

APPENDIX – A

**General Information & Implementation Schedule
for Supply and Installation of OPGW of 24 Fiber OPGW
on PKTCL lines for providing redundant
communication for Parbati Pooling (Banala) (PG) S/s,
Parbati-II (NHPC) & Parbati-III (NHPC) stations
approved as Implementation of ISTS Transmission/
Communication Schemes approved by NCT in its 20th
meeting held on 25.06.2024**

Sag Tension:

Particulars of Conductor & Earthwire:-

Property	Conductor	Earthwire
Material	ACSR	EARTHWIRE
Nominal size	MOOSE	95 Kg/sqmm Qlt
Stranding	54/3.53+7/3.53	7/3.66 + 0/0.00
Diameter (mm)	31.77	10.98
Area (mm ²)	597	73.65
Weight (Kg/M)	2.004	0.583
Ultimate Tensile strength (Kg)	16428	6972
Modulus of Elasticity (Kg/mm ²)	7034	19368
Coeff of Linear Expansion (/ °C)	0.0000193	0.0000115

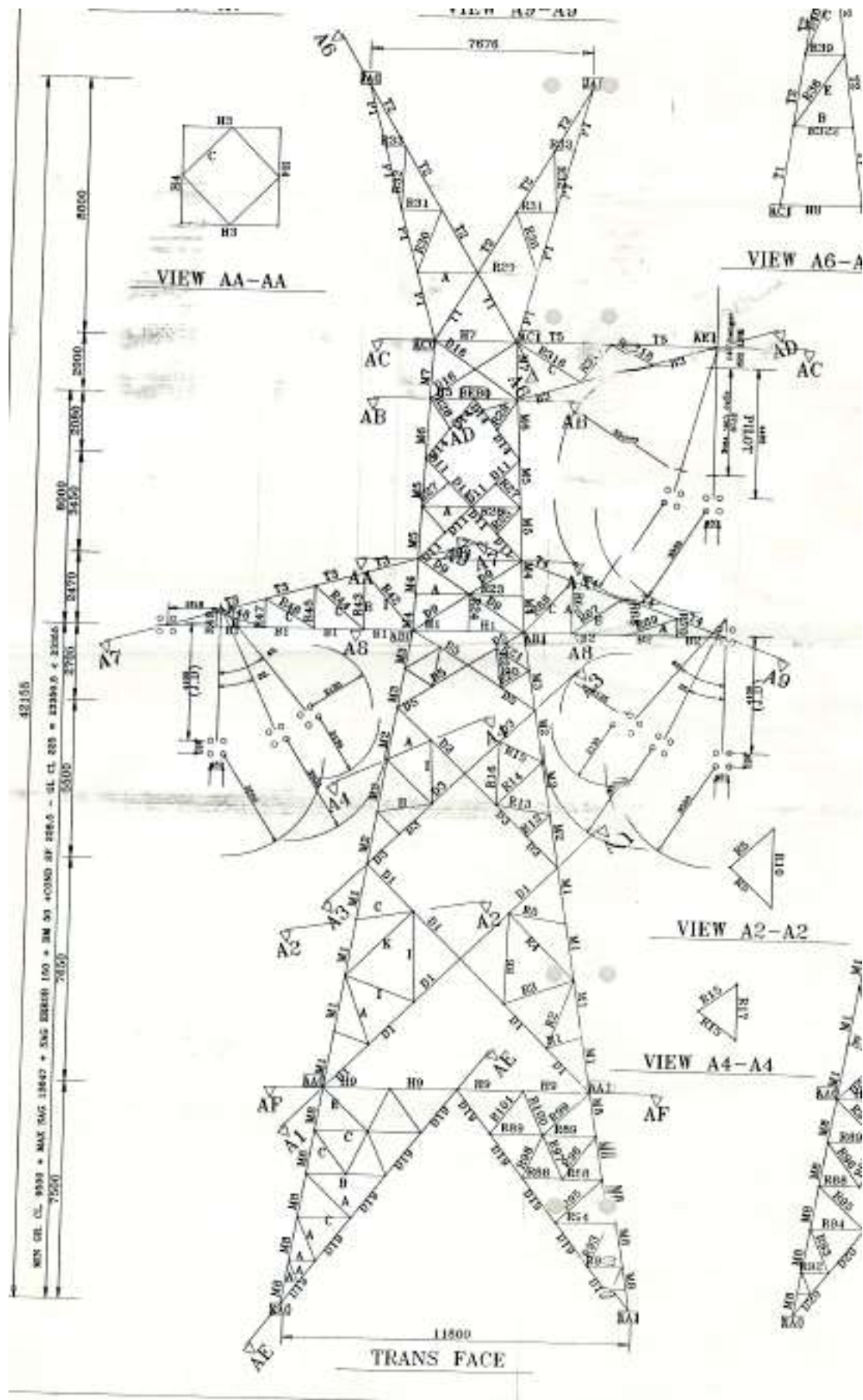
Normal Span (M) = 400

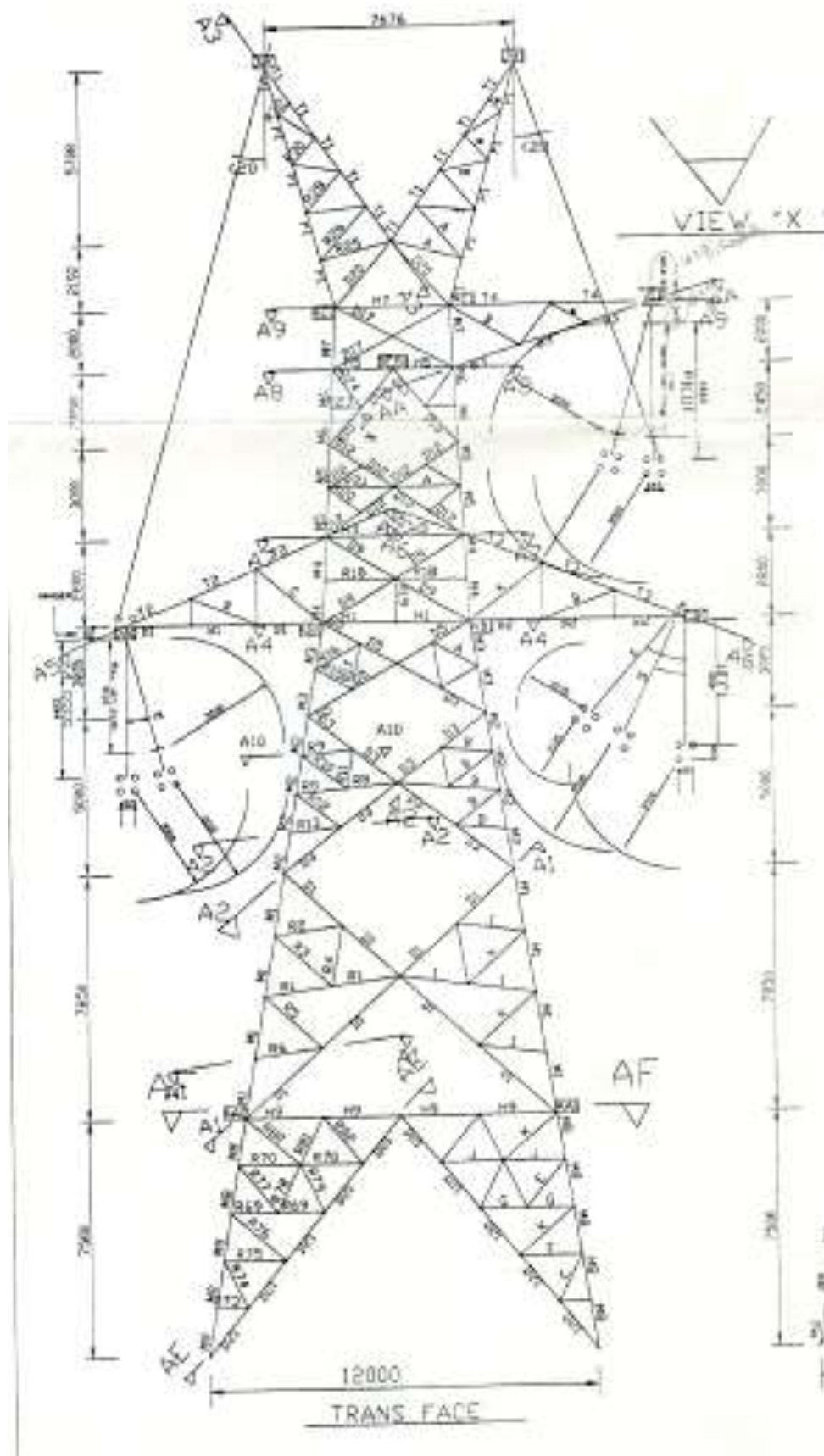
Case	Conductor		Ground Wire	
	< Normal Span	> Normal Span	< Normal Span	> Normal Span
Temperature (°C)	22.0	-5.0	22.0	-5.0
Wind Pressure (Kg/M ²)	0.0	106.5	0.0	133.5
Tension (Kg)	3614.0	7350.0	1220.0	3521.7
Reduced Temperature for Initial stringing of Conductor (°C)	-26			
Increase Tension for Initial Stringing of Conductor (%)	0			

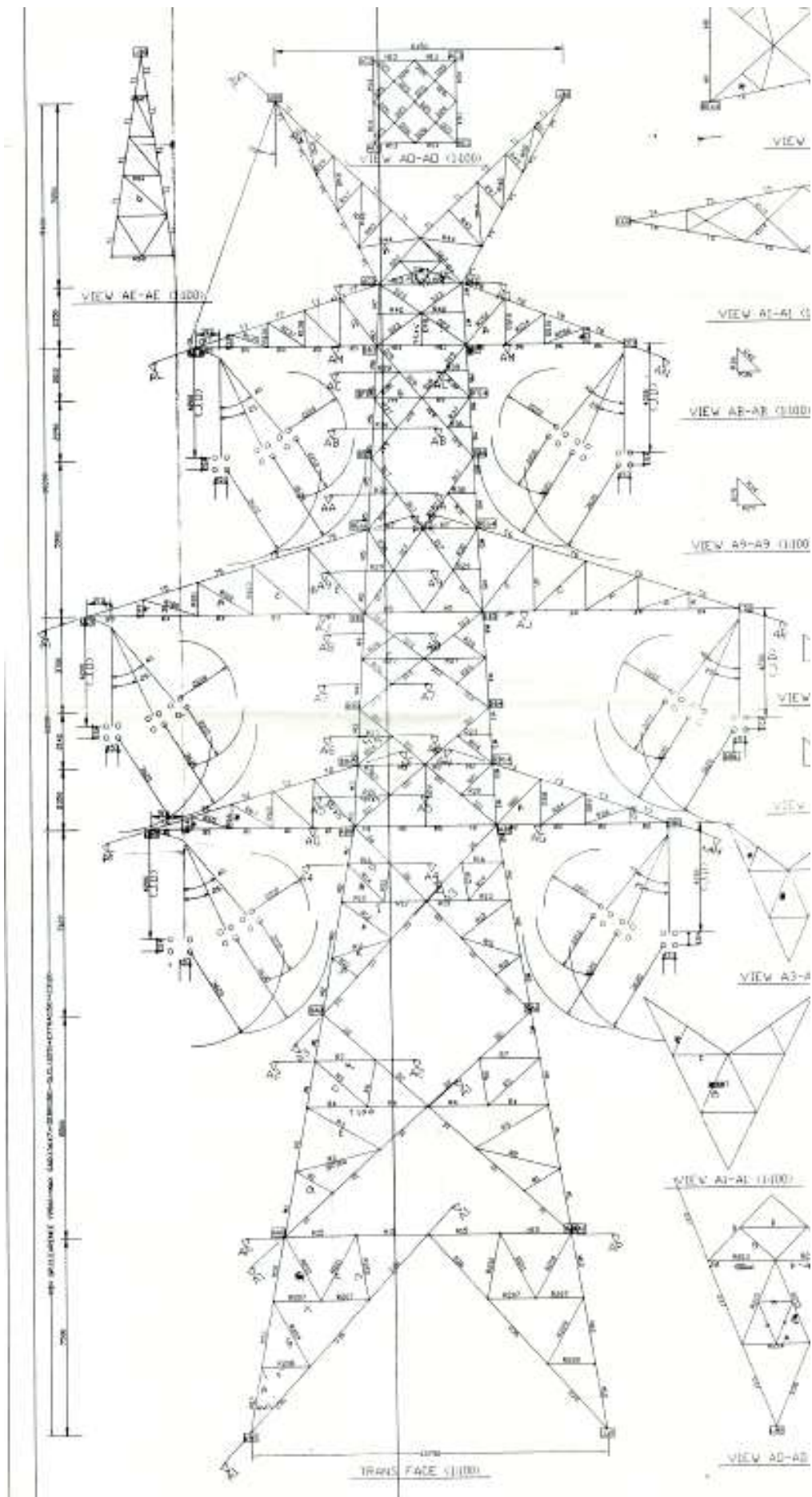
- Notes -
- 1) All the derived Sag for the spans in stringing chart are in Meters
 - 2) All the derived Tension are in Kgs
 - 3) The Tension of the section of the Trans. line is based on the Equivalent Span of the section.
 - 4) The Tension of the Conductor & Ground wire of section having Eq. Span less than Normal Span are derived from the working condition specified in Column "< Normal Span"
 - 5) The Tension of the Conductor & Ground wire of section having Eq. Span More than Normal Span are derived from the working condition specified in Column "> Normal Span"
 - 6) The Sag of the conductor has been calculated on the basis of Parabolic formula ie

$$\text{Sag} = (\text{Weight} \times \text{Span}^2) / (8.0 \times \text{Tension of Wire})$$
 - 7) Tension wire must in the measured by the pre-calibrated Tension measuring instruments
 - 8) Sag of the wire shall be measured at the middle span in the section by
 Pre-Calibrated Sag Board

TOWER TYPE: C







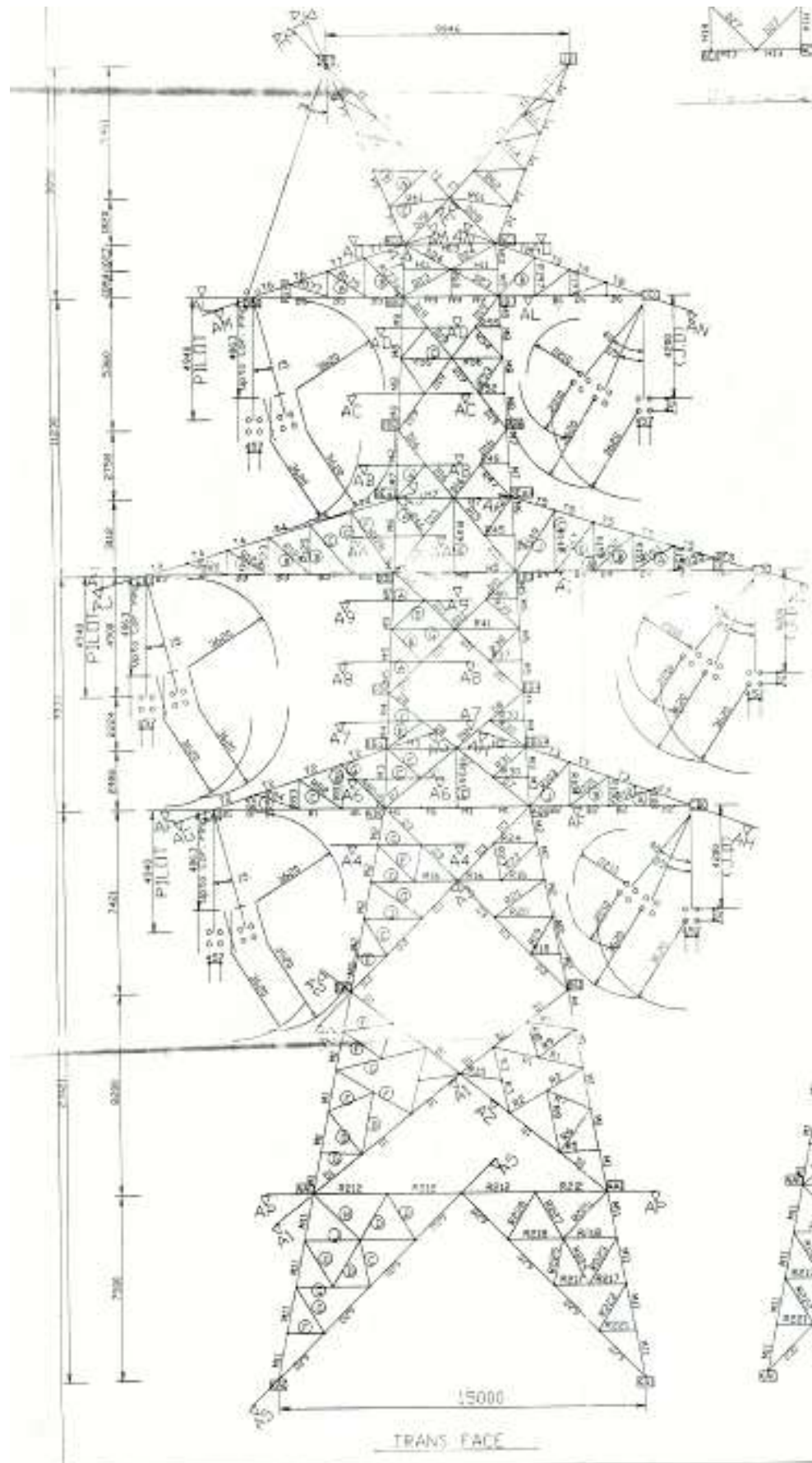


Table A: Implementation Schedule

Link Description	Period in Months from Award
i) Supply and Install & Commission One (1) no. OPGW cable containing 24 Fiber (24F) by replacing one (1) number Earth wire or Two (2) no. OPGW cable containing 24 Fibers (24F) (depending on the common D/ c line portion of 2 S/c transmission lines wherever applicable) in live line condition. (90.146 kms).	(a) Design & Engineering: 0 - 2 months (b) Supply: 1 - 4 months (c) Installation(including testing & commissioning): 4 - 8 months

Table B
Proposed OPGW Communication
link Works

Name of Transmission Line	Originating Location	Terminating Location	Line Length (KM)
Parbati II to Sainj LILO Point	Gantry Parbati-II	AP 1	0.240
Sainj LILO Point to Parbati-III LILO Point	AP 1A	AP 24A	9.403
Parbati-III LILO Point – Parbati Pooling (Banala)	AP 24B	AP 33	3.518
Parbati-II - Parbati Pooling (Banala)	Parbati-II S/s	Banala S/s	14.349 (1.511 + 12.838)
Parbati Pooling (Banala) – Koldam (NTPC)	AP 34	AP 193/0	62.636 (62.226+0.410)

Addition/deletion of links within the provisions of contractual quantity variation may be undertaken during detailed engineering, based on approval received in Regional Power Committee (NRPC)/ NCT meetings.

Location of Communication Equipment(s) will be finalized during detailed engineering.

**Yoke Plate design for OPGW jointing on Suspension Tower
(Typical)**

