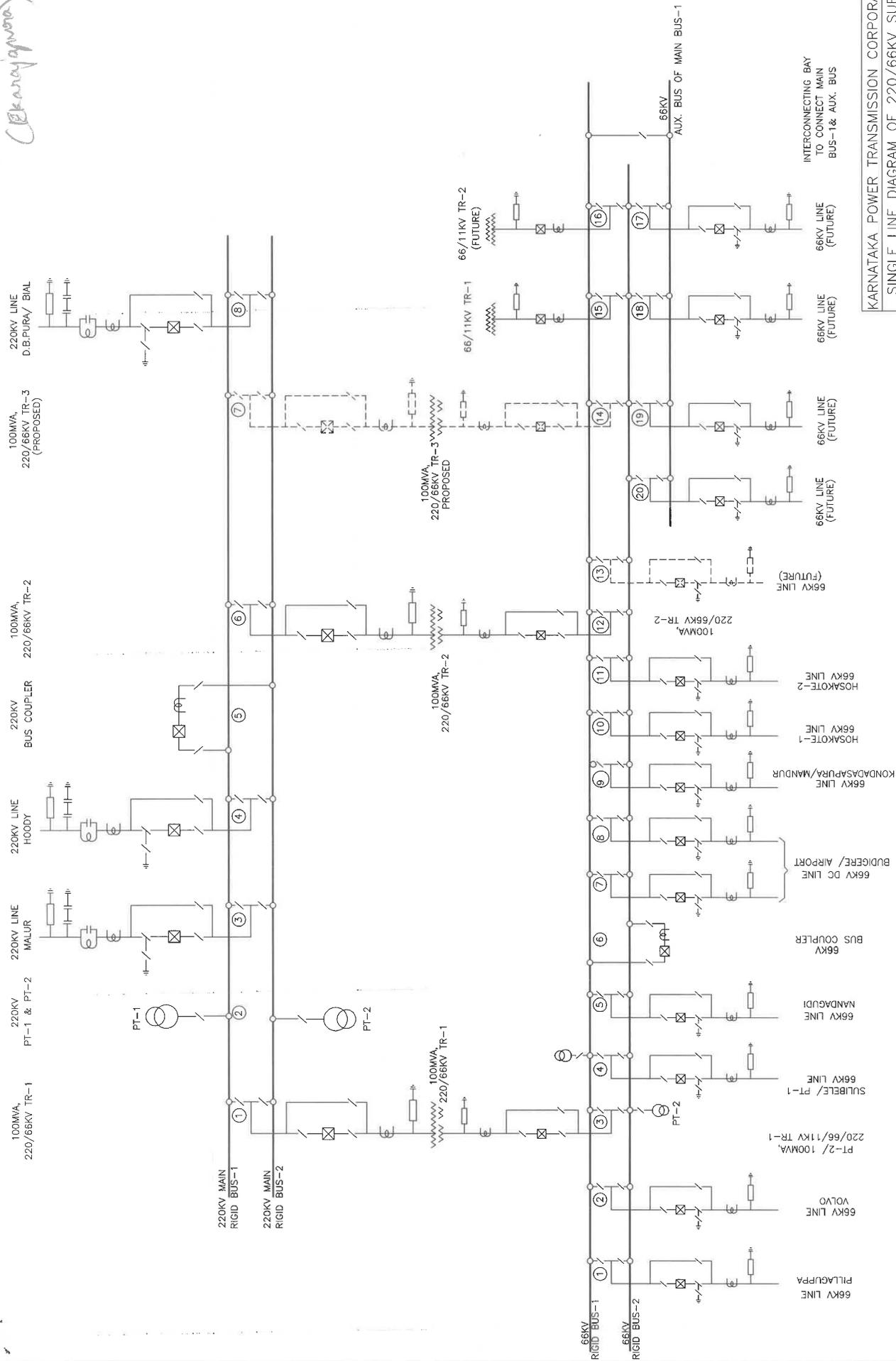
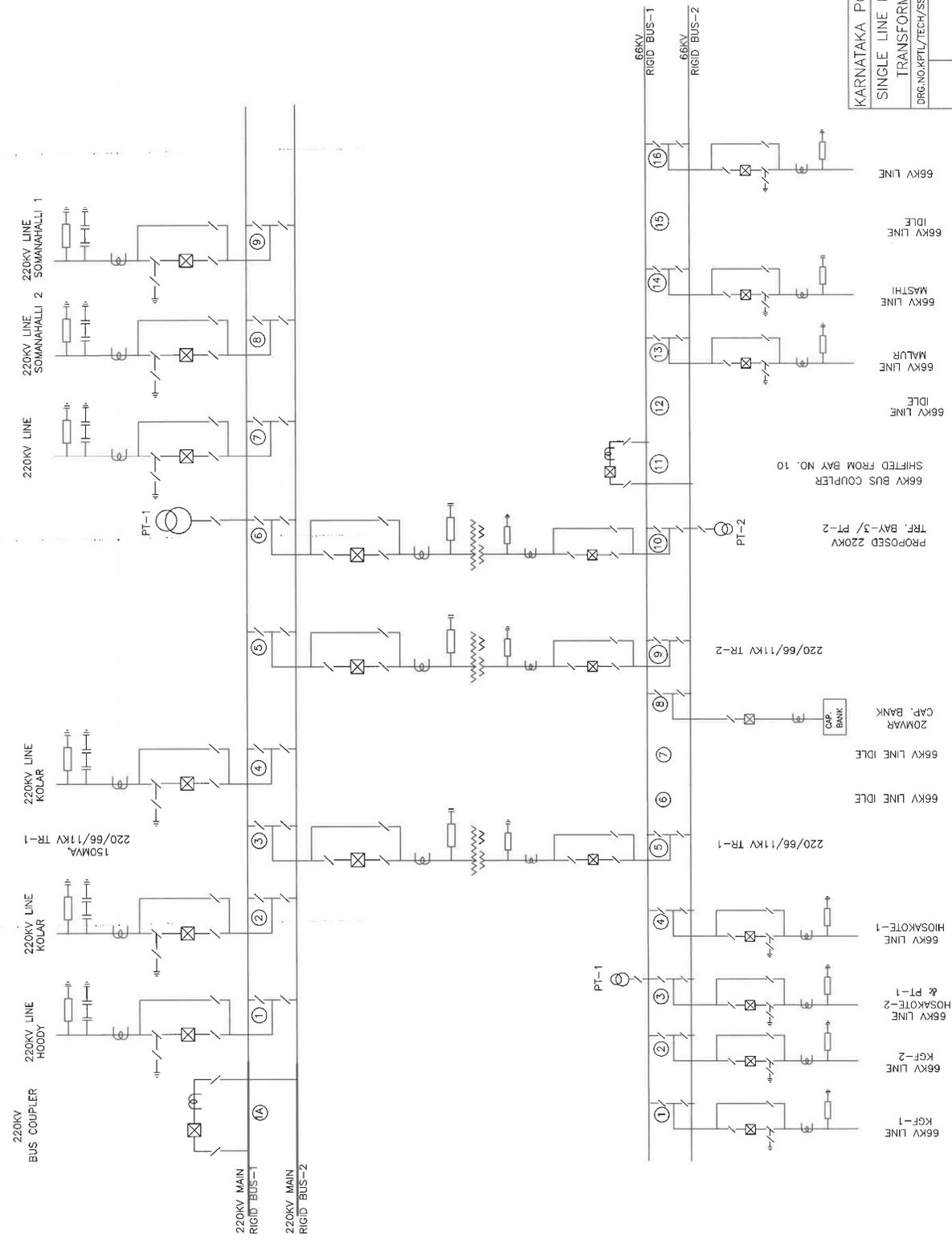


220KV Hosakote
(Karnataka)

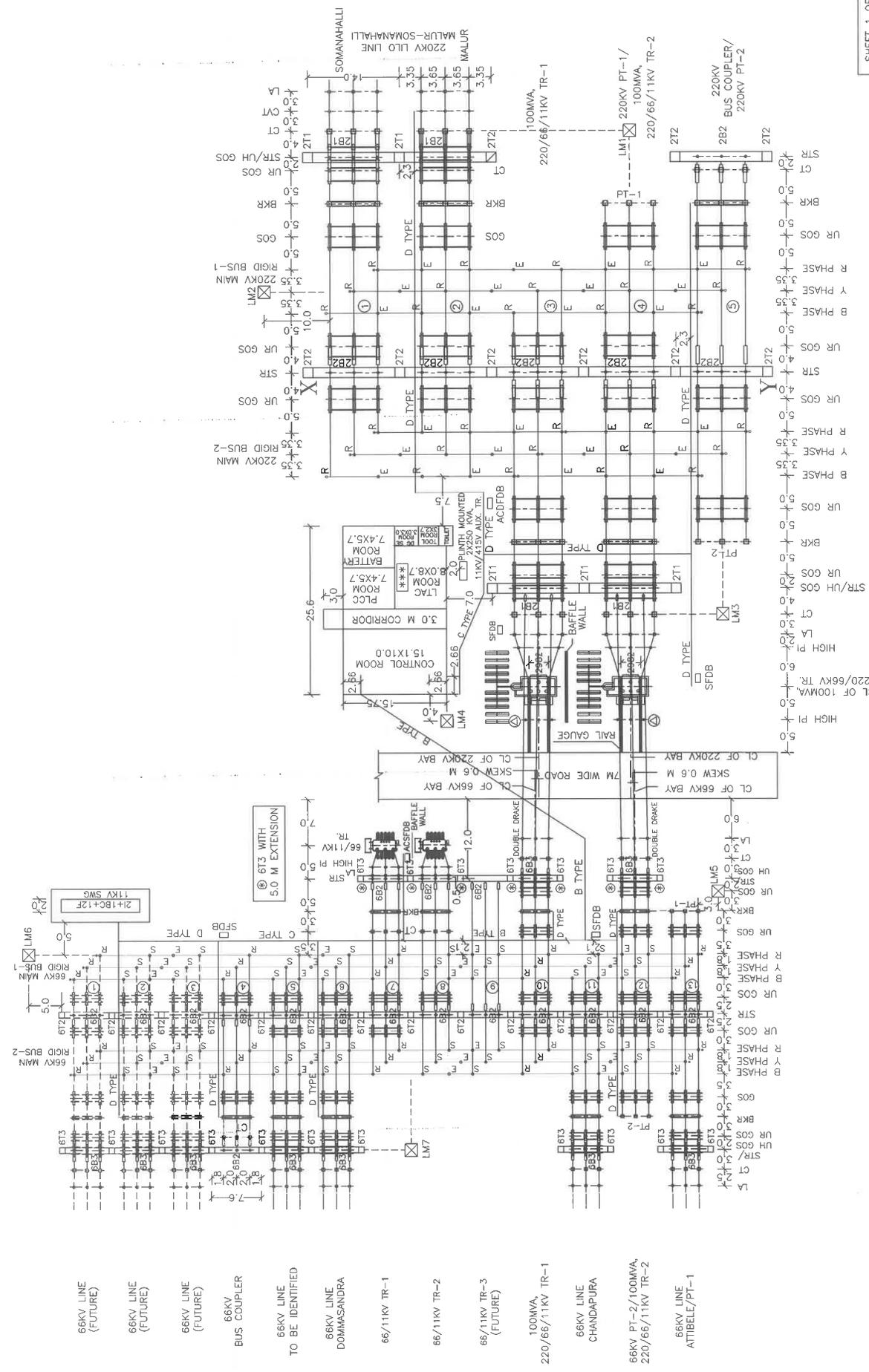


KARNATAKA POWER TRANSMISSION CORPORATION LIMITED			
SINGLE LINE DIAGRAM OF 220/66KV SUB STATION			
AT HOSKOTE			
DRG.NO.KPTL/TECH/SS-220/HKT-1/R2 DATE:-20.04.2017 SCALE :- N.T.S			
DRN	A.E.E	S.E.E (TECH)	C.E.E (P&C)
CHD	SUB	REC	APPROVED

220KV Malur



KARNATAKA POWER TRANSMISSION CORPORATION LIMITED					
SINGLE LINE DIAGRAM FOR SPARE 100MVA, 220/66/11KV TRANSFORMER AT EXISTING MALUR SUB-STATION.					
DRG.NO:KPTL/TECH/SS-220/MLR-1	DATED:-05.11.2018	SCALE :-	N.T.S		
A.E	A.E.E	E.F	S.E.E (TECH)	REC	C.E.E (P&C)
DRN	CHD	SUB			APPROVED



SHEET 1 OF 2

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED
 DETAILED LAYOUT PLAN OF PROPOSED 220/66/11KV
 SUB STATION AT SARJAPURA

DRG. NO. KPTCL/ TECH/ SS-220/SSIP-4 DATED:- 25.5.06 SCALE :- N.T.S.
 P.Parvathi A.E.E. E.E. S.E.E. (TECH) C.E.E. (P&C)
 DRN CHD SUB REC APPROVED

④ HIGH PI WITH MOUNTING STR. SUITABLE FOR BOLTED TYPE FOUNDATION

- 66KV LINE (FUTURE)
- 66KV LINE (FUTURE)
- 66KV LINE (FUTURE)
- 66KV BUS COUPLER
- 66KV LINE TO BE IDENTIFIED
- 66KV LINE DOMMASANDRA
- 66/11KV TR-1
- 66/11KV TR-2
- 66/11KV TR-3 (FUTURE)
- 100MVA, 220/66/11KV TR-1
- 66KV LINE CHANDAPURA
- 66KV PT-2/100MVA, 220/66/11KV TR-2
- 66KV LINE ATTIBELE/PT-1

ADDITIONAL EARTHMAT FOR THE EXISTING 220 KV STATION @ MALUR, KOLAR DISTRICT.

IMPORTANT

* 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

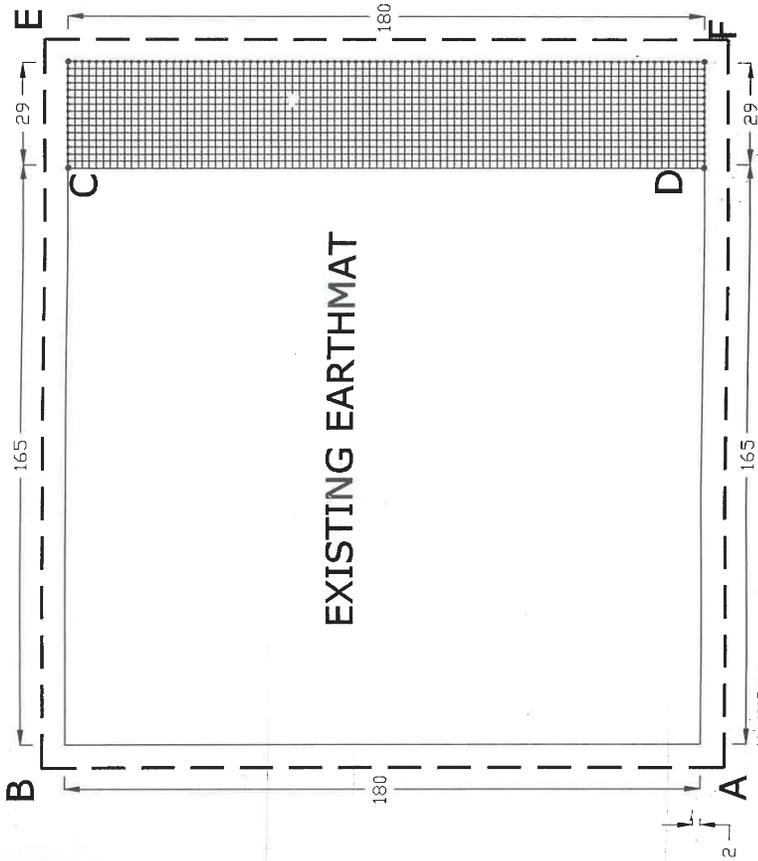
SALIENT DESIGN FEATURES

TOTAL AREA COVERED BY EARTHMAT IN SQ MTR	34920
AREA COVERED BY EXISTING EARTHMAT	29700
AREA COVERED BY ADDITIONAL EARTHMAT IN SQ MTR	5220
DEPTH OF BURIAL OF EARTHMAT IN MTR	0.9
SPACING BETWEEN MAT CONDUCTOR (M.S. FLAT) IN MTR	2
SIZE OF EARTHMAT CONDUCTOR (M.S.FLAT) IN MM	75 X 12 MM

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

1. Excavation, formation, refilling	ERR	
2. Material for formation of earthmat as per specification		
a) M.S. Flat 75 X 12 MM	2560	Cmtr.
b) MS Round rods 25 mm dia, 1.05 Mt. long	5339	Mtr.
c) G.I. Flats 50 X 6 MM for earth connection	119	No.
d) Cast iron pipe electrodes of 100 mm Id, 13 mm thick, 2.75 mtr. long	790	Mtr.
e) Deep bore electrodes of 40mm dia, 6m long	12	No.
f) Spreading of Granite metal jelly of size 20/25 mm size to a height of 100 mm	20	No.
	522	Cmtr.

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



NOTE:

- a) Transformer capacity considered for design: 3x100 MVA, 220/66kV class
- b) ABCDA is the existing earthmat of area 29700sq.mtrs with 50x6mm MS flats at 9m spacing.
- c) CEFDC is the additional earthmat of area 5220sq.mtrs with 75x12mm MS flats at 2m spacing.
- d) Proposed additional earthmat shall be connected to existing earthmat by continuous welding only.
- e) Deep bore electrodes of 40mm dia, 6m long shall be provided at convenient locations in the additional earthmat by maintaining a spacing of 12m between two electrodes.
- f) The existing fence shall be shifted to 1.5m away from proposed additional earthmat and the same shall be connected to fence earthmat (MS flat run along the periphery of the fence)

- 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/F19 (1) Dtd. 5-2-2019

S. Anandha Raju

3 June 2019

R.V.S.

for A E E E

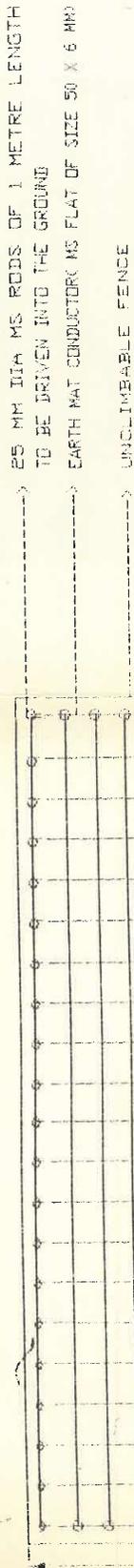
E E E

SEE

EARTH MAT FOR 220/66 KV SUB STATION AT MALUR

ALL DIMENSIONS ARE IN METRE NOT TO SCALE
 IMPORTANT: BEFORE EXECUTION PLEASE REFER SALIENT DESIGN FEATURES ENCLOSED
 THE EARTH MAT SHALL BE INSTALLED 0.9 METRE BELOW GROUND SURFACE
 DESIGNED SPACING BETWEEN PARALLEL CONDUCTORS = 9 METRE
 ALL INTERSECTIONS/OVERLAPS OF MS FLAT CONDUCTOR SHALL BE WELDED PROPERLY AND COVERED WITH M-SEAL PUTTY OR PAINTED WITH AOB PAINT.

DESIGNED VALUE OF GRID RESISTANCE = 0.785 OHM



DESIGN BASED ON DRAWING NO:KER-PFCADR-DGN/SS-220/10-K/25-07-97

3

Malur
 DIRECTOR RESEARCH, KEB
 K R CIRCLE, BANGALORE
 PIN-560 001

S. H. Heccey
 25/10/97
 ASSISTANT EXECUTIVE ENGINEER, RESEARCH

REVISED EARTHMAT FOR THE PROPOSED 220 KV STATION @ HOSKOTE, BAGALORE RURAL 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 *

* ALL DIMENSIONS ARE IN METER

SALIENT DESIGN FEATURES

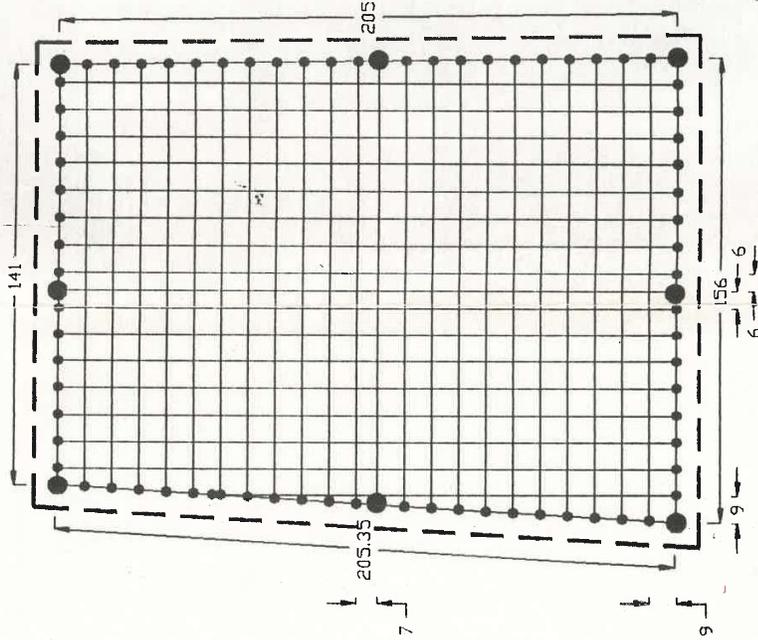
AREA COVERED BY EARTHMAT IN SQ MTR 30443
 DEPTH OF BURIAL OF EARTHMAT IN MTR 0.9
 SPACING BETWEEN MAT CONDUCTOR (M.S. FLAT) IN MTR 9
 SIZE OF EARTHMAT CONDUCTOR (M.S. FLAT) IN MM 50 X 6 MM

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. DRAWING ENCLOSED TO ABOVE REFERENCE)

1. Excavation, formation, refilling 3658 Cmr.
2. Material for formation of earthmat as per specification
- a) M.S. Flat 50 X 6 MM 8210 Mtr.
- b) MS Round rods 25 mm dia, 1.05 Mt. long 74 No.
- c) G.I. Flats 50 X 6 MM for earth connection 9809 Mtr.
- d) Cast iron pipe electrodes of 100 mm dia, 1.3 mm thick, 2.75 mtr. long 101 No.
- e) Spreading of Granite metal jelly of size 20/25 mm size to a height of 100 mm Equip. Bays only



- 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)

REVISION-1 Dtd. 8-10-2007	SUPERCEDES EARLIER DESIGN SENT VIDE LETTER NO SEE/R&D/F-(1)810-13/DTD:06-05-2006
R & D CENTRE, K P T C L	
DRG NO. SEE/R&D/F4 (1) Dtd. 8-10-2007	
AEE	EEE
SEE	SEE

EARTHMAT FOR THE PROPOSED 220 KV STATION @ SARJAPURA, BANGALORE (RURAL) 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 *

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

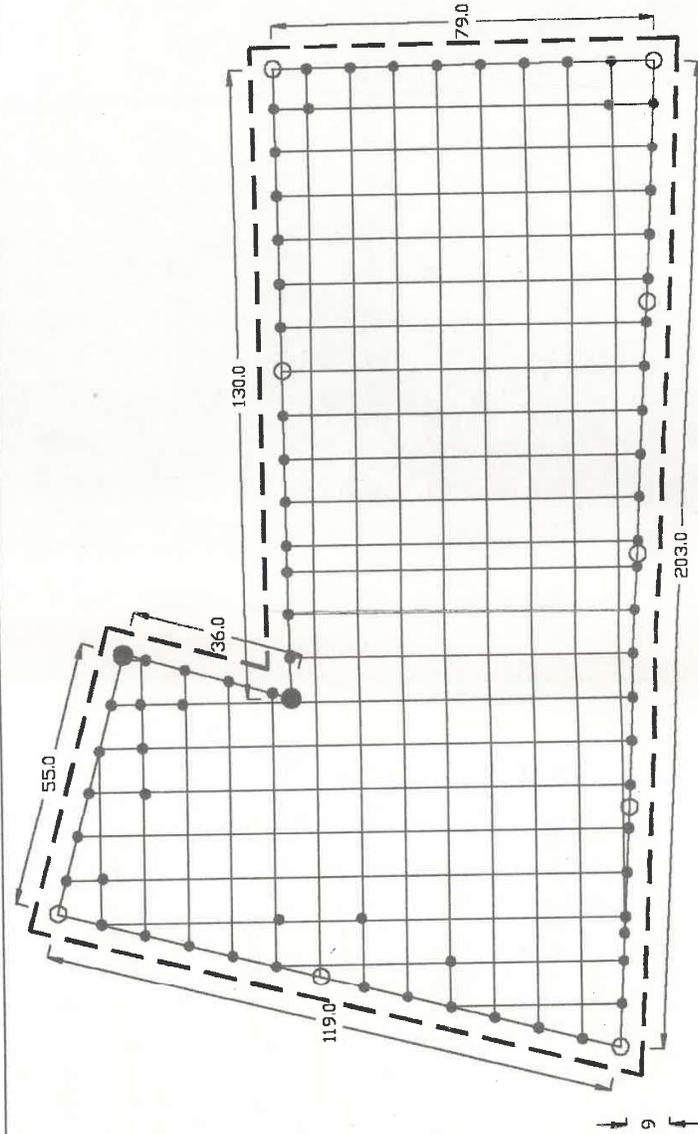
(AS PER THE LAYOUT DRAWING NO.KPTCL/TECH/SS-220/S-3/25-5-06)

	2131	4782	74	7200	90	1543	9
	Centr.	Mtr.	No.	Mtr.	No.	Centr.	No.
1. Excavation, formation, refilling							
2. Material for formation of earthmat as per specification							
a) M.S. Flat 50 X 8 MM							
b) MS Round rods 25 mm dia, 1.05 Mt. long							
c) G.I. Flats 50 X 8 MM for earth connection							
d) Cast iron pipe electrodes of 100 mm Id, 13 mm thick, 2.75 mtr. long							
e) Spreading of Granite metal jelly of size 20/25 mm size to a height of 100 mm							
f) 40mm dia, 10Mtrs long M.S. Round Rods as Deepbore Electrodes.							

SALIENT DESIGN FEATURES

AREA COVERED BY EARTHMAT IN SQ MTR 16430
 DEPTH OF BURIAL OF EARTHMAT IN MTR 0.9
 SPACING BETWEEN MAT CONDUCTOR (M.S. FLAT) IN MTR 9
 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 ENTIRE EARTH MAT AREA.



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)

PROPOSED 40mm DIA, 10 MTRS LONG M.S. ROUND RODS AS DEEPBORE ELECTRODE WITH BENTONITE TREATMENT.

R & D CENTRE, K P T C L
 DRG NO. SEE/RND/F9 (8) Dtd. 13-6-2006

Chaitanya
Sanjay K. D. N.

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o/c