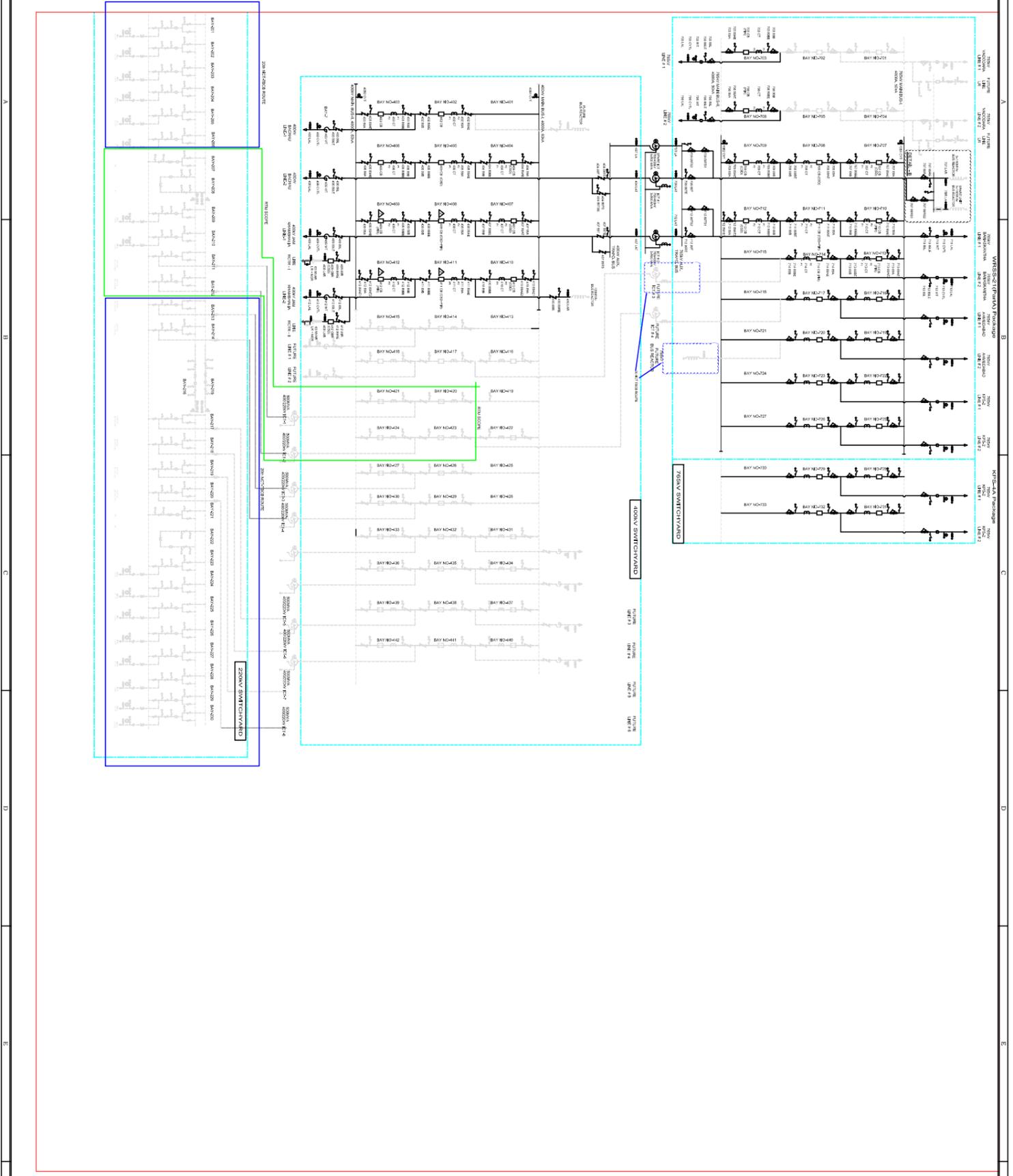


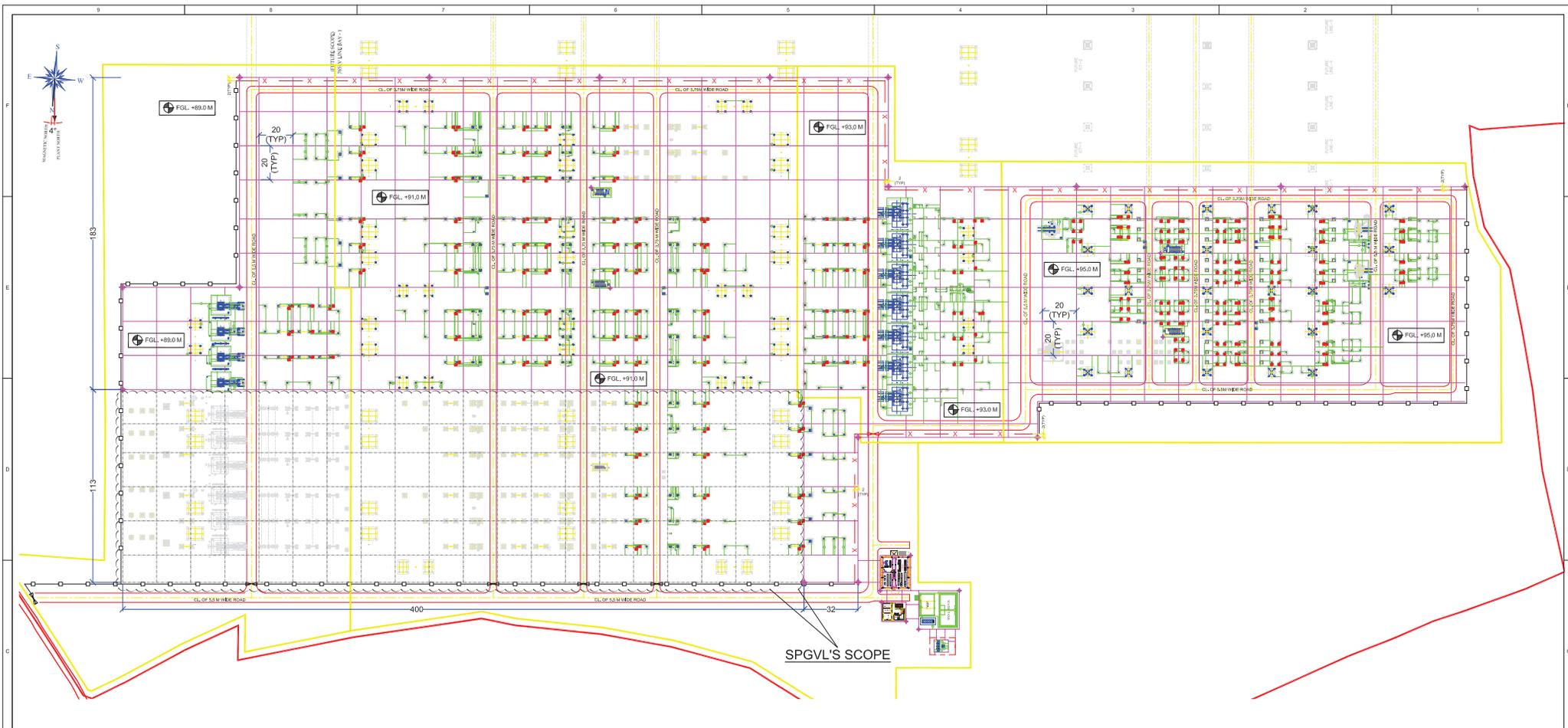
REV/DATE	REVISIONS	APPROVAL ISSUED FOR
CLIENT	WRSS-21(A) Transco Limited (MTL)	DATE
EPC		APPROVED BY
NO. OF		DATE
NO. OF		
SUBSTATION	750/400V LAKADIA SUBSTATION	
TITLE	SINGLE LINE DIAGRAM	
DESIGNED BY		CHECKED BY
DRAWN BY		APPROVED BY
		DATE

PL. SHE. NO. SLD/Lakadiala/ZONCT/01



A B C D E F

1 2 3 4 5 6



01. ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
02. THE EARTHING SYSTEM INSTALLATION WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE FOLLOWING STANDARDS/CODES-
 - a. IS-3043
 - b. IEEE Std. 80
03. THIS DRG IS ONLY DIAGRAMMATIC REPRESENTATION OF EARTHING CONDUCTOR LAYOUT. AT ACTUAL CONDITION, CONDUCTOR WILL BE ROUTED IN SUCH MANNER SO THAT IT DOES NOT FOUL WITH ANY FOUNDATION, BUILDING ETC.
04. ALL THE EQUIPMENT AND GANTRY STRUCTURES ARE TO BE CONNECTED TO THE MAIN GROUNDING CONDUCTOR 400 ROD AT TWO POINTS DIAGONALLY OPPOSITE AS PER 'STANDARD EARTHING DETAILS'.
05. 40mm DIA ROD ELECTRODE AS PER 'STANDARD EARTHING DETAILS' SHALL BE PROVIDED FOR LA CVT PEAK TOWER. MINIMUM DISTANCE OF 5000mm SHALL BE MAINTAINED BETWEEN TWO TREATED (PIPE) ELECTRODE.
06. FOR LA, EARTHING LEAD FROM SURGE COUNTER TO MAIN EARTH MAT SHALL BE SHORTEST IN THE LENGTH AS PRACTICALLY AS POSSIBLE. EARTHING LEAD FROM LA SHALL NOT BE PASSED THROUGH ANY PIPE.
07. EARTHING CONDUCTOR AROUND THE BUILDING SHALL BE BURIED AT A MINIMUM DISTANCE OF 1500mm FROM THE OUTER BOUNDARY OF THE BUILDING.
08. EARTHING CONDUCTOR RUNNING BELOW CABLE TRENCH, DRAINS, ROADS & RAIL WILL BE LAID 300mm BELOW THE BOTTOM OF ABOVE SAID ITEMS.
09. ALL WELDING JOINTS TO BE TREATED WITH RED OXIDE PRIMER AND AFTERWARDS COATED WITH TWO LAYER BITUMEN COMPOUND AND MS FLAT ON CABLE TRENCHES TO BE PAINTED WITH TWO COATS OF RED OXIDE PRIMER AND TWO COATS OF ZINC RICHED ENAMEL PAINT.
10. AUXILIARY EARTH MAT 1500x1500 WITH GRID SPACING 300MM WILL BE PLACED BELOW ISO MOM & EOM AT 300MM DEPTH FROM GROUNDING LEVEL. THIS WILL BE DONE AS PER THE ACTUAL LOCATION OF MOM & EOM BOX AT SITE.
11. ONE NO. 40mm DIA 3000mm LONG MS EARTH ELECTRODE WITH TEST LINK, C.I. FRAME & COVER SHALL BE PROVIDED TO CONNECT EACH DOWN CONDUCTOR OF SURGE ARRESTER, CAPACITIVE VOLTAGE TRANSFORMER & TOWER WITH PEAK.

BOM OF EARTHING SYSTEM FOR 765KV & 400KV SWITCHYARD:

SL. NO.	DESCRIPTION	MATERIAL	WTL QUANTITY	LBLT QUANTITY	JKTL QUANTITY	TOTAL QUANTITY
1	MAIN EARTH MAT	40mm DIA M.S. ROD	14314 MTR.	--	--	14314 MTR.
2	RISER CONNECTION BELOW GROUND (CONNECTING FROM MAIN EARTH MAT TO EQUIPMENT/EQUIPMENT STRUCTURE)	40mm DIA M.S. ROD	10962 MTR.	960 MTR.	511 MTR.	14423 MTR.
3	AUXILIARY MAT FOR ISOLATOR MOM BOX	40mm DIA M.S. ROD	6350 MTR.	750 MTR.	230 MTR.	7340 MTR.
4	CONDUCTOR ABOVE GROUND AND EARTHING LEADS (FOR EQUIPMENT, COLUMNS AND AUX. STRUCTURE)	75 x 6mm G.S. FLAT.	12895 MTR.	1214 MTR.	632 MTR.	14741 MTR.
5	EARTHING INDOOR/LT PANELS, CONTROL PANELS & OUTDOOR MARSHALLING BOX, MOM BOXES, JB & LIGHTING PANELS.	50 x 6mm G.S. FLAT.	2080 MTR.	269 MTR.	97 MTR.	2455 MTR.
6	ROD EARTH ELECTRODE.	40mm DIA 3 MTR LONG M.S. ROD	185 NOS.	12 NOS.	12 NOS.	189 NOS.
7	ROD EARTH ELECTRODE (LIGHTING POLE)	20mm DIA 3 MTR LONG M.S. ROD	24 NOS.	--	--	24 NOS.
8	PIPE EARTH ELECTRODE (IN TREATED PIT)	40mm DIA 3 MTR LONG G.S. PIPE	14 NOS.	--	04 NOS.	18 NOS.
9	EARTHING CONDUCTOR ALONG OUTSIDE CABLE TRENCHES.	50 x 6mm M.S. FLAT.	3272 MTR.	--	--	3272 MTR.
10	CLEAT TYPE CLAMP FOR 75X12 MM G.S. FLAT	---	4715 NOS.	818 NOS.	84 NOS.	5616 NOS.
11	CLEAT TYPE CLAMP FOR 50X50 MM G.S. FLAT	---	238 NOS.	48 NOS.	21 NOS.	309 NOS.

REFERENCE DRG:

1. 765KV ELECTRICAL LAYOUT - PLAN (DWG NO.: 0756L_A_LKDA_SWYD_E_DRG_02_001A R-4)
2. 765KV FOUNDATION LAYOUT (DWG NO.: 0756L_A_LKDA_SWYD_E_DRG_03_001A R-1)
3. 400KV ELECTRICAL LAYOUT - PLAN (DWG NO.: 0756L_A_LKDA_SWYD_E_DRG_02_001B R-4)
4. 400KV FOUNDATION LAYOUT (DWG NO.: 0756L_A_LKDA_SWYD_E_DRG_03_001B R-1)
5. EQUIPMENT EARTHING DETAILS (DWG NO.: 0756L_A_LKDA_SWYD_E_DRG_27_002 R-2)

LEGEND

- EARTH MAT
- RISER
- AUXILIARY MAT FOR ISOLATOR
- ROD ELECTRODE (PERIPHERAL)
- EQUIPMENT ROD ELECTRODE
- NEUTRAL PIPE ELECTRODE
- BOUNDARY WALL
- FENCE

REV. NO.	DATE	REMARKS	APPROVAL CAT.	DATE	ISSUED FOR CONSTRUC.
2	04.06.21	THIRD SUBMISSION		04.03.21	
1	02.02.21	SECOND SUBMISSION		27.01.21	
0	29.12.20	FIRST SUBMISSION			

CLIENT: WRSS-21(A) Transco Limited (WTL)

EPC: TECHNO ELECTRIC & ENGG. CO. LTD.

PO ref: PO NO. - 4500313982 DATED: 21.10.2019

SO ref: SO NO. - 570227667 DATED: 23.10.2019

SUBSTATION: 765/400KV LAKADIA SUBSTATION

TITLE: EARTH MAT LAYOUT

TECHNO DWG. NO. 0756L_A_LKDA_SWYD_E_DRG_27_001

SHEET NO. 1 OF 01