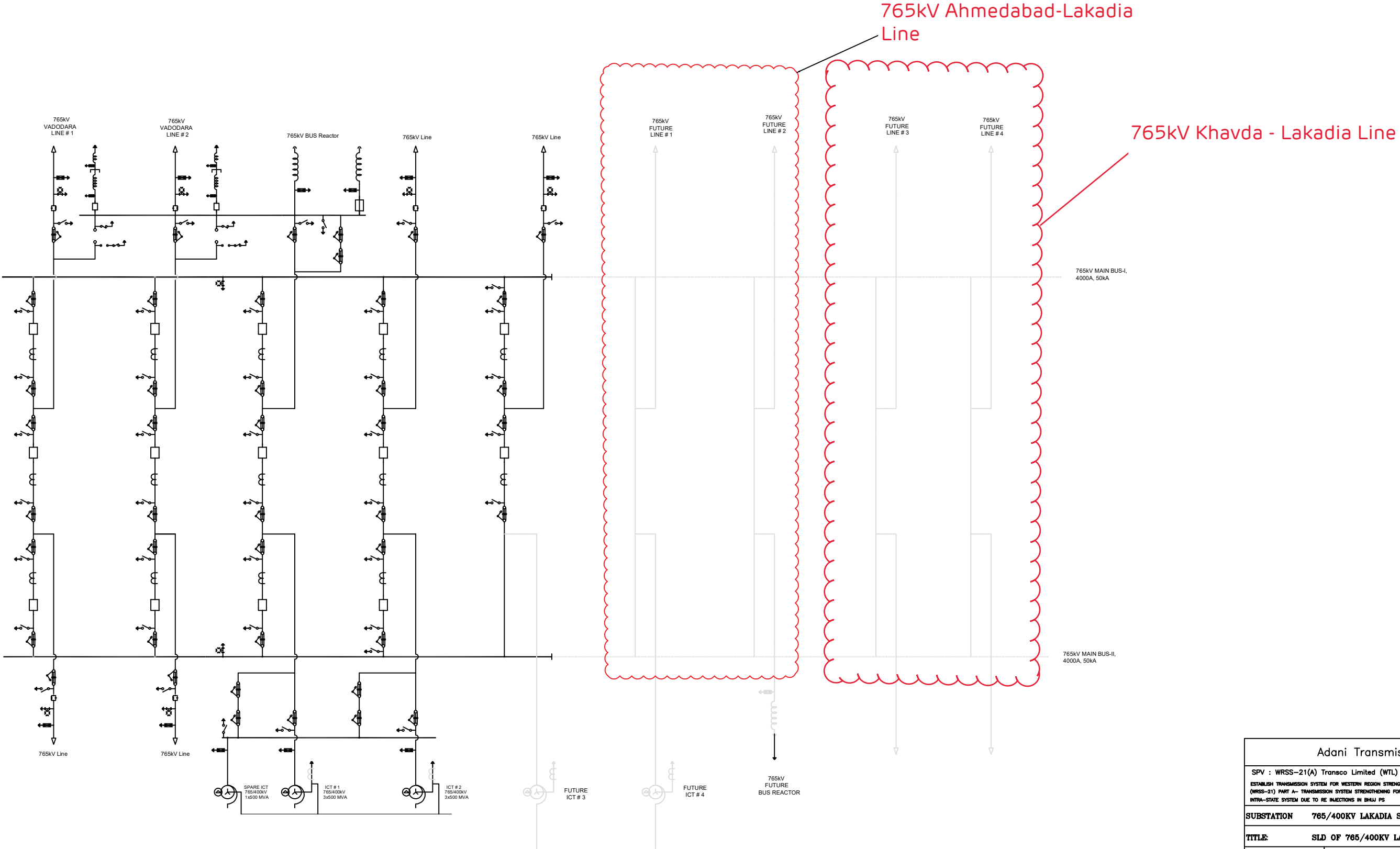
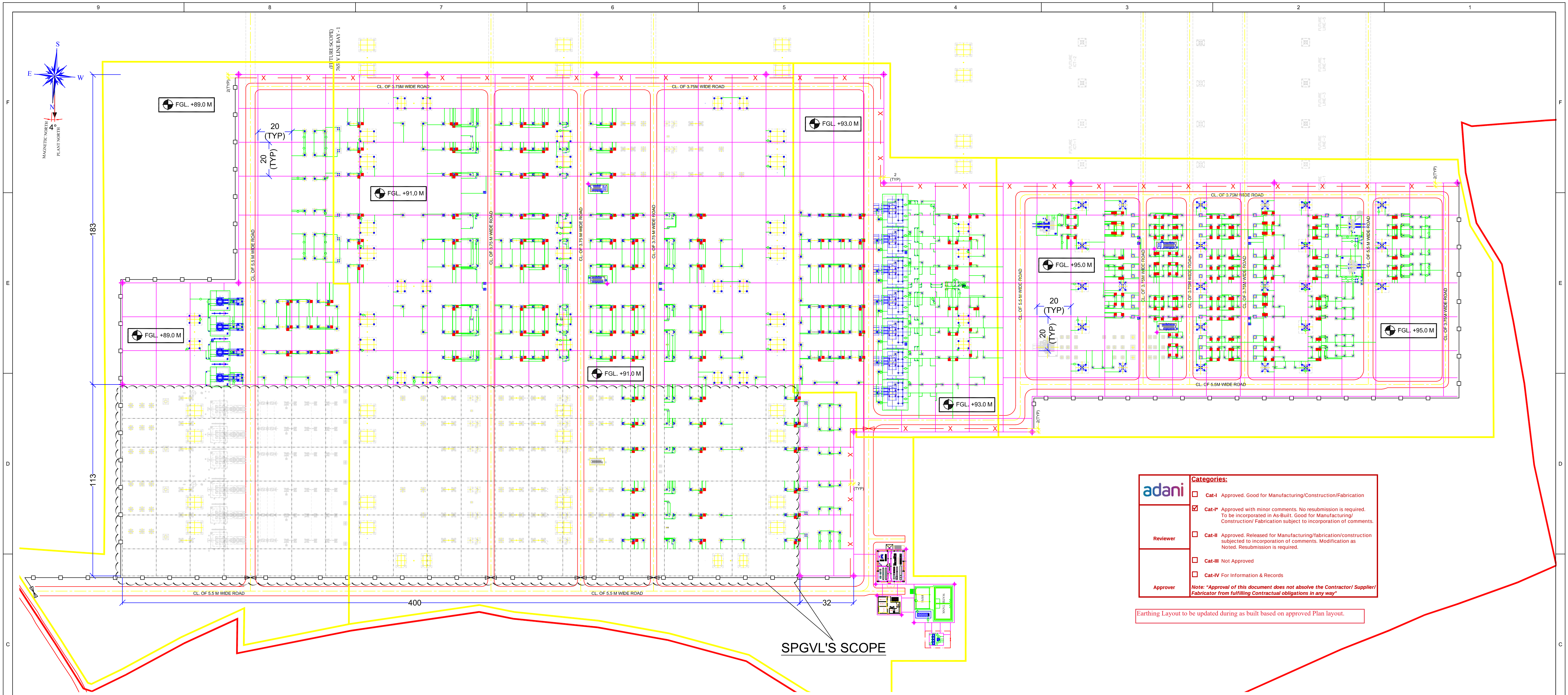


Appendix - A

Transmission scheme for evacuation of 4.5 GW RE injection at Khavda P.S. under Phase-II – Part A

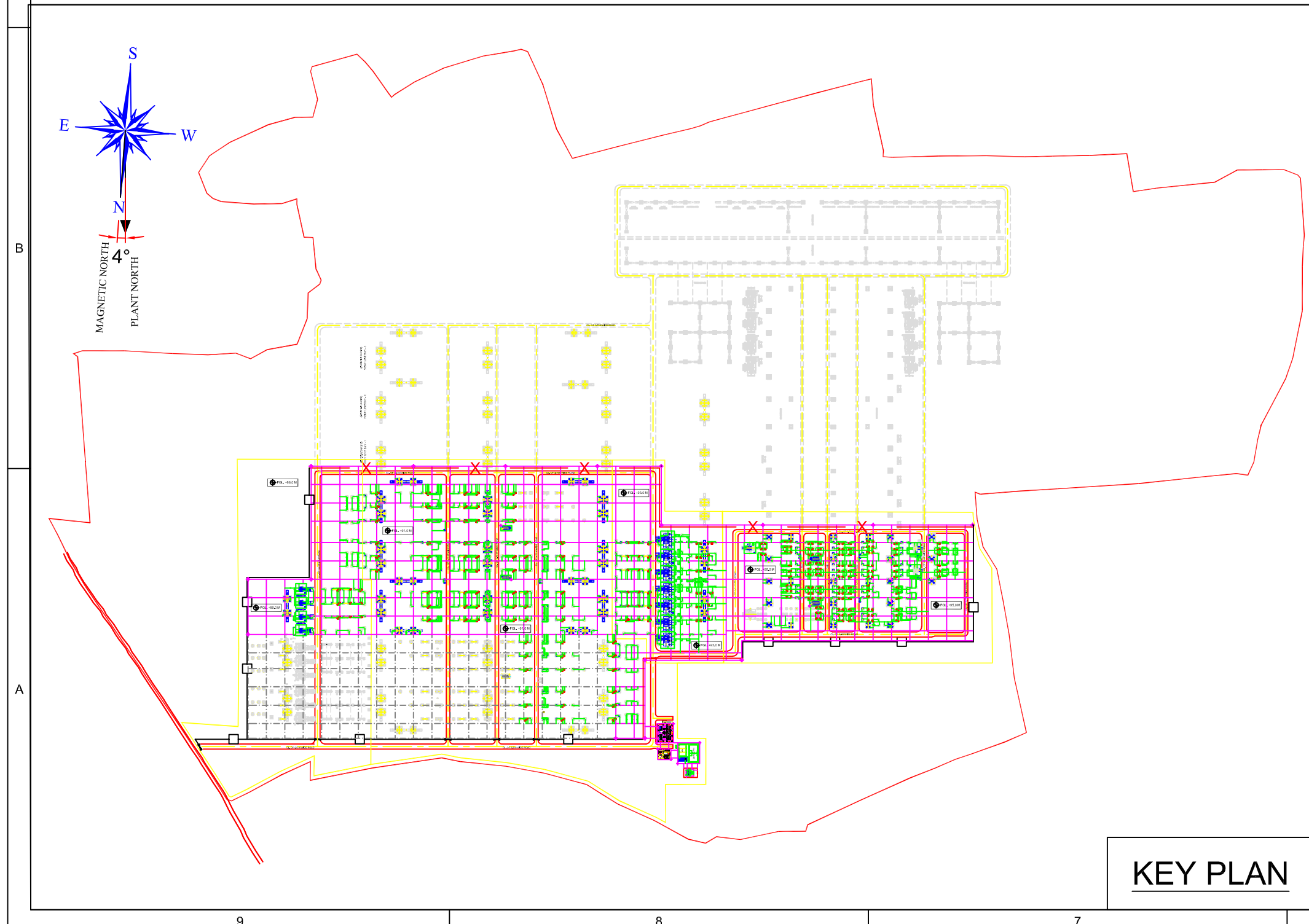


Adani Transmission Limited	
SPV : WRSS-21(A) Transco Limited (WTL)	
ESTABLISH TRANSMISSION SYSTEM FOR WESTERN REGION STRENGTHENING SCHEME - 21 (WRSS-21)	
(WRSS-21) PART A- TRANSMISSION SYSTEM STRENGTHENING FOR RELIEVING OVER LOADINGS OBSERVED IN GUJARAT	
INTRA-STATE SYSTEM DUE TO RE INJECTIONS IN BHAIJ PS	
SUBSTATION	765/400KV LAKADIA SUBSTATION
TITLE:	SLD OF 765/400KV LAKADIA SUBSTATION
PREPARED BY:	DRAWING NO:
	ATL/ENGG/TBCB/Lakadia SS-Extn/SLD.-R1



adani	Categories:	
	☐ Cat-I	Approved. Good for Manufacturing/Construction/Fabrication
	☒ Cat-I*	Approved with minor comments. No resubmission is required. To be incorporated in As-Built. Good for Manufacturing/Construction/ Fabrication subject to incorporation of comments.
	☐ Cat-II	Approved. Released for Manufacturing/fabrication/construction subject to incorporation of comments. Modification as Noted. Resubmission is required.
Reviewer	☐ Cat-III	Not Approved
	☐ Cat-IV	For Information & Records
Approver	Note: *Approval of this document does not absolve the Contractor/ Supplier/ Fabricator from fulfilling Contractual obligations in any way"	

Earthing Layout to be updated during as built based on approved Plan layout.



NOTES :-

- ALL DIMENSIONS ARE IN METERS UNLESS OTHERWISE SPECIFIED.
- THE EARTHING SYSTEM INSTALLATION WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE FOLLOWING STANDARDS/CODES:-
 - IS.3043
 - IEEE Std. 80
- 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.
- 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'.
- 40mm. DIA ROD ELECTRODE AS PER 'STANDARD EARTHING DETAILS' SHALL BE PROVIDED FOR LA,CVT,PEAK TOWER. MINIMUM DISTANCE OF 6000mm SHALL BE MAINTAINED BETWEEN TWO TREATED (PIPE) ELECTRODE.
- FOR LA, EARTHING LEAD FROM SURGE COUNTER TO MAIN EARTHMAT SHALL BE SHORTEST IN THE LENGTH AS PRACTICALLY AS POSSIBLE. EARTHING LEAD FROM LA SHALL NOT BE PASSED THROUGH ANY PIPE.
- EARTHING CONDUCTOR AROUND THE BUILDING SHALL BE BURIED AT A MINIMUMDISTANCE OF 1500mm FROM THE OUTER BOUNDARY OF THE BUILDING.
- EARTHING CONDUCTOR RUNNING BELOW CABLE TRENCH, DRAINS, ROADS & RAIL WILL BE LAID 300mm BELOW THE BOTTOM OF ABOVE SAID ITEMS.
- 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.
- 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.
- 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	LBTL QUANTITY	JKTL QUANTITY	TOTAL QUANTITY
1	MAIN EARTHMAT	40mm DIA M.S. ROD	14314 MTR.	---	---	14314 MTR.
2	RISER CONNECTION BELOW GROUND (CONNECTING FROM MAIN EARTHMAT TO EQUIPMENT/EQUIPMENT STRUCTURE)	40mm DIA M.S. ROD	12952 MTR.	960 MTR.	511 MTR.	14423 MTR.
3	AUXILIARY MAT FOR ISOLATOR MOM BOX	40mm DIA M.S. ROD	6350 MTR.	760 MTR.	230 MTR.	7340 MTR.
4	CONDUCTOR ABOVE GROUND AND EARTHING LEADS (FOR EQUIPMENT,COLUMNS AND AUX. STRUCTURE)	75 x 12mm 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.	2090 MTR.	269 MTR.	97 MTR.	2455 MTR.
6	ROD EARTH ELECTRODE.	40mm DIA 3 MTR LONG M.S. ROD	165 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 50X06 MM G.S. FLAT	---	239 NOS.	48 NOS.	21 NOS.	309 NOS.

- REFERENCE DRG:**
- 765KV ELECTRICAL LAYOUT - PLAN (DWG NO. : 0756LA_LKDA_SWYD_E_DRG_42_001A _R-5)
 - 765KV FOUNDATION LAYOUT (DWG NO. : 0756LA_LKDA_SWYD_E_DRG_33_001A _R-1)
 - 400KV ELECTRICAL LAYOUT - PLAN (DWG NO. : 0756LA_LKDA_SWYD_E_DRG_42_001B _R-4)
 - 400KV FOUNDATION LAYOUT (DWG NO. : 0756LA_LKDA_SWYD_E_DRG_33_001B _R-1)
 - EQUIPMENT EARTHING DETAILS (DWG NO. : 0756LA_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

2	04.06.21	THRD. SUBMISSION			
1	02.02.21	SECOND SUBMISSION	I	04.03.21	
0	29.12.20	FIRST SUBMISSION	II	27.01.21	
REV.	DATE	REMARKS	APPROVAL CAT.	DATE	ISSUED FOR CONSTRU.
CLIENT	WRSS-21(A) Transco Limited (WTL)				
EPC	TECHNO ELECTRIC & ENGG. CO. LTD. ENGINEERS & ARCHITECTS KOLKATA, INDIA.				
P0 ref	PO NO. - 4500313982 DATED : 21.10.2019				
S0 ref	SO NO. - 5700277667 DATED : 23.10.2019				
SUBSTATION	765/400KV LAKADIA SUBSTATION				
TITLE EARTHMAT LAYOUT			DRAWN BY	DS	
			DESIGNED BY.	AM	
			CHECKED BY.	BS	
			APPROVED BY.	BS	
TECHNO DWG. NO. 0756LA_LKDA_SWYD_E_DRG_27_001			SCALE	NTS	
			SHEET NO.	01_OF_01	