

NOTE:

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

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED				
SINGLE LINE DIAGRAM OF 220/110/11KV SUB-STATION AT BYADAGI, RANEBENNUR TALUK, HAVERI DISTRICT.				
DRG. NO. KPTCL/TECH/SS-220/BYD-1-R1	DATE: 03.12.2024	SCALE: 1: N.T.S		
AE DRN	A.EE CHD	EE SUB	SEE (TECH) REC	C.EE (PRO) APPROVED

NOTES:-

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. ROAD BUS IS PROPOSED FOR 220KV & 110KV MAIN DOUBLE BUS.
3. RAIL TRACKS ARE PROPOSED FOR MOVEMENT OF 220/110/11KV TRANSFORMERS ON BED IN BOTH AXES.
4. a) 220KV & 110KV YARD WITH BOUNDARY 'ABPCDEGA' SHALL BE MAINTAINED AT TWO DIFFERENT LEVELS. THE RL, FILL AND CUTTING QUANTITIES SHALL BE AS FOLLOWS.

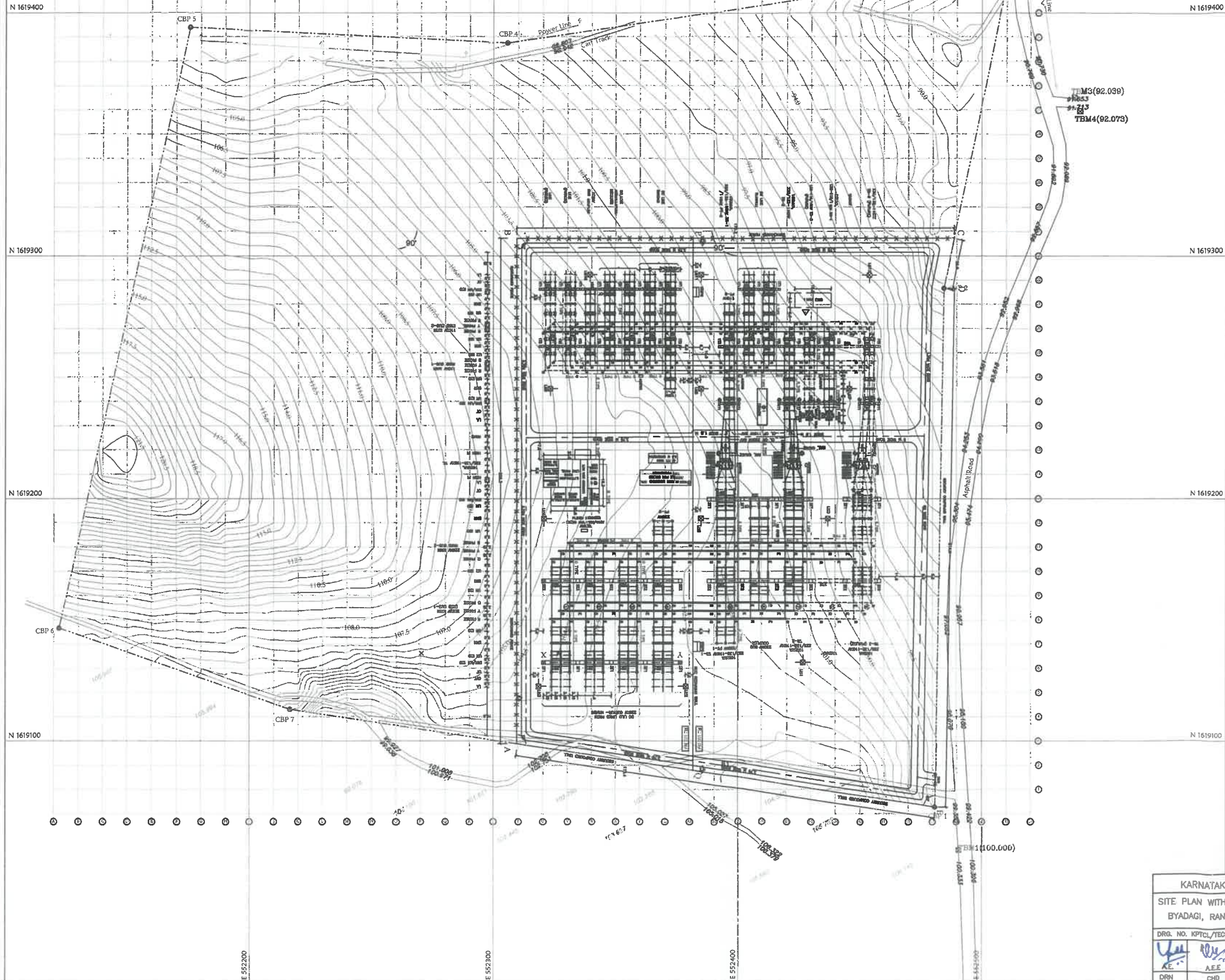
BOUNDARY	RL (M)	CUTTING (CU.M)	FILLING (CU.M)
PORTION OF 220KV YARD, 110KV & 33KV TRANSFORMER & PORTION OF 110KV YARD	100.0	10000.81	31717.8
PORTION OF 220KV & 110KV YARD - 220KV LINE & 110KV LINE	102.8	14709.7	2860.7

- a) R.O.C. RETAINING WALL ALONG THE LINE OF LEVEL DIFFERENCE '100'.
- b) SECURITY COMPOUND OVER R.O.C. RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE 'DEGA'.
- c) SWITCHYARD FENCING OVER R.O.C. RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE 'ABPC'.
- d) PERIMETER COMPOUND SHALL BE PROVIDED ALONG THE BOUNDARY LINE A, CBP7, CBP6, CBP5, CBP4, CBP3, AND C.
- e) TOW/RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE WHEREVER REQUIRED.
- f) APPROACH ROAD SHALL BE PROVIDED WITH SUITABLE GRADIENT.

5. FOR DETAILS OF BOUNDARY DIMENSIONS & CO ORDINATES. REFER DRG. TOPOGRAPHICAL SURVEY WITH BLOCK LEVELS.
6. CONTROL ROOM OF SIZE 10.3 X 21/20M OF IS PROPOSED FOR THIS STATION.
7. TO FIX EXACT LOCATION OF STATION YARD, FIRST FIX THE 220KV STRUCTURE LINE 'X-Y' WITH CO ORDINATES OF POINTS GIVEN BELOW.

POINTS	S-N	W-E
X	1619132.4	552350.3
Y	1619132.4	552376.3

- a) FOR BILL OF MATERIALS OF EQUIPMENTS/ STATION STRUCTURE/ MOUNTING STRUCTURE REFER ANNEXURE- SCHEDULE OF REQUIREMENT.
- b) LIGHTING/ LIGHTING MAST (LM) ARE PROPOSED FOR ILLUMINATION OF STATION YARD & LIGHTNING PROTECTION. ADDITIONAL LIGHTING MASTS MAY BE PROVIDED FOR SUFFICIENT ILLUMINATION/ LIGHTNING PROTECTION (DSCP) OF THE STATION YARD, IF NECESSARY.



POINTS	EASTING	NORTHING
1	552480.998	1619072.751
2	552484.669	1619286.720
3	552511.269	1619418.053
4	552305.550	1619387.331
5	552175.568	1619393.861
6	552122.247	1619146.577
7	552216.546	1619113.017

POINTS	DISTANCE
CBP-1 TO CBP-2	(214.0)(702'1")
CBP-2 TO CBP-3	(134.0)(439'7")
CBP-3 TO CBP-4	(208.0)(682'4")
CBP-4 TO CBP-5	(130.15)(427'0")
CBP-5 TO CBP-6	(252.97)(829'11")
CBP-6 TO CBP-7	(100.09)(328'5")
CBP-7 TO CBP-1	(267.50)(877'7")

- NOTE:-
- 1) ALL DIMENSIONS AND LEVELS ARE IN METRES.
 - 2) A BENCHMARK TBM1 HAS BEEN ESTABLISHED ON TOP OF THE ROAD EDGE AND ASSIGNING IT TO A VALUE OF +100.000M ARBITRARILY.

CLIENT	M & KARNATAKA POWER TRANSMISSION LIMITED
PROJECT	Contour/Block level Survey of proposed Land For 0/110KV RS at Byadagi in Byadagi Taluk, Haveri District.
SURVEY CONSULTANTS	Karnataka Surveyors (Engineers & Contractors) #492, 1st Floor, 12th 'C' Cross, 16th Main, Padmanabhanagar, Bengaluru 560 070. Mob.No.9845545992,7899258380
DATE DRAWN	12/12/2023
CHECKED	JG
APPROVED	TRG
DRG. NO.	00
REV 02	00
SEASON	NOV/2023
ACTUAL SCALE	1:1000
PRINT SCALE	1:500
DRAWN	DRAWING No.
REV - 00	

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED			
SITE PLAN WITH BLOCK LEVEL OF 220/132-110KV SUB STATION AT BYADAGI, RANEBENNUR TALUK, HAVERI DISTRICT.			
DRG. NO. KPTCL/TECH/SS-220/BYD0-2-R1	DATE:-23.05.2024	SCALE :- N.T.S.	
DRN	CHD	SUB	REC
AE	AE	BT	SEE (TECH)
			C.E.E (P&I)
			APPROVED

NOTES:-

1. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE STATED.
2. ROAD BUS IS PROPOSED FOR 220KV & 110KV MAIN DOUBLE BUS.
3. RAIL TRACKS ARE PROPOSED FOR MOVEMENT OF 220/110/11KV TRANSFORMERS ON BED IN BOTH AXES.
4. a) 220KV & 110KV YARD WITH BOUNDARY 'ABPQDA' SHALL BE MAINTAINED AT TWO DIFFERENT LEVELS. THE RL, FGL AND CUTTING & FILLING QUANTITIES SHALL BE AS FOLLOWS.

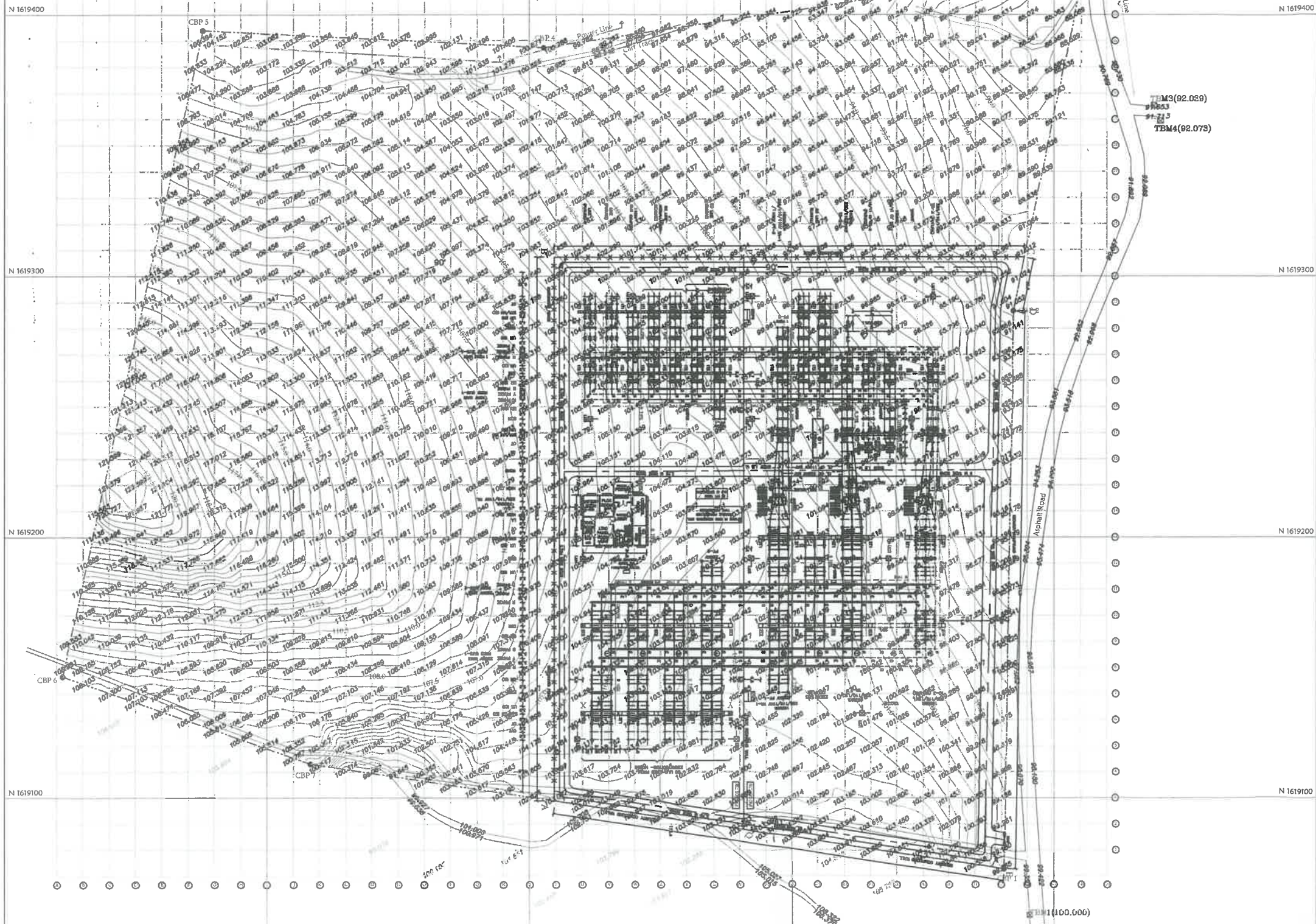
REMARKS	RL (M)	CUTTING (CUM)	FILLING (CUM)
PORTION OF 220KV YARD, 18000A & 220KV TRANSFORMERS & PORTION OF 110KV YARD	100.0	1888.81	31717.8
PORTION OF 220KV & 110KV YARD - 220KV LINE & 110KV LINE	100.8	1473.7	3880.7

- a) R.O.C. RETAINING WALL ALONG THE LINE OF LEVEL DIFFERENCE '10'.
- b) SECURITY COMPOUND OVER R.O.C. RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE 'DEDA'.
- c) SWITCHYARD FENCING OVER R.O.C. RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE 'ABPQ'.
- d) PERIMETRY COMPOUND SHALL BE PROVIDED ALONG THE BOUNDARY LINE A, CBP7, CBP6, CBP5, CBP4, CBP3, AND C.
- e) TOR/RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE WHEREVER REQUIRED.
- f) APPROACH ROAD SHALL BE PROVIDED WITH SUITABLE GRADIENT.

5. FOR DETAILS OF BOUNDARY DIMENSIONS & CO ORDINATES. REFER DRG. TOPOGRAPHICAL SURVEY WITH BLOCK LEVELS.
6. CONTROL ROOM OF SIZE 19.3 X 23/20M OF IS PROPOSED FOR THIS STATION.
7. TO FIX EXACT LOCATION OF STATION YARD, FIRST FIX THE 220KV STRUCTURE LINE 'X-Y' WITH CO ORDINATES OF POINTS GIVEN BELOW @.

POINTS	S-N	W-E
X	1619132.4	552320.3
Y	1619132.4	552376.3

- a) FOR BILL OF MATERIALS OF EQUIPMENTS/ STATION STRUCTURE/ MOUNTING STRUCTURE REFER ANNEXURE- SCHEDULE OF REQUIREMENT.
- b) LIGHTING/ LIGHTING MAST (LM) ARE PROPOSED FOR ILLUMINATION OF STATION YARD & LIGHTING PROTECTION. ADDITIONAL LIGHTING MASTS MAY BE PROVIDED FOR SUFFICIENT ILLUMINATION/ LIGHTING PROTECTION (OSLP) OF THE STATION YARD, IF NECESSARY.



LEGEND:



AREA STATEMENT

AREA WITHIN BOUNDARY POINTS

- = 101183.828 Sqm
- = 1089107.173 Sqft
- = 25.0 Acre 0.0 Guntas
- = 25.0 ACRES
- = 10.118 HECTARES

Total Area = 25.0 Acre 0.0 Guntas

POINTS	EASTING	NORTHING
1	552480.998	1619072.751
2	552484.669	1619286.720
3	552511.269	1619418.053
4	552305.550	1619387.331
5	552175.568	1619393.861
6	552122.247	1619146.577
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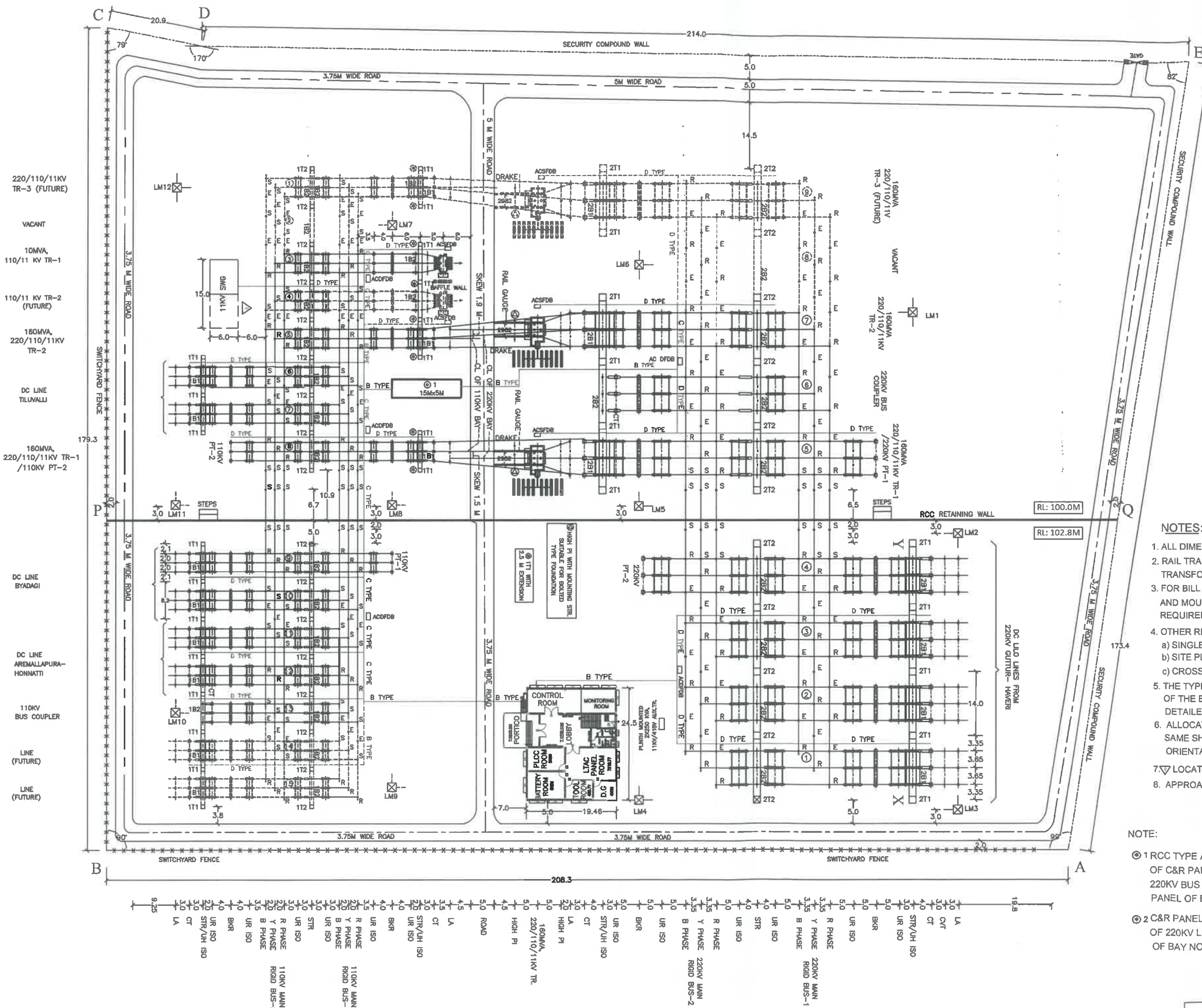
POINTS	DISTANCE
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CBP-7 TO CBP-1	(267.50)(877'7")

NOTE:-

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- 2) A BENCHMARK TBM1 HAS BEEN ESTABLISHED ON TOP OF THE ROAD EDGE AND ASSIGNING IT TO A VALUE OF +100.000M ARBITRARILY.

CLIENT	M - KARNATAKA POWER TRANSMISSIONS LIMITED
PROJECT	Contour/Block level Survey of proposed Land For 220/110KV BS at Byadagi in Byadagi Taluk, Haveri District.
SURVEY CONSULTANTS	Karnataka Surveyors (Engineers & Contractors) #492, 1st Floor, 12th 'C' Cross, 15th Main, Padmanabhanagar, Bengaluru 560 070. Mob.No.9845549992,7899258380
DATE	12/02/2022
SEASON	NOV/2020
ACTUAL SCALE	1:1000
PRINT SCALE	1:500
DRAWN	DRAWING No.
CHECKED	APPROVED
JG	TRG
DRG. NO.	REV 02
00	00
5M	0 5 10 15 20 25M
5M	0 5 10 15 20 25M
DRAWN	DRAWING No.
REV - 00	

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED				
SITE PLAN WITH BLOCK LEVEL OF 220/110/11KV SUB STATION AT BYADAGI, RANEENBUNUR TALUK, HAVERI DISTRICT.				
DRG. NO. KPTCL/TECH/SS-220/BYDG-2-R1	DATE - 03.12.2024	SCALE - N.T.S.		
AE	AE	AE	AE	AE
DRN	CHD	SUB	REC	APPROVED



NOTE:

- ① RCC TYPE AC BAY KIOSK OF SIZE (15MX5M) - FOR ACCOMODATIONS OF C&R PANEL OF 220/110kV TR-1, TR-2 & TR-3 (FUTURE) & RTCC PANEL, 220KV BUS COUPLER, 110/11kV TR-1 & TR-2(F) & RTCC PANELS, LINE PANEL OF BAY NO. ⑥ & ⑦ & 11KV TWIN FEEDER PANEL.
- ② C&R PANEL ROOM OF SIZE(12MX5M) - FOR C&R PANEL AND PLCC PANEL OF 220KV LINE BAYS ①, ②, ③ & ④. 220KV BUS BAR PANEL, 110KV LINE PANELS OF BAY NOS. ⑨ TO ⑮ AND 110KV BUS COUPLER.

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED				
LAYOUT PLAN OF PROPOSED 220/110/11kV SUB-STATION				
AT BYADAGI, RANEBENNUR TALUK, HAVERI DISTRICT.				
DRG. NO. KPTCL/TECH/SS-220/BYDG-4-R1	DATE: 02.12.2024	SCALE :- N.T.S.		
DRN	CHD	SUB	REC	APPROVED

TECHNICAL PARTICULARS

SL.NO.	PARTICULARS	220KV	110KV
1.	BASIC INSULATION LEVEL (KV)	1050	550
2.	MINIMUM CLEARANCES		
	a) BETWEEN PHASES (FOR RIGID BUS)	3.35 M	2.0 M
	b) BETWEEN PHASES (FOR STRUNG BUS)	3.65 M	2.0 M
	c) BETWEEN PHASE TO EARTH (CENTRE LINE OF TOWER)	3.35 M	2.1 M
	d) SECTIONAL CLEARANCE	4.3 M	3.5 M
3.	a) HEIGHT OF CROSS BUS CONDUCTOR	13.5 M	[11 M 13.5 M
	b) BAY WIDTH	14.0 M	8.2 M
	c) HEIGHT OF MAIN BUS	5.75 M	4.6 M
4.	HEIGHT OF CENTRE OF TERMINAL PAD PERTAINING TO VARIOUS EQUIPMENTS		
	a) ISOLATORS ADJACENT TO MAIN BUS	8.25 M	6.35 M
	b) OTHER ISOLATORS AND EQUIPMENTS	5.75 M	4.6 M
5.	MATERIALS OF THE BUS		
	a) MAIN ALUMINIUM TUBE BS 1600 SCH.40	100 MM DIA	100 MM DIA
	b) CROSS BUS		
	i) ALUMINIUM TUBE BS.1600 SCH.40	63 MM DIA	63 MM DIA
	ii) ACSR CONDUCTOR	MOOSE/ TWIN MOOSE	MOOSE/ TWIN MOOSE
6.	POST INSULATORS USED FOR BUS SUPPORTS AS PER IS 5350 PART II & III		
	a) NO.OF UNITS/STACK	2	1
	b) VOLTAGE CLASS	220KV	110KV
	c) HEIGHT OF INSULATOR STACK (MM)	2300	1220
	d) PITCH DIA HOLES AT TOP (MM)	127	127
	e) NO. OF FIXING BOLTS	4	4
7.	a) 11KV, 120KN DISC INSULATORS		
	i) TENSION STRING	16	8
	B) 11KV, 90KN DISC INSULATORS		
	i) SUSPENSION STRING	14	8

8. ROUTE OF PROPOSED CABLE DUCT FOR A,B,C&D TYPES ARE INDICATED IN THE LAYOUT PLAN. FROM MAIN DUCTS ie. A/B/C/D TYPE TO THE RESPECTIVE EQUIPMENTS 'E' TYPE HUME PIPE SHALL BE PROVIDED FOR THE COMBINATION OF CONTROL & POWER CABLE AND 'F' TYPE SHALL BE PROVIDED FOR ONLY CONTROL/ POWER CABLE. REFER TYPES OF CABLE DUCTS DRAWING FOR OTHER DETAILS.

9. OTHER REFERENCE DRAWINGS – a) LAYOUT PLAN
b) SITE PLAN WITH BLOCK LEVELS.
c) CROSS SECTION THROUGH VARIOUS BAYS.

NOTES:—

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- RIGID BUS IS PROPOSED FOR 220KV & 110KV MAIN DOUBLE BUS.
- RAIL TRACKS ARE PROPOSED FOR MOVEMENT OF 220/110/11KV TRANSFORMERS ON BED IN BOTH AXIS.
- a) 220KV & 110KV YARD WITH BOUNDARY 'ABPCDEQA' SHALL BE MAINTAINED AT TWO DIFFERENT LEVELS. THE RL, FGL AND CUTTING & FILLING QUANTITIES SHALL BE AS FOLLOWS.

	BOUNDARY	RL (M)	CUTTING (CU.M)	FILLING (CU.M)
PORTION OF 220KV YARD, 160MVA & 10MVA TRANSFORMERES & PORTION OF 110KV YARD	'PCDEQP'	100.0	19696.61	31717.8
PORTION OF 220KV & 110KV YARD – 220KV LINES & 110KV LINES	'ABPQA'	102.8	14736.7	2860.7

- b) i) RCC RETAINING WALL ALONG THE LINE OF LEVEL DIFFERENCE 'PQ'.
- ii) SECURITY COMPOUND OVER RCC RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE 'CDEQA'.
- iii) SWITCHYARD FENCING OVER RCC RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE 'ABPC'.
- iv) PHERIPHERY COMPOUND SHALL BE PROVIDED ALONG THE BOUNDARY LINE A, CBP7, CBP6, CBP5, CBP4, CBP3, AND C.
- v) TOW/RETAINING WALL SHALL BE PROVIDED ALONG THE BOUNDARY LINE WHEREVER REQUIRED.
- c) APPROACH ROAD SHALL BE PROVIDED WITH SUITABLE GRADIENT.

- FOR DETAILS OF BOUNDARY DIMENSIONS & CO ORDINATES. REFER DRG. TOPOGRAPHICAL SURVEY WITH BLOCK LEVELS.
- CONTROL ROOM OF SIZE 19.3 X 23/20M OF IS PROPOSED FOR THIS STATION.
- TO FIX EXACT LOCATION OF STATION YARD, FIRST FIX THE 220KV STRUCTURE LINE 'X'-'Y' WITH CO ORDINATES OF POINTS GIVEN BELOW (**).

POINTS	S-N	W-E
X	1619132.4	552320.3
Y	1619132.4	552376.3

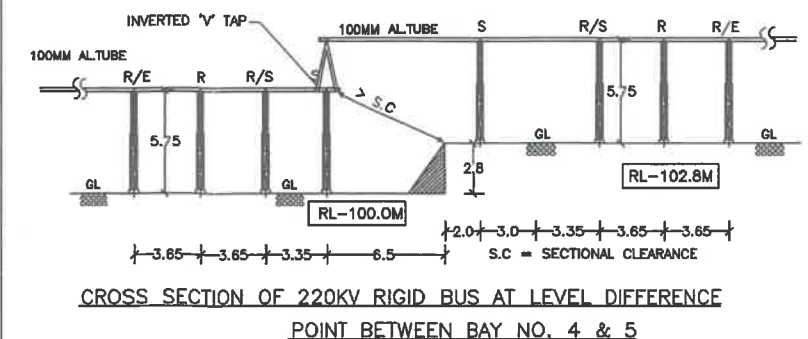
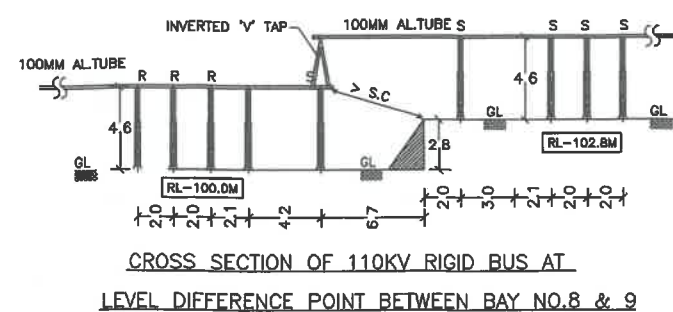
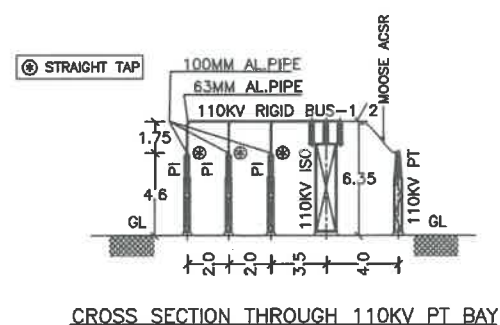
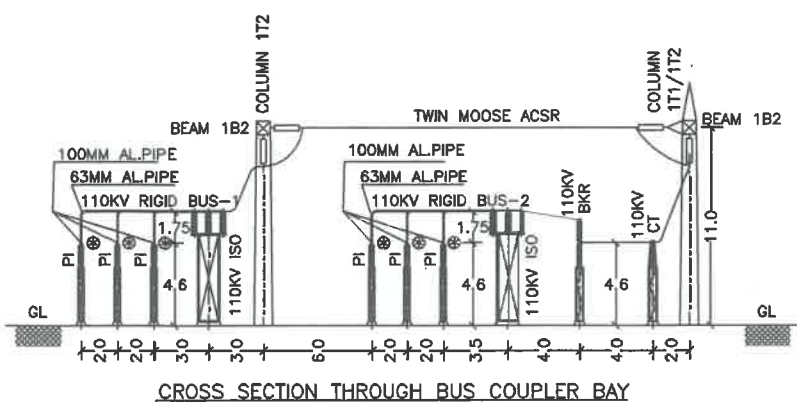
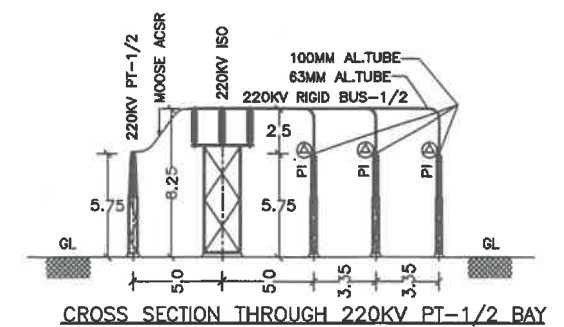
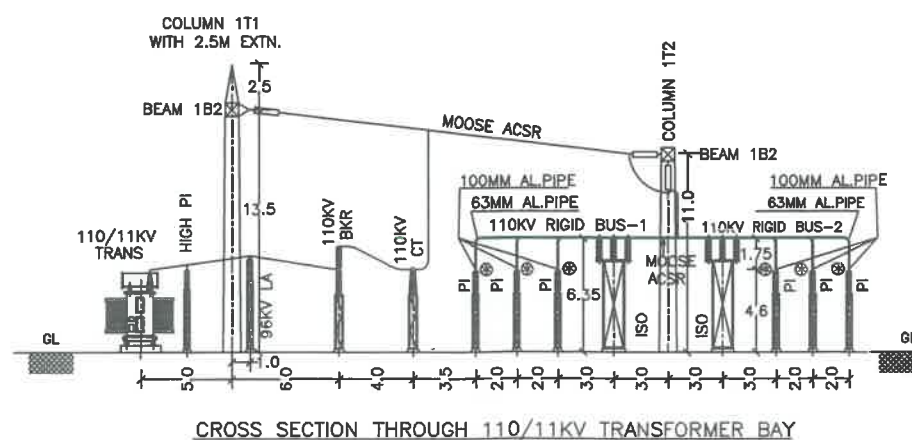
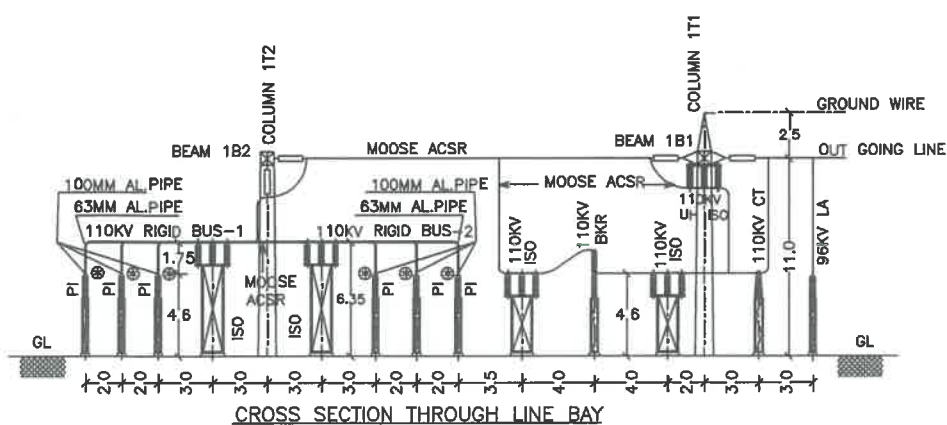
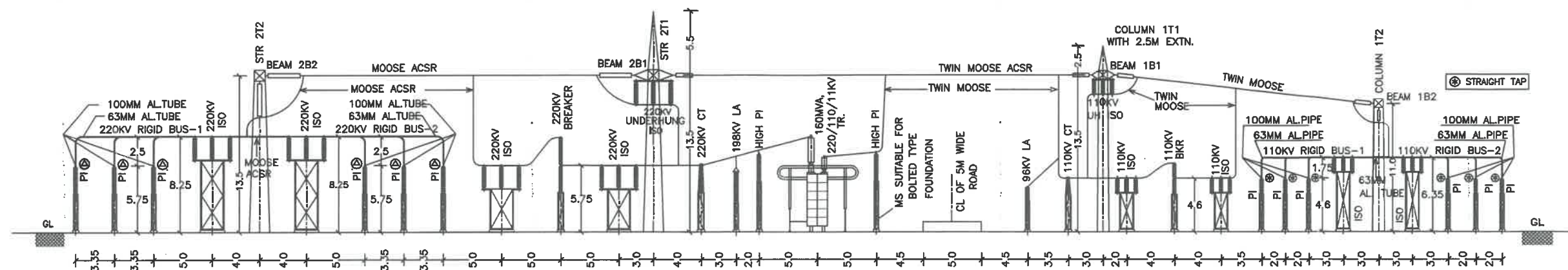
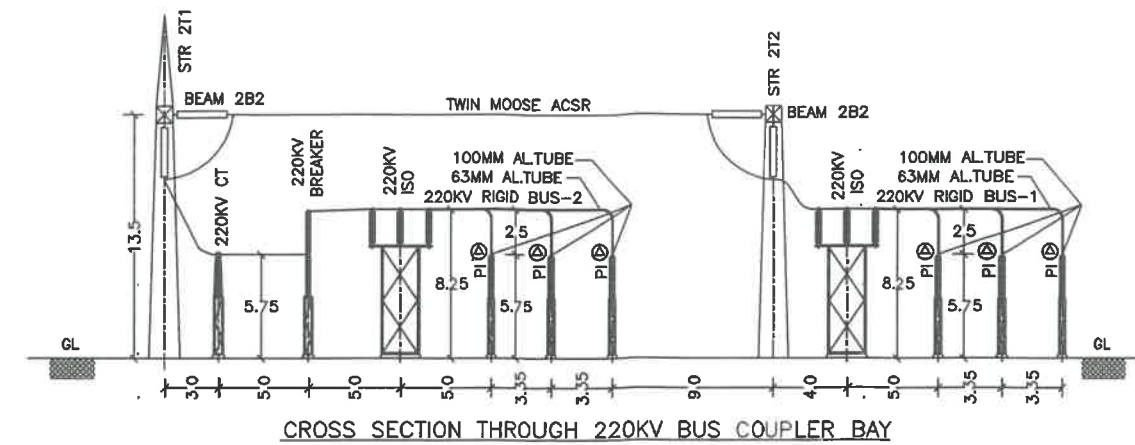
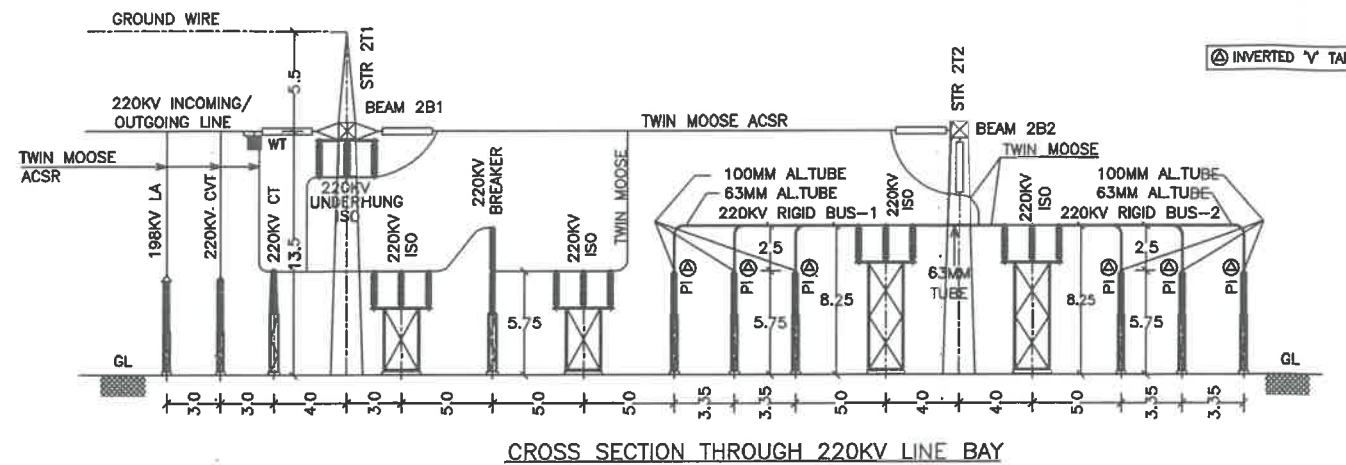
- FOR BILL OF MATERIALS OF EQUIPMENTS/ STATION STRUCTURE/ MOUNTING STRUCTURE REFER ANNEXURE– SCHEDULE OF REQUIREMENT.
- LIGHTING/ LIGHTNING MAST (LM) ARE PROPOSED FOR ILLUMINATION OF STATION YARD & LIGHTNING PROTECTION. ADDITIONAL LIGHTING MASTS MAY BE PROVIDED FOR SUFFICIENT ILLUMINATION/ LIGHTNING PROTECTION (DSLPP) OF THE STATION YARD, IF NECESSARY.

SHEET 2 OF 2

KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

TECHNICAL PARTICULARS FOR PROPOSED 220/110/11KV
SUB-STATION AT BYADAGI, RANEBENNUR TALUK, HAVERI DISTRICT.

DRG. NO. KPTCL/ TECH/ SS-220/BYDG-4-R1	DATE: -03.12.2024	SCALE: - N.T.S
A.E.	A.E.E.	E.E.
DRN	CHD	SUB
	S.E (TECH)	C.E.E (P&C)
	REC	APPROVED



KARNATAKA POWER TRANSMISSION CORPORATION LIMITED

CROSS SECTION THROUGH VARIOUS BAYS AT 220/110/11KV
SUBSTATION BYADAGI, RANEENNUR TALUK, HAVERI DIST.

DRG. NO. KPTCL/TECH/SS-220/BYDG-5-R1

DATE:-03.12.2024

SCALE:- N.T.S

Yund
A.E.
DRN

A.E.E.
CHD

No

07/12

S.E. (TE)
REC

NOTE:-
ALL DIMENSIONS ARE IN METRES