

SAG - TENSION TABLE

LOCATION	CH-5 TO CH-4	CH-4 TO CH-3	CH-3 TO CH-2	CH-2 TO CH-1	CH-1 TO GANTRY
SPAN LENGTH (M.)	31	180	166.5	128	40
DESIGN TENSION (KG)	3500	3500	3500	3500	3500
SAG POINT	P	Q	R	S	T
MAX. SAG AT MAX. TEMP. (75°C) & STILL WIND (IN M.) (HOT CURVE)	0.274	3.143	3.329	1.823	0.366
SAG AT NORMAL TEMP. (32°C) & STILL WIND (IN M.) (ONLY FOR ERECTION)	0.096	2.045	2.198	1.01	0.128
SAG AT MIN. TEMP. (0°C) & STILL WIND (IN M.) (COLD CURVE)	0.06	1.432	1.549	0.68	0.081
CONDUCTOR TENSION AT MAX. TEMP. (75°C) & STILL WIND (IN M.) (FOR HOT CURVE)	775	1320	1333	1189	824
CONDUCTOR TENSION AT MIN. TEMP. (0°C) & STILL WIND (IN M.) (FOR COLD CURVE)	3484	2905	2869	3180	3472
GROUND CLEARANCE (IN M.)	11.62	8.78	8.11	9.52	11.75

- NOTES:-**
- ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE MENTIONED.
 - AT CROSSING OF 11KV LINE, THE CLEARANCE BETWEEN LOWER MOST 132KV CONDUCTOR (ACSR PANTHER) AND TOP MOST CONDUCTOR OF 11KV EXISTING LINE IS 3.17M WHICH MEETS THE MINIMUM CLEARANCE (3.05M.) BETWEEN LINES WHILE CROSSING EACH OTHER AS PER IE RULES.
 - AT ROAD CROSSING, THE GROUND CLEARANCE FROM LOWER MOST 132KV CONDUCTOR (ACSR PANTHER) IS 9.65M WHICH MEETS THE MINIMUM GROUND CLEARANCE (6.1M.) AS PER IE RULES.
 - CONDUCTOR DETAILS :-
 i) 132KV CONDUCTOR -> SINGLE ACSR PANTHER.
 ii) SHIELD WIRE -> 7/3.15 mm. G.S.
 iii) 220KV EXISTING CONDUCTOR -> SINGLE ACSR ZEBRA.
 - AT CROSSING OF SWITCHYARD BOUNDARY WALL, THE CLEARANCE BETWEEN LOWER MOST CONDUCTOR & BOUNDARY WALL IS 9.25M. BY CONSIDERING 2.5M. HIGH BOUNDARY WALL.
 - TOWER LOCATION No. 218A IS A 220KV LARGE ANGLE 12M. EXTENSION DOUBLE CIRCUIT TOWER WITH CROSS ARMS IN ONE SIDE ONLY.
 - 132KV DOUBLE CIRCUIT C-TYPE TOWER AT LOCATION No. CH-5 IS PLACED WITH LONGITUDINAL FACE IN THE LINE ALIGNMENT OF EXISTING 132KV LINE.
 - THIS DRAWING WILL READ IN CONJUNCTION WITH ELECTRICAL LAYOUT OF 132KV LILO ARRANGEMENT BELOW EXISTING TENSION TOWER OF CHANDIL-HATIA LINE. DWG. No.- FL-JUSNL-TAMAR-E LAY-20.

TOWER DETAILS :-

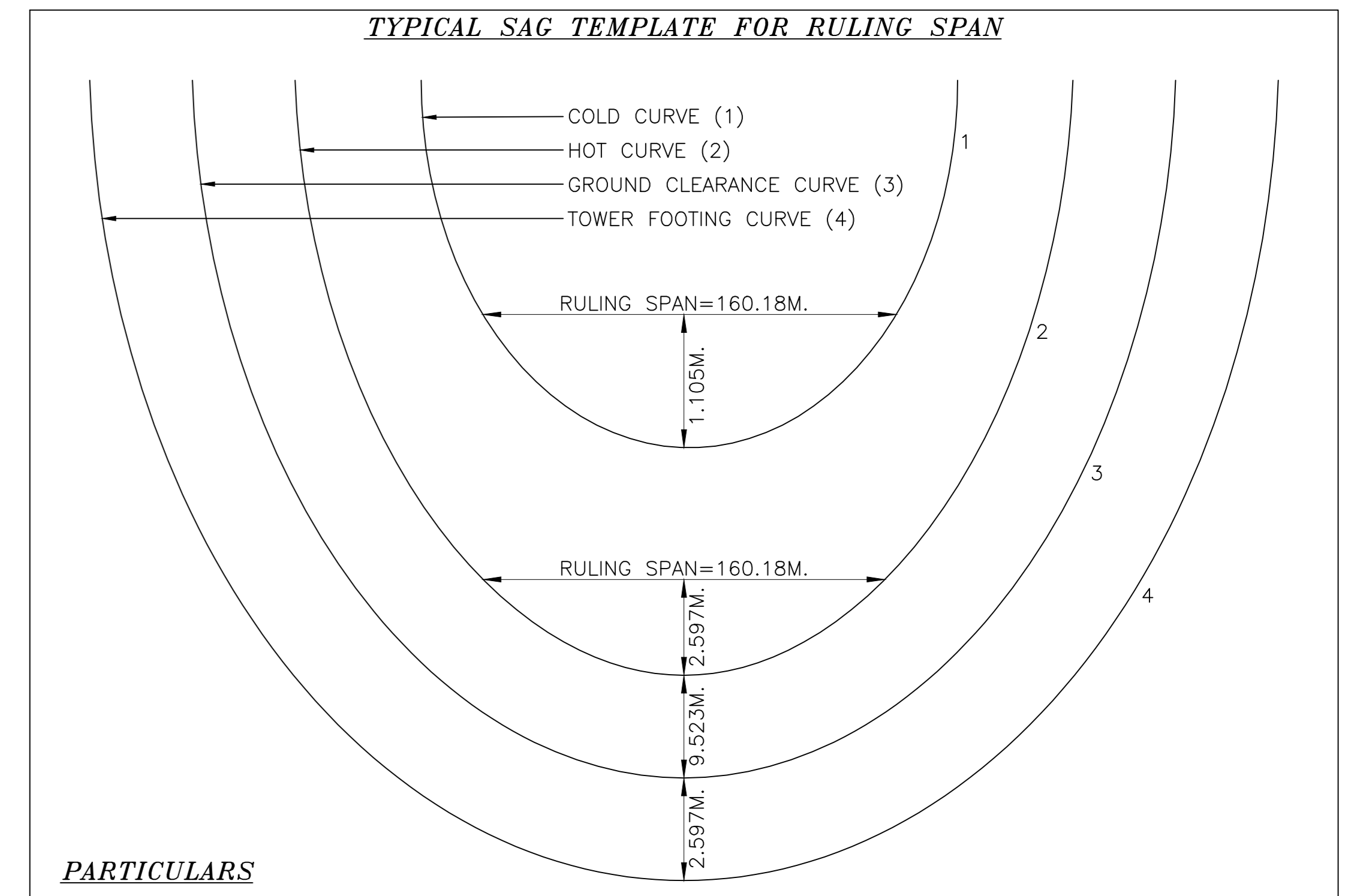
SL NO.	LOC. NO.	TOWER NO.	AP NO.	ANGLE OF DEVIATION	TYPE OF TOWER
1	1/0	CH-1	-	00°00'00"	DD-0 (DEAD END TYPE)
2	2/0	CH-2	AP-01	35°59'58"L	DC-0 (SUSPENSION TYPE)
3	3/0	CH-3	-	00°00'00"	DA-0 (SUSPENSION TYPE)
4	4/0	CH-4	AP-02	26°00'01"L	DC-0 (SUSPENSION TYPE)
5	5/0	CH-5	AP-03	00°00'00"	DC-0 (SUSPENSION TYPE)
6	218A	218A	AP-04	26°00'03"L	DLT-12

LEGEND

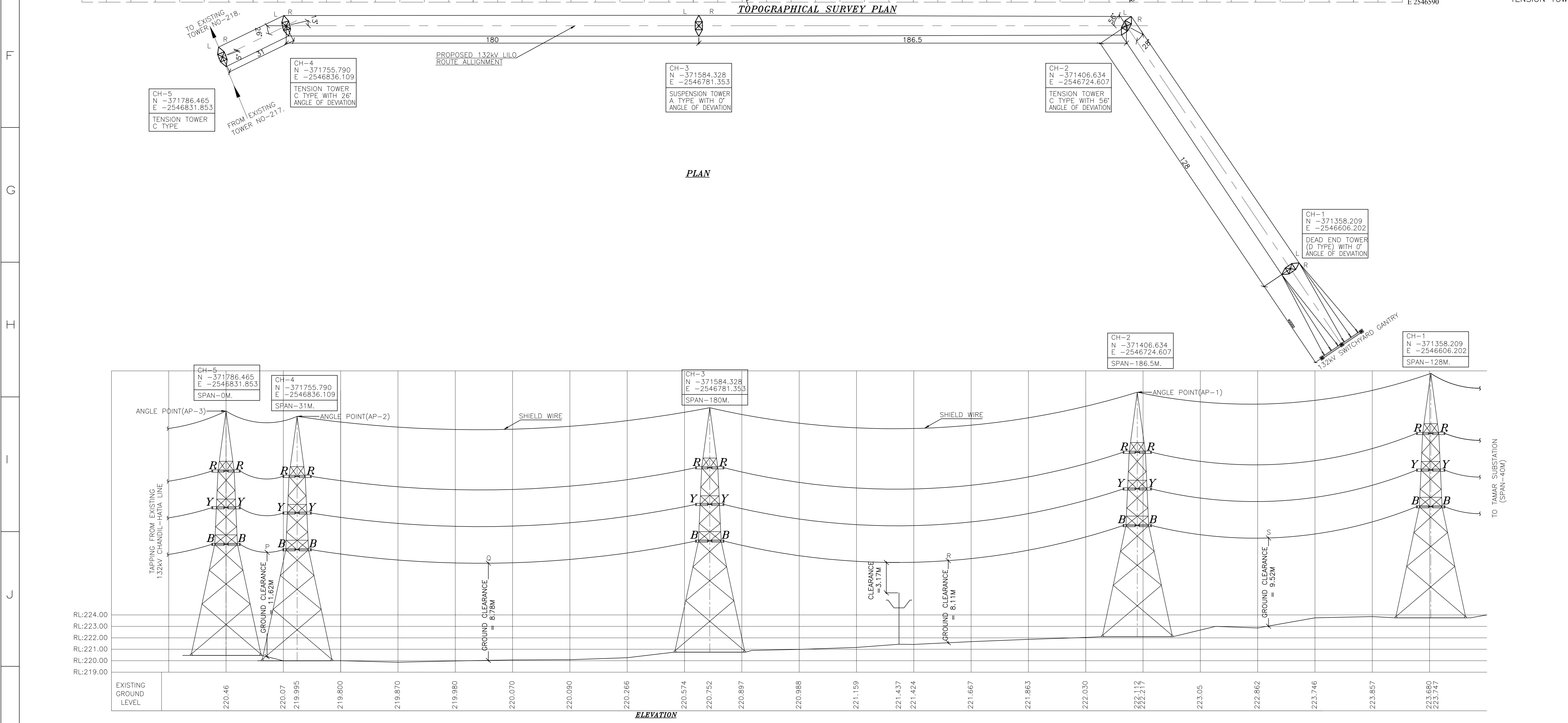
DESCRIPTION	SYMBOL
VILLAGE ROAD	
ELECTRIC POLE OF 7M (APPROX.) HEIGHT	
LILO ROUTE	
DOUBLE CIRCUIT TOWER	
DOUBLE CIRCUIT TOWER WITH CROSS ARMS FITTED IN ONE SIDE ONLY	
CH-1, CH-2, CH-3, CH-4 & CH-5	132KV TOWER LOCATION NO. CH=CHNDIL-HATIA

EXISTING TENSION TOWER DETAILS

EXISTING TENSION TOWER NO. - 217
 HEIGHT OF TOWER = 32.727M
 HEIGHT OF TOP CONDUCTOR = 25.342M
 HEIGHT OF MIDDLE CONDUCTOR = 20.150M
 HEIGHT OF BOTTOM CONDUCTOR = 14.955M



- PARTICULARS**
- CONDUCTOR TYPE -> SINGLE ACSR PANTHER.
 - CONDUCTOR UNIT WEIGHT -> 0.974 Kg/M.
 - ULTIMATE STRENGTH -> 9144 Kg.
 - MINIMUM TEMPERATURE -> 0°C
 - NORMAL TEMPERATURE -> 32°C
 - MAXIMUM TEMPERATURE -> 75°C
 - RULING SPAN -> 160.18M.
 - MAXIMUM SAG AT MINIMUM TEMPERATURE & STILL WIND = 1.105M.
 - MAXIMUM SAG AT MAXIMUM TEMPERATURE & STILL WIND = 2.597M.
 - GROUND CLEARANCE FROM MAXIMUM SAG POINT = 9.523M.



REV	REVISION DETAILS	DRAWN	CHKD	DATE	SL.NO.	DRAWING TITLE	DRAWING NO.	SHEET REV
4								
3								
2					2.	132KV LILO ARRANGEMENT LAYOUT	FL-JUSNL-TAMAR-E-LAY-20	1 0
1					1.	DETAIL TOPOGRAPHICAL CONTOUR PLAN	FL-JUSNL-TAMAR-S-SUR-201	2 0

PROJECT	CLIENT	CONTRACTOR	CONTRACTOR'S CONSULTANT	TITLE
	JHARKHAND URJA SANCHARAN NIGAM LIMITED		SATCON (CONSULTANTS AND ENGINEERS) www.satcon.in	DETAIL SURVEY AND LAND PROFILING FOR 132KV T/L ROUTE
DESIGN	R.D.			
DRAWN	N.K.D.			
CHECKED	S.K.D.			
APPROVED	S.M.	DRG. NO.- FL-JUSNL-TAMAR-S-SUR-203		
DATE	27.05.13	SCALE- 1 : 650	SHEET NO.- 1 OF 1	REV. NO.- 0
SUBMITTED FOR	APPROVAL	INFORMATION	REFERENCE	RECORD
				CONSTRUCTION