

SECTION - 1

SCOPE, SPECIFIC TECHNICAL REQUIREMENT &
QUANTITIES

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SCOPE, SPECIFIC TECHNICAL REQUIREMENTS & QUANTITIES

1.1.0 SCOPE

1.1.1 The scope of work under this specification is Civil Works of 220kV Switchyard at Barauni in Bihar being executed by BHEL on turnkey basis. The Customer is Bihar State Electricity Board.

1.1.2 The Civil Works shall generally include, *but not limited to*, following:

- (i) Tower and Equipment foundations including piling and pile cap.
- (ii) Cable trenches including precast covers & cable trench crossings.
- (iii) Road and Drainage.
- (iv) Fencing and Gates.
- (v) Transformer Foundations.
- (vi) Fire wall.
- (vii) Stone spreading including antiweed treatment.
- (viii) All civil works of 220kV Control Room Building, Relay buildings including piling, pile cap.
- (ix) Any other work required for the project.

1.1.3 The works to be performed in the above construction includes preparation of bar bending schedules, based on the drawings released for construction and getting the same approved by the Engineer-in-charge plus the execution of the work including providing of all labour, supervision, materials **(excluding reinforcement steel, structural steel and cement which shall be supplied by BHEL free of cost)**, scaffolding, power, fuel, construction equipments, tools and plants, supplies, transportation, all incidental items necessary for successful completion of the work including contractor's supervision and in strict accordance with the drawings and specifications and with inspection and testing standards. The nature of work shall generally involve piling, stripping of pile heads, pile caps, excavation in all type of soil including dewatering, shoring, strutting, and filling under and around structures, backfilling with available excavated earth around completed structures, cable trenches with covers, disposal of surplus soil, formwork, providing necessary steel embedments and other inserts, roadwork, drainage work, fencing, stone spreading (including antiweed treatment), concreting, brickwork, flooring and finishing etc. and other works in building all complete as per detailed specification, drawings and directions of Engineer-in-charge.

1.2.0 SPECIFIC TECHNICAL REQUIREMENT

1.2.1 The specific technical requirements for the execution of civil works shall be as per CPWD Specification.

1.3.0 BILL OF QUANTITIES

1.3.1 The Bill of Quantity shall be as per page 1.3 to page 1. 23

1.3.2 The quantities indicated in the 'Bill of Quantity' are indicative and can vary to any extent. Contractor shall not be entitled for any claim for any such variation in the quantities.

1.3.3 The provision of Bill of Quantity, specifications and drawings shall be read in conjunction with each other and in case of conflict amongst them, the clarification shall be obtained from the Engineer-in-charge whose decision shall be final and binding.

1.3.4 Method of measurement:

1.3.4.1 Excavation shall be measured in cubic meters. The lateral dimensions to be considered for working out excavation quantity shall be the PCC dimension below the footing as per approved drawing. Nothing extra shall be paid for slope cutting, etc. Backfilling & disposal qtys shall be worked out based on the above dimensions only.
For other items, unless otherwise described the method of measurement as described in 'Method of Measurement of Building and Civil Engineering Works'-IS 1200(Part I to XXV) latest edition of BIS shall be followed.

SECTION - 2

STANDARD TECHNICAL SPECIFICATION
(N.A.)

SECTION - 3

ENCLOSURES TO THE SPECIFICATION

- (a) Specification for site surfacing/gravel filling.
- (b) Drawing No. TB-2-345-607-613

1. SPECIFICATION FOR SITE SURFACING/GRAVEL FILLING

SCOPE

This specification covers the furnishing of all labour, equipment and material for carrying out site surfacing work as specified or shown on the drawings and as per directions of the Engineer.

MATERIALS

The material required for site surfacing/gravel filling shall be free from all types of organic materials and shall be of standard approved quality and as directed by the Owner/Engineer.

LAYING

The contractor shall furnish and install the site surfacing to the lines and grades as shown in the drawing including +/- 150mm microlevelling as per directions of the Owner/Engineer.

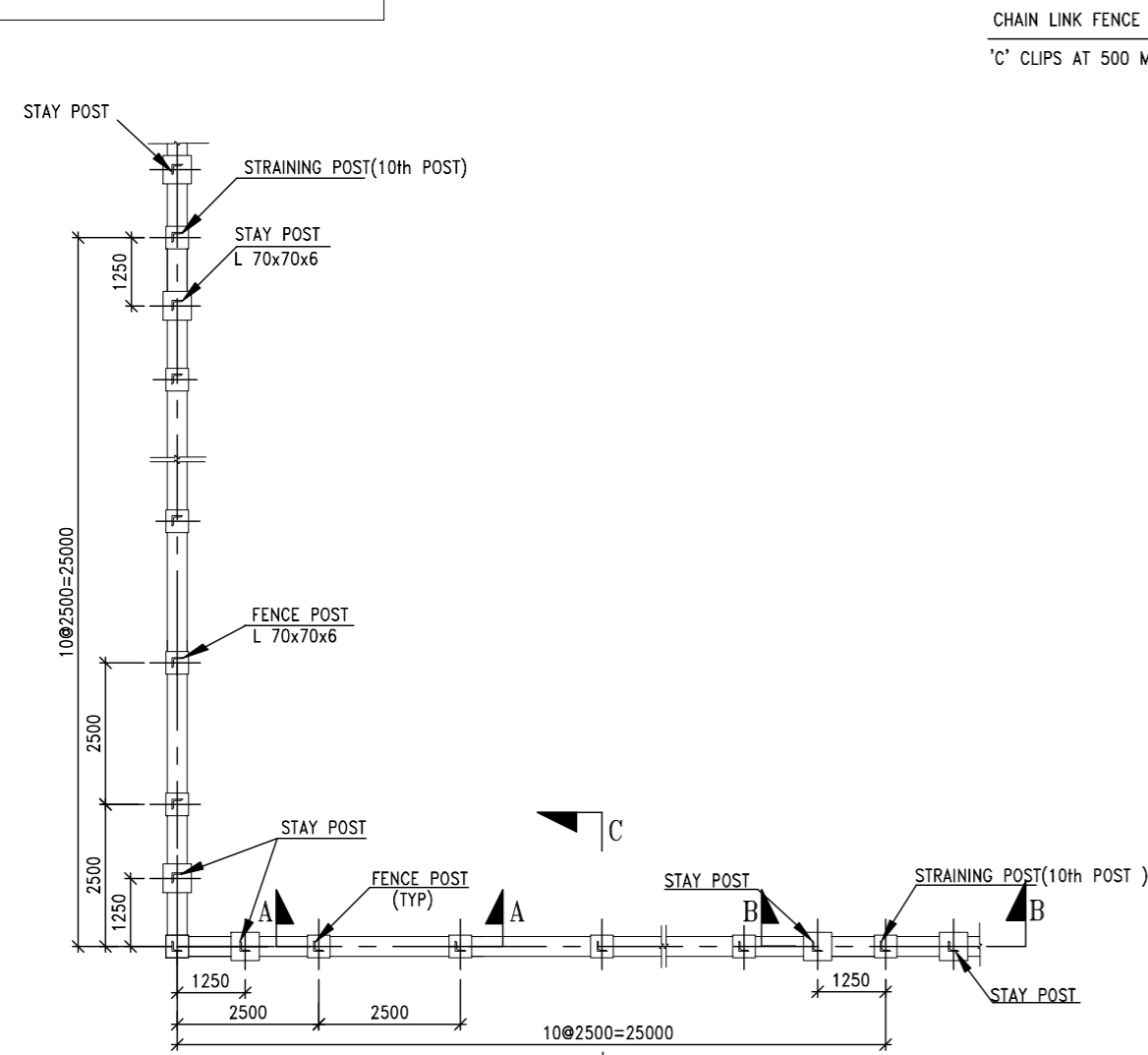
After the surface is prepared/compacted to the required slope/grade, a layer of uncrushed/crushed broken stone/pebbles (gravel) of 40mm nominal size shall be spread and rolled/compacted by using ½ ton roller (30" width and 24" dia) with 4 to 5 passes and water sprinkling to form a minimum 150mm layer on the entire switchyard.

In areas that are considered to be too congested with foundations and structures for proper rolling of the site, base course material be compacted by hand, if necessary. Due care shall be exercised so as not to damage any foundation/structure or equipment during rolling compaction.

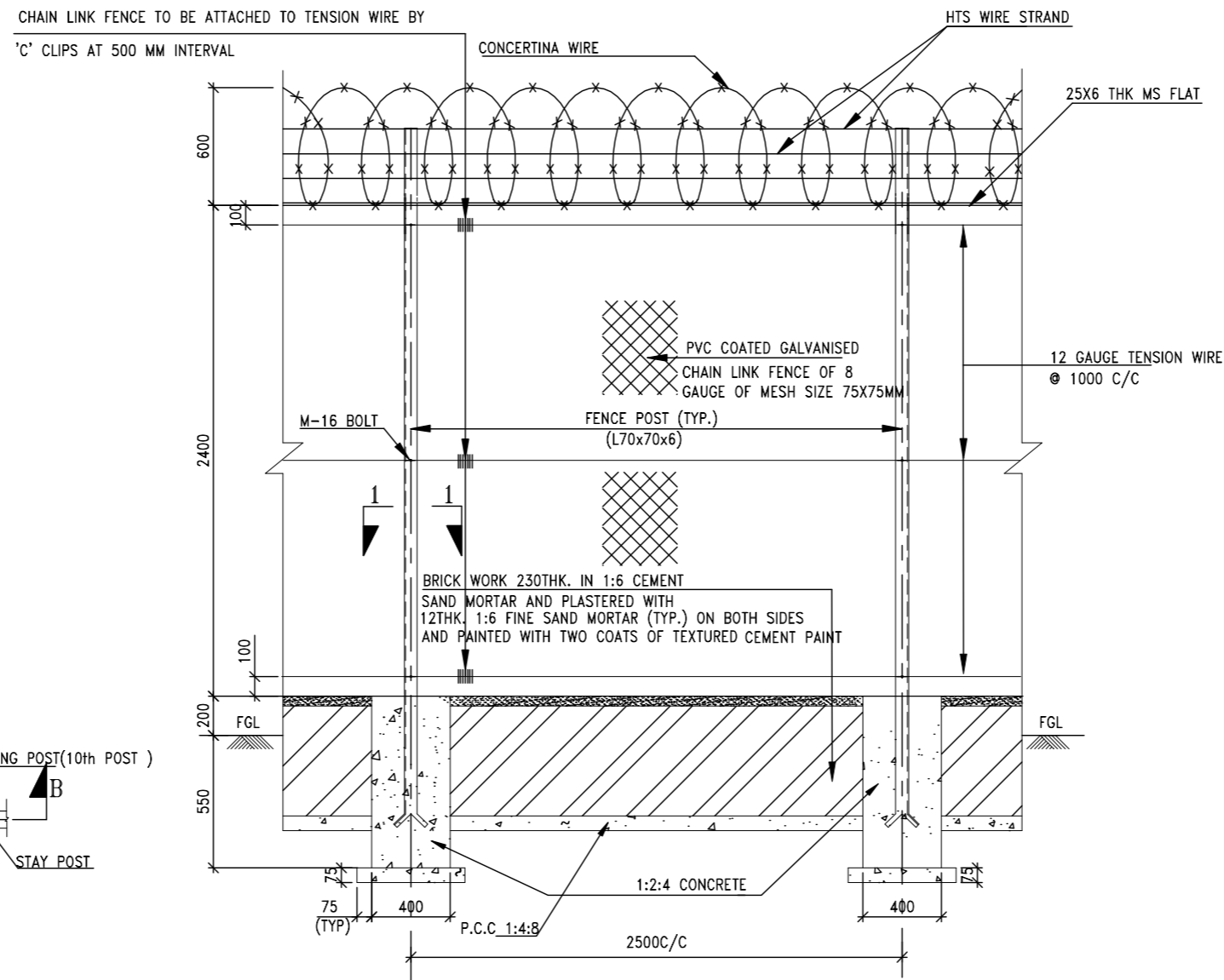
FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM.)

DRAWING No. TB-2-345-607-613

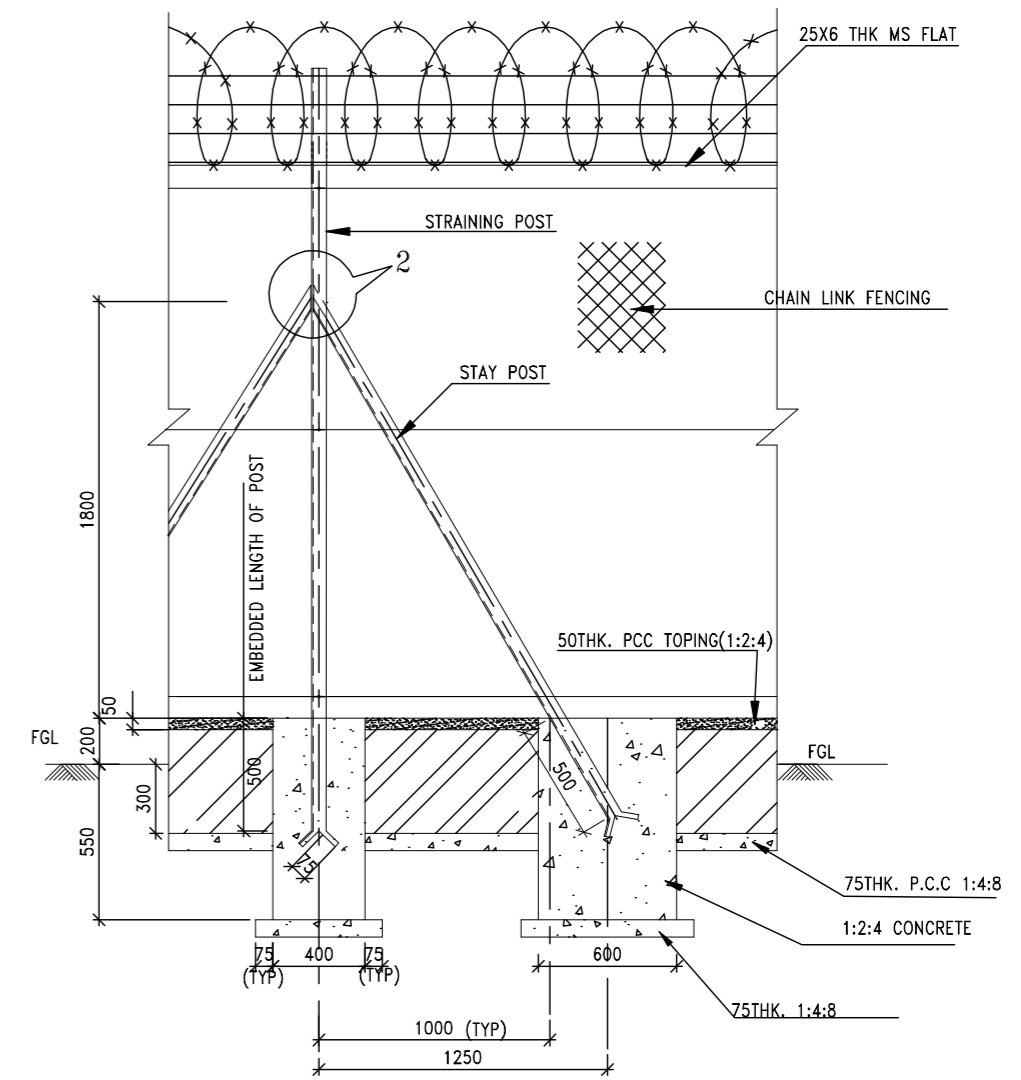
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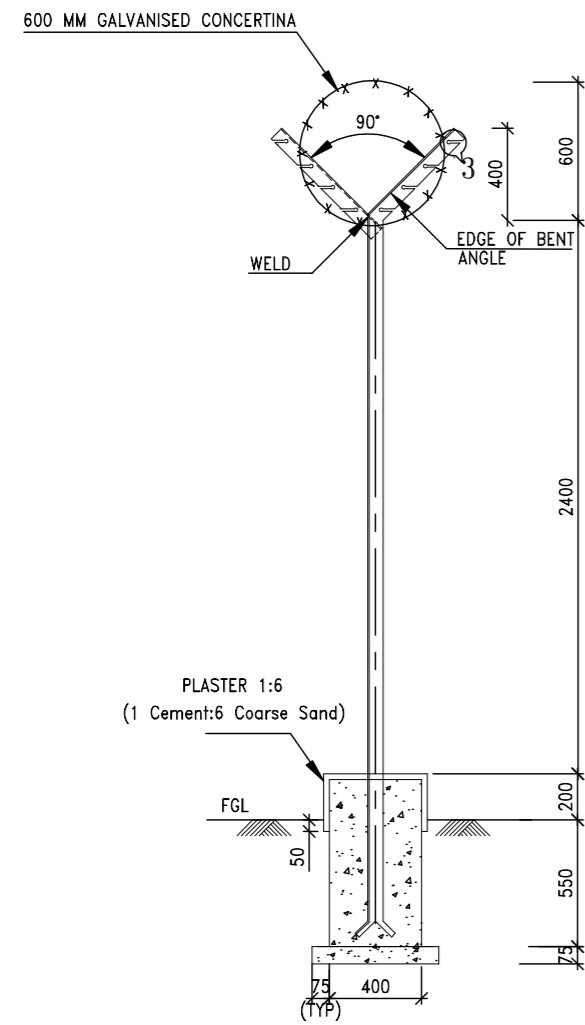
TYPICAL PLAN OF FENCING



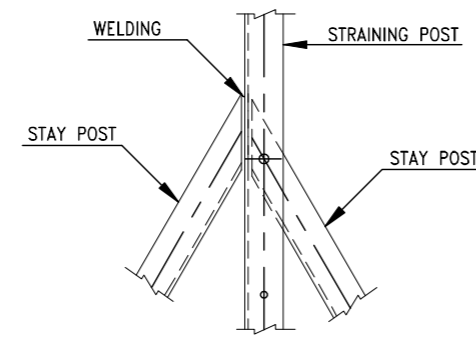
VIEW: A-A
(TYPICAL ELEVATION OF FENCING)



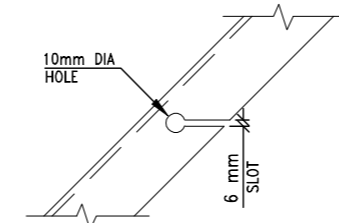
SECTION: B-B



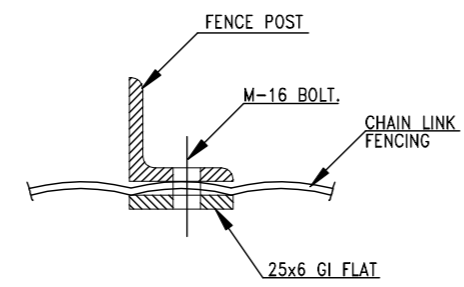
SECTION: C-C



DETAIL: 2



DETAIL: 3



SECTION: 1-1

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METERS.
2. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE COAT OF APPROVED STEEL PRIMER AND TWO COATS OF SYNTHETIC ENAMEL PAINT.
3. ALL WELD SHALL BE 6mm. THK. UNLESS NOTED OTHERWISE.
4. NUTS AND BOLT SHALL BE GALVANISED.


COMPUTER DRG. PATH NAME :

REF. DRG. No.

SIGN. & DATE

INVENTORY No.

REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED	REV.	DATE	ALTERED	CHECKED	APPROVED	

ADDITIONAL INFORMATION W.O.No. 80002		NAME OF CUSTOMER/PROJECT BIHAR STATE ELECTRICITY BOARD			
STATUS OF DRAWING		 BHARAT HEAVY ELECTRICALS LTD. TRANSMISSION PROJECTS DIVISION			
DISTRIBUTION OF PRINTS		DEPT.	SCALE 1:30	CARD CODE	DRAWN: VKA CHECKED: PLK APPROVED: RMS
VKA P.L.K R.M.S		TITLE DETAILS OF CHAIN LINK FENCE		DRAWING NO. TB-2-345-607-613	
REV. DATE ALTERED CHECKED APPROVED		SHEET No. 01		NEXT SHEET 00	