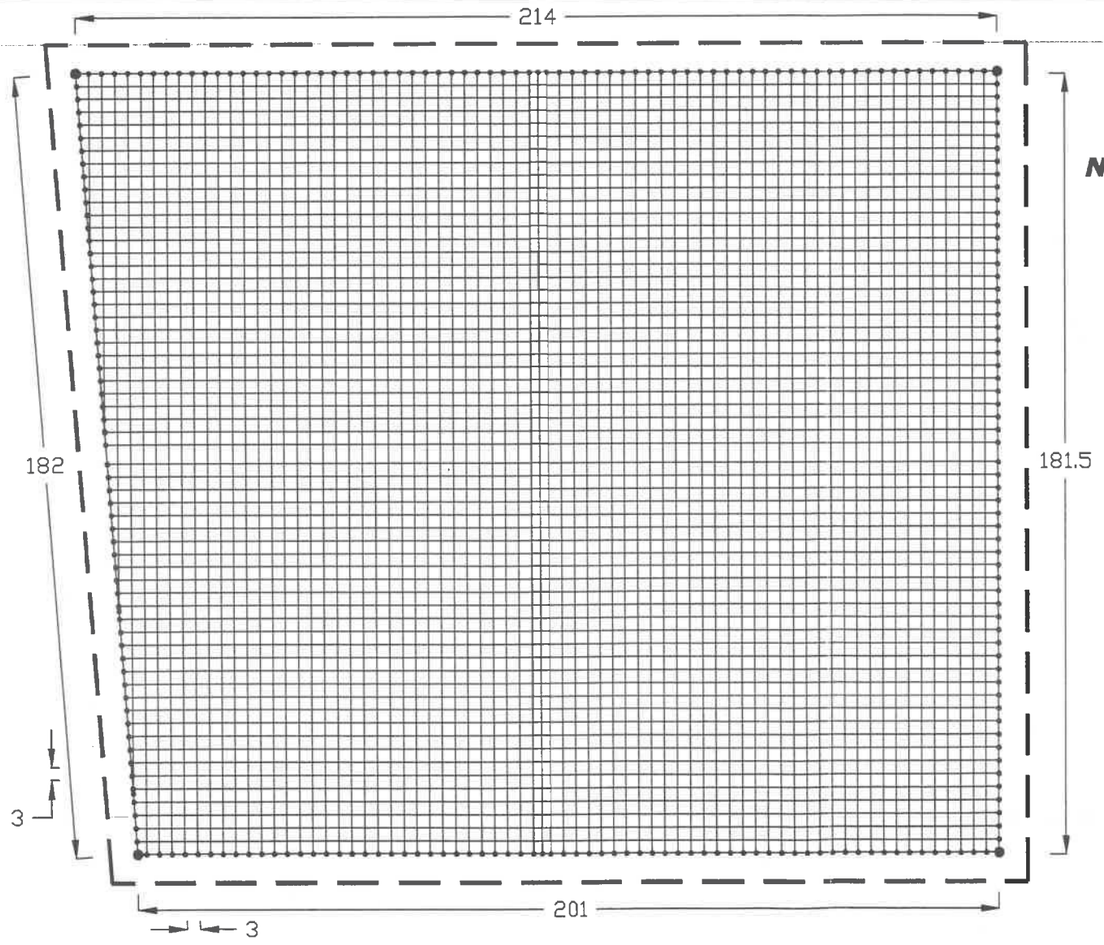
SPREADING OF GRANITE METAL JELLY OF SIZE 20/25 MM TO A HEIGHT OF 100 MM OVER THE ENTIRE EARTH MAT AREA.

BILL OF MATERIALS (APPROXIMATE QUANTITY) FOR EARTHMAT FORMATION & FENCING.

REF: 1) CEE(P&C)/SET/EET/AEE-4/KCO-106/100713/18-19/13980-87 dated: 26.07.2018 of CEE, P&C.

2) The Layout Drawing No.: KPTCL/TECH/SS-220/AEQUS-3&4 dated: 11.07.2018 of CEE, P&C.

1.Excavation,formation,refilling	17390	Cmtr.
2.Material for formation of earthmat as per specification		
a)M.S.Flat 75 X 12 MM	26021	Mtr.
b)MS Round rods 25 mm dia,1.05 Mt. long	262	No.
c)G.I.Flats 75 X 12 MM for earth connection	6700	Mtr.
d)Cast iron pipe electrodes of 100 mm Id,13 mm thick,2.75 mtr.long	138	No.
e)Spreading of Granite metal jelly of size 20/25 mm size to a height of 100 mm	3784	Cmtr.
f) Deep bore electrodes (MS rods) of 40mm dia, 25m long	23	No.



NOTE: 1) Designed by considering fault current for design as 40kA i.e., 220kV class Circuit breaker rupturing capacity and for total area of 37,843 sq.mts as per the block level drawing approved by CEE, P&C.

2) Deep Bore electrodes of 40mm dia, 25m length, 23 nos. shall be provided at suitable locations within the earthmat by maintaining distance of 50m between any two electrodes. drawing approved by CEE, P&C.

3) The detailed BOM is enclosed for reference.

— — FENCE SHALL BE AT A MINIMUM DISTANCE OF 1.5 METERS AWAY FROM THE PERIPHERY OF THE STATION EARTHMAT

• 25 MM DIA M.S. ROUND RODS OF LENGTH ONE METER TO BE DRIVEN AS SHOWN

● ADDITIONAL C.I.PIPE ELECTRODES PROPOSED (REF.ENCLOSED SKETCH)

R & D CENTRE, K P T C L		
DRG NO. SEE/R&D/EEE/KCO-126/F-69(16) Dtd. 4-8-2018		
S. Ameeha 4/8/18	Suttiaj M.H	Suttiaj M.H
I/C AEEE	I/C EEE	I/C SEE