



## **BHARAT SANCHAR NIGAM LIMITED**

GENERAL MANAGER TELECOM DISTRICT BASTAR  
JAGDALPUR CG-494001

### **BID DOCUMENT**

**TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

<i>Last Date &amp; Time of Submission of Bid :</i>	<i>Upto 11:30 hrs of 29.05.2018</i>
<i>Date &amp; Time of opening of Bid :</i>	<i>12:30 hrs of 29.05.2018</i>
<i>Validity of Bid :</i>	<i>240 Days</i>

**OFFICE OF THE GENERAL MANAGER TELECOM DISTRICT BASTAR**

# BHARAT SANCHAR NIGAM LIMITED

GENERAL MANAGER TELECOM DISTRICT BASTAR  
JAGDALPUR CG-494001

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**SECTION – I**  
**BHARAT SANCHAR NIGAM LIMITED**  
GENERAL MANAGER TELECOM DISTRICT BASTAR  
**JAGDALPUR CG-494001**

**NOTICE INVITING E-TENDER**  
**TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

E-tenders are invited for and on behalf of CMD BSNL ,by the GMTD BASTAR from the enlisted eligible and experienced contractors for the following works:

**Name of Work :** TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA

**Brief Description of Work:** Providing services of JFUG Construction and Laying Work at designated service points at BSNL's various offices/ technical establishments/ other location in BASTAR SSA as and when required.

**Area of contract :**

ZONE	Name of Area	Estimated cost of work ( Rs)				Bid security ( Rs)	SoR		
		Rehabilitation	CAPEX	Maintenance	Total		Rehabilitation	CAPEX	Maintenance
I	S.D.E. (Phones) Jagdalpur	1375760	3025210	1244720	5645690	141142	72.30	71.38	72.30
II	S.D.E. (T) Jagdalpur	765400	703270	309540	1778210	44455	76.45	72.30	75.87
III	S.D.E. (T) Kondagaon	970050	846120	443375	2259545	56489	72.23	76.28	72.63
IV	S.D.E. (T) Narayanpur	492100	1173995	201530	1867625	46691	71.38	70.14	71.38
V	S.D.E. (T) Bhanupratappur	678350	610220	224010	1512580	37815	75.73	70.50	73.79
VI	S.D.E. (T) Kanker	810700	815070	359175	1984945	49624	72.62	73.17	72.30
VII	S.D.E. (T) Sukma	603300	930920	240300	1774520	44363	71.38	74.78	73.79
VIII	S.D.E. (T) Dantewada	751200	663370	238000	1652570	41314	79.69	77.31	73.79
IX	S.D.E. (T) Bijapur	608600	1403020	238450	2250070	56252	74.56	75.27	71.38

- Eligibility of Contractors:** The intending bidder shall have experience of digging/HDD work for OFC/JFUG Cable work for not less than 25% value of estimated cost of the Section OR 25% of the estimated quantity of the Section, in last six FINANCIAL years including the current financial year from any of the following organization's (a) Government Department, PSUs and other Govt. Institutions. (b) Public Limited Company. (c) Govt. recognized institutions (d) Co-operative registered with Register of Co-operative (e) private telecommunication service provider company and a copy of experience certificate is to be enclosed with Qualifying Bid. The certificate should be on the organization's letter pad bearing complete address, telephone No., FAX No. etc. Further the experience certificate will be verified by the BSNL before awarding the works to the tenderer. The copy of experience certificate should be duly attested by gazetted officer/notary. Bidder can participate in all Sections ,if a bidder participates in more than one Section than bidder has to submit the experience certificate equivalent to the sum total of experience amount of the Sections for which he has submitted the bids.

**Other Details are as follows:**

- Procurement of Tender Document: Tender document can be obtained by downloading it from the website [www.chhattisgarh.bsnl.co.in](http://www.chhattisgarh.bsnl.co.in) Tender link. The official copy of tender document for participating in E-tender shall be available for downloading from (<https://www.tcil-india-electronictender.com> from **07.05.2018 10:00 Hrs** onward.
- The bidders downloading the tender document are required to submit the tender fee amount of **Rs. 590/- (Rupees Five Hundred ninety only)** for each zone (II to IX) and Rs 1180/- (Rs One thousand one hundred eighty only) for zone-I, separately through DD/ Banker's cheque along with their tender bid failing which the tender bid shall be left archived unopened/ rejected. The DD/ banker's cheque shall be drawn from any Nationalized/ Scheduled Bank in favour of AO(cash), BSNL, % GMTD BASTAR payable at BASTAR Chhattisgarh-494001.
- The tender documents shall be issued free of cost to eligible bidders on production of requisite proof in respect of valid certification from competent authority for the tendered item of exemption .
- Availability of Tender Document:** The tender document shall be available for downloading from **10:00 Hrs of 07.05.2018 onward upto 11:25 Hrs of 29.05.2018**

5. Tender document are available on the portal mentioned on DNIT only. Physical copy of the tender document would not be available for sale.
6. The Tender document shall not be available for download on its submission/ closing date.
7. BSNL BASTAR reserves the right to accept or reject any or all the tender bids without assigning any reason. He is not bound to accept the lowest tender. BSNL also reserves the right to pre-pone or postpones the tender without assigning any reason whatsoever and without any notice to anyone.
8. Technical and financial bid accepted only through e-tendering process. Eligibility bidder will be decided in the mean of respective Section, EMD, Tender fee, and experience certificate. If any mismatch between Offline and online document all tender will rejected of bidder.

9. **Date & Time of Submission of Tender bids:**

Duly filled Tender document along with all documents should be submitted on line on portal (<https://www.tcil-india-electronicstender.com>) or before **29.05.2018 upto 11:30 hrs.**

**Note :** In case the date of submission (opening) of bid is declared to be a holiday, the date of submission (opening) of bid will get shifted automatically to next working day at the same scheduled time. Any change in bid opening date due to any other unavoidable reason will be intimated to all the bidders separately.

10. **Online opening of Tender Bids:** Tender will be opened on **29.05.2018 at 12:30Hours.**

11. **Place of opening of Tender bids:**

Authorized representatives of bidders (i.e. vendor organization) can attend the Tender Opening Event(TOE) at the AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001 where BSNL's Tender Opening Officers would be conducting TOE through online e-Tender.

12. Tender bids received after due date and time will not be accepted.
13. The tender document & all other documents establishing bidder's eligibility & qualifications are to be submitted as per online submission details given in tender document
14. Incomplete, Ambiguous, conditional, unsealed tender bids are liable to be rejected.
15. Bid Security amount (EMD) is to be paid in the form of Crossed Demand Draft issued by any nationalized bank/scheduled bank, drawn in favor of Accounts Officer (Cash) BSNL, O/o GMTD BASTAR, payable at BASTAR.
16. The NIT is the part of complete bid document for the evaluation purpose.
17. Time and last date of submission of Bid : **Up to 11:30 hrs. On 29.05.2018**
18. Time of Bid opening : **At 12:30 hrs on 29.05.2018**
19. Queries Pertaining of Tender Condition: **Up to 17:30Hrs On Dated 22.05.2018**
20. Duration of contract: One year from the date of signing of the agreement. With an option of extension for tender period of one year in step of 6 months on same terms & condition.
21. The tender, which is not accompanied by the requisite Bid Security, shall be summarily rejected. Tender will not be accepted / received after expiry of date and time as mentioned above.
22. The GMTD BASTAR reserves the right to reject any or all tenders without assigning any reason what-so-ever.
23. MSE registered bidder shall be given exemption as applicable to them on submission of certification whose should be valid on tender opening.
24. **A contractor only participated not more than 2 Zones.** In case more than 2 zone participated ,all bids rejected of participate bidder.
25. Work may be Capex nature/ Rehabilitation nature. In case of CAPEX nature work AT will be involve.
26. In case of any complain from field unit regarding standard less work ,contract may terminate from other zones.
27. Work place/site detailed mentioned in work order and also provide information of site details from site Incharge in time to time.

AGM(Planning)  
O/o The GMTD Bastar

## Section - II



### **BHARAT SANCHAR NIGAM LIMITED**

GENERAL MANAGER TELECOM DISTRICT BASTAR  
JAGDALPUR CG-494001

**TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

### निविदा आमंत्रण सूचना

बी.एस.एन.एल. की ओर से महाप्रबंधक दूरसंचार जिला , जगदलपुर द्वारा JFUG केबल बिछाने हेतु, सक्षम एवं अनुभवी फर्म/टेकेदारों से वैक्स या पी.वी.सी. टेप सील्ड निविदा आमंत्रित की जाती है। विस्तृत जानकारी हेतु विस्तृत विवरण हेतु [www.chhattisgarh.bsnl.co.in/www.tcil-india-electronictender.com](http://www.chhattisgarh.bsnl.co.in/www.tcil-india-electronictender.com) देखें अथवा कार्यालय से संपर्क करें।

महाप्रबंधक दूरसंचार जिला  
बस्तर , जगदलपुर

**SECTION - III**  
**BID FORM**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

To,  
AGM(Planning)  
O/o The GENERAL MANAGER TELECOM DISTRICT  
BASTAR, (C.G.)

Dear Sir,

Having examined the conditions of contract and specification including addenda the receipt of which is hereby duly acknowledged, we, undersigned, offer to execute the works in TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA . In conformity with said conditions of contract and specifications as may be ascertained in accordance with the schedule of prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, we will execute the work in accordance with specifications, time limits & terms and conditions stipulated in the tender document.

If our Bid is accepted, we shall submit the securities as per the conditions mentioned in the contract.

We agree to abide by this Bid for a period of 240 days from the date fixed for Bid opening (Qualifying Bid) and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

Until a format Agreement is prepared and executed, this Bid together with your written acceptance thereof in your notification of award shall constitute a binding contract between us.

Bid submitted by us is properly sealed and prepared so as to prevent any subsequent alteration and replacement.

Dated this .....day of .....Year .....

Signature of Authorized Signatory.....

In capacity of .....

Duly Authorized to sign the bid for and on behalf of .....

Witness.....

Address.....

Signature.....

**SECTION IV**  
**BIDDER'S PROFILE**

Passport size  
photograph of  
the BIDDER/  
authorised  
signatory  
holding power

General:

- 1. Name of the **Bidder**/ firm \_\_\_\_\_
- 2. Name of the person submitting the tender whose Photograph is affixed  
Shri/Smt. \_\_\_\_\_

(In case of Proprietary/ Partnership firms, the tender has to be signed by Proprietor / Partner only, as the case may be)

- 3. Permanent Address of the firm : \_\_\_\_\_  
\_\_\_\_\_
- 4. E.P.F. No. \_\_\_\_\_
- 5. Correspondence Address \_\_\_\_\_
- 6. Email Id & Tel. No. (with STD code) (O) \_\_\_\_\_ ( Fax) \_\_\_\_\_ [R] \_\_\_\_\_  
Mobile \_\_\_\_\_, Email ID: \_\_\_\_\_
- 7. Registration & incorporation particulars of the firm:
  - i) Proprietorship
  - ii) Partnership
  - iii) Private Limited
- 8. Name of Proprietor/Partners/Directors: \_\_\_\_\_  
\_\_\_\_\_

9. ESI Registration details: \_\_\_\_\_

10. **Bidder's** bank account details(Bank Name, Branch Name, Address & Account No) :  
\_\_\_\_\_

11. Permanent Income Tax number(PAN), Income Tax circle: \_\_\_\_\_  
\_\_\_\_\_

12. Infrastructural capabilities:  
Capacity of engaging labors at given time \_\_\_\_\_

13. Details of Technical and supervisory Staff:.....  
.....

I/We hereby declare that the information furnished above is true and correct.

Place:

Date:

Signature of **Bidder**/ Authorized signatory .....

Name of the BIDDER.....

## Section V

### V.I General Instructions to Bidders

#### A. INTRODUCTION:

##### 1. DEFINITIONS

- a. BSNL means Bharat Sanchar Nigam Limited and its successors.
- b. CMD: The CMD means CHIEF MANAGING DIRECTOR of BSNL and his successors.
- C Department: The Department means the Department of Telecommunications / Department of Telecom Services or any other Department under the Ministry of Communications, which invites the tender on behalf of the CMD BSNL . All references of:
- ◆ Chief General Manager
  - ◆ General Manager
  - ◆ Deputy General Manager / Area Manager
  - ◆ Divisional Engineer
  - ◆ Sub Divisional Engineer
  - ◆ Junior Telecom Officer
  - ◆ Chief Accounts Officer
  - ◆ Accounts Officer
  - ◆ Junior Accounts Officer
- Including other officer in the Department, whatever designations assigned to them from time to time, who may be the in-charge of direction, supervision, testing, acceptance and CONSTRUCTION including their successor(s) in the office appearing in various clauses shall be taken to mean the Department of Telecommunications under the Ministry of communications, Government of India.
- d. The SSA Head means the Head of SSA: GMTD BASTAR and his successors.
- e. The jurisdiction of The SSA Head: the jurisdiction of GMTD BASTAR means BASTAR SSA which coincides geographically with Revenue Districts of Kanker, Kondagaon, Narayanpur, Bastar, Dantewada, Bijapur and Sukma .
- f. Representative of GMTD BASTAR: Representative of GMTD BASTAR means officer and staff for the time being in BASTAR SSA deputed by the GMTD BASTAR for inspecting or supervising the work or testing etc.
- g. Engineer - in - charge: the Engineer - in - charge means the Engineering Officer nominated by the BSNL to supervise the work, under the contract, (Minimum Divisional Engineer level officer).
- h. Site Engineer: Site Engineer shall mean an SDE of the BSNL BASTAR who may be placed by the GMTD BASTAR, (BASTAR SSA) as in-charge of the work at site at any particular period of time.
- i. A/T Unit: A/T Unit shall be mean Acceptance and Testing unit of the BSNL.
- k. Contract: The term contract means, the documents forming the tender and acceptance there of and the formal agreement executed between the competent authority on behalf of the BSNL and the contractor, together with the documents referred.
- L. Contractor: The contractor shall mean the individual, firm or company, enlisted with BSNL in accordance with procedure for enlistment of contractor, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the Permitted assignees of such individual, firm or company.
- m. Work: The expression "work" shall unless there be something either in the subject or context repugnant to such construction be construct and taken to mean the work by or by virtue of the contract contracted to be executed whether temporary or permanent and whether original altered, substituted or additional.
- n. Schedule(s): Schedule(s) referred to in these conditions shall mean the relevant schedule(s) or the standard schedule of rates mentioned in the document.
- o. Site: The site shall mean the land / or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which, the work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
- p. Normal time or stipulated time: Normal time or stipulated time means time specified in the work order to complete the work.



- q. Extension of Time: Extension of Time means the time granted by the BSNL to complete the work beyond the normal time or stipulated time.
- r. Date of Commencement of work: Date of commencement of work means the date of actual commencement of work or 7th day from the date of issue of work order, whichever is earlier.
- s. Due date of completion: Due date of completion shall be the date by which the work shall be completed at site including clearance of site.
- t. Duration of completion of work: The duration of completion of work or completion time shall be time specified in the work order plus extension of time granted, if any.
- u. Excepted risk: Excepted risk or risks due to war (whether declared or not), invasion, act of foreign enemies, hostilities, civil war, rebellion, revolution, insurrection, military or usurped power, any acts of BSNL damages from aircraft, acts of God, such as earthquake, lightning and unprecedented floods and other causes over which the contractor has no control and the same having been accepted as such by the Accepting Authority or causes solely due to use or occupation by the BSNL of the part of the work, in respect of which a certificate of completion has been issued.

## 2. ELIGIBILITY OF BIDDERS:

The invitation of bids is open to all enlisted & experienced contractors as per their eligibility mentioned in NIT of this tender document.

## B. THE BID DOCUMENTS

### 3. BID DOCUMENTS

3.1 The work to be carried out, goods required, bidding procedures and contract terms are prescribed in the Bid Documents. The Bid Documents include:

#### 3.1.1 Qualifying Bid:

- 3.1.1.1 Notice Inviting Tender
- 3.1.1.2 Bid Form
- 3.1.1.3 Bidder's Profile
- 3.1.1.4 Instructions (General & E-tender instructions) to Bidders.
- 3.1.1.5 General (commercial) Conditions of the contract.
- 3.1.1.6 Special Conditions of Contract.
- 3.1.1.7 Scope of Work
- 3.1.1.8 Agreement format
- 3.1.1.9 Declaration formats
- 3.1.1.10 format for Letter of Authorization for Attending Bid Opening.
- 3.1.1.11 List of Documents to be uploaded during on line bid.

#### 3.1.2 Financial Bid

- 3.1.2.1 Financial Bid

3.2 The Bidder is expected to examine all instructions, forms, terms and specification in the bid documents. Failure to furnish all information required as per the Bid Documents or submission of bids not substantially responsive to the Bid Documents in every respect will be at the bidder's risk and shall result in rejection of the bid.

#### 4. QUERIES ON BID DOCUMENTS:

A prospective bidder, requiring any clarification of the Bid Document shall notify the BASTAR SSA in writing or by fax at the BASTAR SSA's mailing address indicated in the invitation for Bids. The BASTAR SSA shall respond in writing to any request for clarification of the Bid Documents, which it receives not later than 7 days prior to the date for the opening of the bids. Copies of the query (without identifying the source) and the clarifications by the BASTAR SSA shall be sent to all the prospective bidders who have purchased the bid documents and all such clarifications issued by the BASTAR SSA will form part of the bid document. The oral query/telephonic queries will not be entertained.

## 5. AMENDMENT OF BID DOCUMENTS

- 5.1 At any time, prior to the date for submission of bids, the BASTAR SSA may, for reason whether suo motto or in response to a clarification requested by a prospective Bidder, modify the bid documents by amendments.
- 5.2 The amendments shall be notified in writing or by Post or FAX or email to all prospective bidders on the address intimated at the time of purchase of bid document from the BASTAR SSA and these amendments will be binding on them.
- 5.3 In order to afford prospective bidders reasonable time to take the amendments into account in preparing their bids, the BASTAR SSA may, at its discretion, extend the deadline for the submission / opening of bids suitably.

## C. PREPARATION OF BIDS

6. Cost of Bidding: The bidder shall bear all costs associated with the Preparation and submission of the bid. The BASTAR SSA, will in no case, be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

7. Important Instructions Regarding Eligibility, Payment :

### **7.1 DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATIONS:**

The bidder shall furnish, as part of his bid documents establishing the bidder's eligibility the original / attested copies of following documents(attested by Gazetted officer / Notary):

<i>Documents required to be submitted for establishing Bidders Eligibility and Qualifications (Notarized Attested copies to be attached)</i>	
<i>Sl No</i>	<i>Particular (Documents)</i>
1	<i>The registration of the firm.: Attested copy of registration of the firm (Registration with Nagar Nigam/Gumasta/Department of Labour or competent office in case of Proprietary firm &amp; in case of Pvt. Ltd. Company/Partnership firm registration with Registrar of firms is required, or any other competent office). Authenticated copy of the partnership deed in case of partnership firm or copy of Memorandum and articles of Association in case of companies.List of all Partner/Directors including their name(s), Director Identification Number(s) (DIN) and address (es) along with contact telephone numbers of office and residence if applicable</i>
2	<i>Original "Power of Attorney" in case person other than the BIDDER has signed the tender documents.</i>
3	<i>Attested copy of EPF registration no</i>
4	<i>Attested copy of ESI registration no</i>
5	<i>Attested copy of PAN No (In case of Partnership/Pvt Ltd firm PAN No of firm is required, in case of Proprietorship firm PAN No of proprietor &amp; in case of Consortium PAN No. of leading bidder is to be enclosed)</i>
6	<i>Attested copy of Valid Turn Over Certificate from Chartered Accountant. Average Annual Financial Turn Over during the last 3 years ending 31st March (14-15,15-16,16-17) should be at-least 40% of estimates cost.</i>
7	<i>Attested copy of Latest IT return</i>
8	<i>Attested copy of valid GST Registration</i>
9	<i>Experience certificate-As per NIT.</i>
10	<i>Declaration regarding no near relative employed in BSNL in the given format available in tender document. in Rs 10/- Non Judicial Stamp paper.</i>
11	<i>Declaration regarding not black listing of firm in the given format available in tender document in Rs 10/-Non Judicial Stamp paper.</i>
12	<i>Undertaking regarding payment insulation in the given format available in tender document in Rs 10/-Non Judicial Stamp paper.</i>
13	<i>Attested copy of Valid MSE Certificate, if applicable.</i>
14	<i>Labour license registration (Central Government of India).If same is not available at the time of bid submission , a declaration letter is to be enclosed that it will be submitted at the time of commencement of work, failing which EMD can be forfeited and party can be black listed from any tender in BSNL</i>

15	<i>Bid Form of Bid Document</i>
16	<i>Bidder Profile of Bid Document</i>
17	<i>EMD and Tender fee as per NIT</i>

7.2 **PAYMENT INSULATION UNDERTAKING:**

The bidder is required to submit a payment insulation under taking that he has sufficient capital resources at his disposal so that he will make due payments to the labours / workers / working of this tender/ contract every month as per laws without linking it with payments from BSNL and carry out operations of tender without linking it with payments from BSNL. (It may be noted that BSNL makes payments twice a month based on status of submitted & passed invoices available with paying authority as per current policy).

- 7.3 If the work is not completed in the time on the part of the contractor, the GMTD BASTAR BSNL will have the authority to get the work done by other agency at the cost of BIDDER.
- 7.4 The GMTD BASTAR will also have the right to impose penalty and adjust the same either through security deposit or preferably by deducting it from the any bills payable to the contractor.

7.5 **WORKMANSHIP**

In case of poor workmanship or if the work/supply is not done in time and in view of exigency of the work/supply, if it is considered necessary to carry out the work/supply by some other means or to assign the work/supply to some other parties due to the failure on the part of the contractor, 15 days time will be given to the contractor to correct or complete the work/ supply failing which the work/supply can be got done by other means at the risk and cost of the contractor.

7.6 **DEBARRING FROM PARTICIPATION**

7.6.A The contractor may be debarred from participating in all the future tenders of BSNL CG District in the event of (i) failure of successful BIDDER to pay the security deposit or enter in to the prescribed agreement (ii) in the event of any breach of any terms and conditions of the contract.

7.6.B Near relatives of the officials working in BSNL are debarred from participating in the tender. The contractor in this regard must sign a declaration, in absence of which the tender will be rejected.

7.6.C Such contractors who have defaulted on earlier occasions in completion of contract due to reasons not attributed to BSNL, are liable to be debarred for participation or are liable to be evaluated as ineligible.

7.7 **COUNTER OFFER**

**The GMTD BASTAR reserves the right to counter offer prices, ask for re-offer against prices quoted by any BIDDER.**

8. **BID SECURITY: EARNEST MONEY DEPOSIT (EMD)**

8.1 **EARNEST MONEY :-**

- 8.1.1 An Earnest Money as per N.I.T. shall be paid in the form of D.D. in the office of GMTDBASTAR should be enclosed in the techno commercial bid envelop. Any tender received without E.M.D. will be rejected.
- 8.1.2 Earnest Money will be refunded without interest after final acceptance of the tender and execution of the agreement with the successful BIDDER or converted as part of S.D.. The earnest money shall be forfeited by the BSNL, if the BIDDER withdraws their tender before it's final acceptance (ii) if the successful BIDDER fails to pay the security deposit or enter into the prescribed agreement with GENERAL MANAGER TELECOM DISTRICT BASTAR (CG).

## 8.2 SECURITY DEPOSIT :-

8.2.1 The successful BIDDER shall submit within 7 days of receipt of intimation of acceptance of his tender, 10% of the total cost of work as security deposit. The earnest money of the successful BIDDER may be converted as part of security deposit. In case BIDDER submits full amount of SD, EMD may be returned after execution of agreement. The SD is to be deposited in the form of FDR,DD,Cash or Bank Guarantee in favour of Account's Officer O/o GMTDBASTAR. EMD may released to bidder by SDE(Operation) in the behalf of AO(Cash). MSME bidder also submitted required SD.

8.2.2 The security deposit of the successful BIDDER will be returned without interest after three month of the successful completion of the contract and after deducting the dues if any, payable to the BSNL. In the event of any breach of any terms and conditions or delay or default the contractor will be terminated and security deposit forfeited to the Government by the GENERAL MANAGER TELECOM DISTRICT BASTAR (CG).

## 9. BID PRICES:

9.1 The bidder shall give the total a composite price inclusive of all taxes and levies (excluding GSTN) in case of works to be executed. The contractor shall be responsible for transporting the materials (excluding GSTN), to be supplied by the BASTAR SSA Telecom Store or otherwise to execute the work under the contract, to site at his/their own cost. And therefore no separate charges are payable on this account. The offer shall be firm in Indian Rupees.

9.2 Prices shall be quoted by the bidder for all works.

9.3 L 1 will be decided from party stands lowest all in works and taking other factors in to accounts .

9.4 The price quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and rejected.

9.5 Discount, if any, offered by the bidders shall not be considered unless they are specifically indicated in the schedule of rates (financial Bid). Bidders desiring to offer discount shall therefore modify their offers suitably while quoting and shall quote clearly net price taking all such factors like Discount, free supply, etc. into account.

## 10. PERIOD OF VALIDITY OF BIDS :

10.1 Bid shall remain valid for 240 days from date of opening of the bid (Qualifying Bid). A BID VALID FOR A SHORTER PERIOD SHALL BE REJECTED BY THE BSNL AS NON – RESPONSIVE.

10.2 The BSNL reserves the right to request the lowest 3 bidders as per read out list on the opening day to extend the bid validity for a period of further 120 days and the bidder has to necessarily extend the bid validity. Refusal to extend the bid validity will result in forfeiture of the bid security. A bidder accepting the request and extending the bid validity will not be permitted to modify his bid.

## 11. SIGNING OF BID :

11.1 The bidder shall submit his bid, online, complying all eligibility conditions, other terms and conditions of tender document to be read along with the clarifications and amendments issued in this respect. All the documents must be authenticated, using Digital Signature by the authorized person. The letter of authorization shall be indicated by written power-of-attorney accompanying the bid.

11.2. The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the bidder in which case such corrections shall be signed by the person or persons signing the bid. All pages of the original bid, except for un-amended printed literatures, shall be digitally signed by the person or persons signing the bid.

## **D. SUBMISSION OF BIDS**

### 12. SEALING AND MARKING OF BIDS

*The bid should be submitted as per Clause of tender information.*

12.1 The bids

Single Stage Bidding & Two Envelope System

The details of sealing & marking of bids in each case is given below:

**A. Offline Documents:- Please refer section-IV clause No 4.1 (E-Tendering Instructions to Bidders)**

**B. Online Document:- Please refer section-IV Clause No 4.2.1 & 4.2.2 (E-Tendering Instructions to Bidders)**

All envelopes should be sealed separately and further kept in a single main envelope under the personal seal of the bidder.

a) The envelopes shall be addressed to the AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001

b) The envelope shall bear the name of the tender, the tender number and the words **DO NOT OPEN BEFORE** (Dated 29.05.2018 at 12:30Hrs).

c) The inner and outer envelopes shall indicate the name and complete postal address of the bidder to enable the purchaser to return the bid unopened in case it is declared to be received 'late'.

d) Tender should be deposited in the tender box provided by tendering authority or delivered in person on above mentioned address (address is given in Clause above). The responsibility for ensuring that the tenders are delivered in time would vest with the bidder.

e) Bids delivered in person on the day of tender opening shall be delivered upto dated **29.05.2018 at 11:30 Hrs**

f) Venue of Tender Opening:

(i) AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001

(ii) If due to administrative reasons, the venue of Bid opening is changed, it will be displayed prominently on AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001

12.3) If both the envelopes are not sealed and marked as required at para 12.1(A) and 12.2 (B), the bid shall be rejected.

### **13.0 SUBMISSION OF BIDS**

13.1. Bids must be submitted by the bidders on or before the specified date & time indicated in NIT.

13.2. The BSNL may, at its discretion, extend this deadline for the submission of bids by amending the Bid Documents in accordance with clause 6 in which case all rights and obligations of the purchaser and bidders previously subject to the deadline will thereafter be subjected to the extended deadline.

13.3. The bidder shall submit its bid offer against a set of bid documents purchased by him for all or some of the systems/ equipment as per requirement of the Bid Documents. He may include alternate offer, if permissible as per the bid. However, not more than one independent and complete offer shall be permitted from the bidder.

### **14.0 LATE BIDS**

14.1. No bid shall be accepted either online by E-Tender Portal or physically in case of manual bidding process, after the specified deadline for submission of bids prescribed by the purchaser.

### **15. MODIFICATIONS AND WITHDRAWAL OF BIDS :**

15.1 The bidder may modify, revise or withdraw his bid after submission prior to deadline prescribed for submission of bid.

15.2 The bidder's modification, revision or withdrawal shall have to be online and digitally authenticated as per clause

15.3 Subject to clause no bid shall be modified subsequent to the deadline For submission of bids.

## **E. BID OPENING AND EVALUATION:**

### **16. OPENING OF BIDS BY THE BSNL :**

16.1 The BSNL shall open bids online in the presence of the authorized representatives of bidders online who chose to attend, at time & date specified in NIT on due date.  
The bidder's representatives, who are present, shall sign in an attendance register. Authority letter to this effect shall be submitted by the authorized representatives of bidders before they are allowed to participate in bid opening (A Format is given in enclosed in Section- XII).

16.2 *Maximum* one representatives of any bidder shall be authorized and permitted to attend the bid opening.

16.3 Name of envelopes to be opened & information to be read out by Bid Opening Committee

(i) The bids will be opened in 2 stages i.e. the techno-commercial bid shall be opened on the date of tender opening given in NIT. The financial bid will not be opened on the Date of opening of techno commercial bids in this case & sealed financial bids will be handed over to **AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001**. Thereafter the CET will evaluate Techno-commercial bids & the report of CET will be approved by competent authority. The financial bids of those bidders who are approved to be techno-commercially compliant by the competent authority, will be opened by TOC in front of techno commercially eligible bidders/ authorized representatives by sending them a suitable notice.

(ii) The following information should be read out at the time of Techno-commercial bid opening:-

- a) Name of the Bidder
- b) **DD for Tender FEE**
- c) EMD amount & validity and acceptability
- d) Information in respect of eligibility of the bidder.
- e) Details of bid modification/ withdrawal, if applicable.

(iii) The following information should be read out at the time of Financial bid opening:-

- a) Name of the Bidder
- b) Prices quoted in the bid

16.4 The date fixed for opening of bids, if subsequently declared as holiday by the BSNL, the revised date of schedule will be notified. However, in absence of such notification, the bids will be opened on next working day, time and venue remaining unaltered.

17. **CLARIFICATION OF BIDS BY THE BSNL :** To assist in examination, evaluation and comparison of bids, the BSNL may, at its discretion ask the bidder for clarification of its bid. The request for its clarification and its response shall be in writing. However, no post bid clarification at the initiative of the bidder shall be entertained.

### **18. General guidelines to TOC & TEC for opening of Bids & Evaluation thereof :-**

- (a) On the specified date and time, the nominated TOC ( Tender Opening committee) will open technical bid of the bidders as per the guidelines on the matter and prepare the TOC report duly signed by the all the members.
- (b) After approval of TOC report by competent authority TEC will evaluate the bids technically/commercially.
- (c) After approval of TEC report by competent authority TOC will open the financial bid on the specified date and time.
- (d) TEC will evaluate the financial bid and submit the report to competent authority for approval.

### **19. PRELIMINARY EVALUATION :**

- a) BSNL shall evaluate the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed and whether the bids are generally in order.
- b) If there is discrepancy between words and figures, the amount in words shall prevail. If the Contractor does not accept the correction of the errors, his bid shall be rejected.

- c) Prior to the detailed evaluation, pursuant to clause 20, the BSNL will determine the substantial responsiveness of each bid to the bid document. For purpose of these clauses a substantially responsive bid is one which conforms to all the terms and conditions of the bid documents without deviations. The BSNL's determination of bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence except clarification sought by TEC .
- d) A bid, determined as substantially non responsive will be rejected by the BSNL and shall not subsequent to the bid opening be made responsive by the bidder by correction of the non-conformity.
- e) The BSNL may waive any minor infirmity or non-conformity or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of the bidder.

**20. EVALUATION AND COMPARISON OF SUBSTANTIALLY RESPONSIVE BIDS :**

- I. The BSNL shall evaluate in detail and compare the bids previously determined to be substantially responsive pursuant to clause 18 and 19 through TEC.
- II. The evaluation and comparison of responsive bids shall be on the percentage deviation (above/below/at par) offered and indicated in schedule of rates of the bid documents.

**21. CONTACTING THE DEPARTMENT :**

- I. Subject to clause 17 no bidder shall try to influence the BSNL on any matter relating to its bid, from the time of bid opening till the time the contract is awarded.
- II. Any effort by the bidder to modify his bid or influence the BSNL in the BSNL's bid evaluation, bid comparison or the contract award decisions shall result in the rejection of the bid.

**22. AWARD OF CONTRACT:** The BSNL shall consider award of contract only to approved L1 bidder.

**23. BSNL'S RIGHT TO VARY QUANTUM OF WORK: BSNL at the time of award of work under the contract, reserves the right to vary the estimated cost of work and quantity both to the extent of +25% of specified quantity and estimated cost at the time of award of work of the contract or during the agreement period at the same rates, terms and conditions.**

**24. BSNL'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS:** The BSNL reserves the right to accept or reject any bid and to annul the bidding process and reject all bids, at any time prior to award of contract without assigning any reason what-so-sever and without thereby incurring any Liability to the affected bidder or bidders on the grounds for the BSNL's action.

**25. ISSUE OF LETTER OF INTENT :**

- I. The issue of letter of intent shall constitute the intention of the BSNL to enter in to the contract with the bidder. Letter of intent will be the issued as offer to the successful bidder.
- II. The bidder shall within 15 days of issue of letter of intent, give his acceptance along with Security Deposit in conformity with clause 5. Section – V .

**26. SIGNING OF AGREEMENT :**

- a) The signing of agreement shall constitute the award of contract on the bidder. The agreement with the successful bidder shall be signed by the BSNL within a week of submission of Security Deposit as per clause 25.2 above.
- b) As soon as the tender is approved by the competent authority, the Bid Security deposited by the successful bidder shall be converted into security deposit , which will be held by the BSNL till the completion of warranty period. None of the deposits will bear any interest.

**27. ANNULMENT OF AWARD:** Failure of the successful bidder to comply with the requirement of clause 26 shall constitute sufficient ground for the annulment of the award and forfeiture of the bid security, in which event, the BSNL may make the award to any other bidder at the discretion of the BSNL or call for new bids.

28. The bidder will verify the genuineness and correctness of all documents and certificates, including experience/performance certificates, issued either by the bidder or any other firm / associate before submitting them in the bid. The onus of proving genuineness of the submitted documents would rest with the bidder. As per requirement of the tender's condition, if any document/paper/certificate submitted by the participant bidder is found to be false/fabricated/tempered/manipulated at any stage during bid evaluation or award of contract, then the bid security of the bidder would be forfeited and the bidder would be disqualified from the tender. Action would also be taken for banning of business dealings with the bidder. In case contract has already been awarded to the bidder, then PBS/SD would be forfeited and the contract would be rescind/annulled and BSNL would be at liberty to procure the services from any other source at the risk and cost of the defaulting bidder. Action would also be taken for banning the business dealing with defaulting bidder.
29. SPECIAL RIGHTS OF GMTD BASTAR
1. In case of any dispute between the two contracting parties, the decision of the GMTD BASTAR will be final.
  2. The GMTD BASTAR is not bound to accept the lowest tender, and also reserves the right to reject any or all the tenders so received without assigning any reason.
  3. The GMTD BASTAR reserves the right to disqualify such bidders who have a record of not meeting the contractual obligations against earlier contracts entered with the department.
  4. The GMTD BASTAR reserves the right to increase or decrease the duration and validity of the contract from normal one year duration and also reserves in the interest of the department..
  5. The GMTD, BASTAR reserves the right to award the works to more than one bidder, if required in the interest of the department.
  6. BSNL reserves right to counter offer price against price quoted by the bidder.
  7. The bidder with the lowest evaluated price will be considered for about 30% of tendered quantity and the balance quantity will be ordered on the remaining selected bidders. In case of 2 bidders are selected, the work distribution will be 60/40 for L1/L2 respectively and in case of 3 selected bidders, the work distribution will be 50/30/20 for L1/L2/L3 respectively. However, BSNL reserves the right for placement of full tendered quantity on the lowest bidder.
  8. Tenders with any condition including that of conditional / unconditional rebates shall be rejected forthwith.
  9. All provisions of statutory acts enacted by the Govt. or other codal formalities issued by other statutory bodies And local authorities from time to time shall be fulfilled/complied at the cost of bidder/BIDDER.
  10. If necessary the GMTD BASTAR would have full right to reject the order on the same rate, terms and conditions.
  11. Any technical condition/Scope of work will be changed any time.
  12. Repeated work order may be issue when required by BSNL.
  13. Final decision taken if any clerker mistake.



**SECTION-V.II**  
**E-Tendering Instructions to Bidders**

**Note :-**The instructions given below are TCIL e-tender portal. E Portal address and the according references/clauses may be suitably modified in this section as applicable from time to time.

**General :**

These Special Instructions (for e-Tendering) supplement 'Instruction to Bidders'. Submission of Bids only through online process is mandatory for this Tender.

For conducting electronic tendering, GMTD BSNL BASTAR is using the portal <https://www.tcil-india-electronictender.com> through TCIL, a Government of India Undertaking.

**1. Tender Bidding Methodology:**

Sealed Bid System – 'Single Stage – Using Two Envelopes',  
Financial & Techno-commercial bids shall be submitted by the bidder at the same time.

**2. Broad outline of activities from Bidders prospective:**

1. Procure a Digital Signing Certificate (DSC) from CCA
2. Register on TCIL Portal
3. Create Users and assign roles on TCIL
4. View Notice Inviting Tender (NIT) on TCIL
5. Download Official Copy of Tender Documents from TCIL
6. Bid-Submission on TCIL : Prepare & arrange all document/paper for submission of bid online and offline.
7. Submission of offline documents in sealed envelope at **AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001**.size of documents to be uploaded remains minimum. If required, documents may be scanned at lower resolutions say at 150 dpi. However it shall be sole responsibility of bidder that the uploaded documents remain legible.

8. Utmost care may be taken to name the files/documents to be uploaded on TCIL.

9. It is advised that all the documents to be submitted are kept scanned or converted to PDF format in a separate folder on your computer before starting online submission. BOQ Part A (Excel Format) may be downloaded and rates may be filled appropriately. For participating in this tender online, these instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the TCIL.

**3. Digital Certificates**

For integrity of data and its authenticity/ non-repudiation of electronic records, and be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). also referred to as Digital Signature Certificate (DSC), of Class 2 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

**4. Method for submission of bid documents**

In this tender the bidder has to participate in TCIL e-tender portal online. Some documents are to be submitted physically offline as mentioned in tender document.

**4.1. Offline submission:**

The bidder shall submit the following documents offline to **AGM(Planning) O/o The GMTD Bastar Jagdalpur Door Sanchar Bhavan Vrindavan Colony Jagdalpur 494001**.on or before the date & time of submission of bids specified in NIT, in a Sealed Envelope. The envelope shall bear (the project name), the tender number and the words 'DO NOT OPEN BEFORE' (due date & time).

1. DD for Tender Fee as per NIT (Original copy).
2. EMD-Bid Security (Original copy).
3. Original Power of Attorney (If applicable)
4. PASS PHRASE for both part (Technical and Financial) in sealed envelope.

NOTE : DD - drawn in favour of AO(Cash ) , O/o GMTD, BSNL BASTAR Chhattisgarh ; BASTAR - 494001 against payment of tender fee.

NOTE : The Bidder has to upload the Scanned copy of all above said documents during Online Bid-submission also.

4.2 Online submission: The bidder shall submit the following documents online at the time of online bidding.

#### 4.2.1 Contents of 1st Envelope (Techno-Commercial Bid )

<i>Documents required to be submitted for establishing Bidders Eligibility and Qualifications (Notarized Attested copies to be attached)</i>	
<i>Sl No</i>	<i>Particular (Documents)</i>
1	<i>The registration of the firm.: Attested copy of registration of the firm (Registration with Nagar Nigam/Gumasta/Department of Labour or competent office in case of Proprietary firm &amp; in case of Pvt. Ltd. Company/Partnership firm registration with Registrar of firms is required, or any other competent office). Authenticated copy of the partnership deed in case of partnership firm or copy of Memorandum and articles of Association in case of companies. List of all Partner/Directors including their name(s), Director Identification Number(s) (DIN) and address (es) along with contact telephone numbers of office and residence if applicable</i>
2	<i>Original "Power of Attorney" in case person other than the BIDDER has signed the tender documents.</i>
3	<i>Attested copy of EPF registration no</i>
4	<i>Attested copy of ESI registration no</i>
5	<i>Attested copy of PAN No (In case of Partnership/Pvt Ltd firm PAN No of firm is required, in case of Proprietorship firm PAN No of proprietor &amp; in case of Consortium PAN No. of leading bidder is to be enclosed)</i>
6	<i>Attested copy of Valid Turn Over Certificate from Chartered Accountant. Average Annual Financial Turn Over during the last 3 years ending 31st March (14-15,15-16,16-17) should be at-least 40% of estimates cost.</i>
7	<i>Attested copy of Latest IT return</i>
8	<i>Attested copy of valid GST Registration</i>
9	<i>Experience certificate-As per NIT.</i>
10	<i>Declaration regarding no near relative employed in BSNL in the given format available in tender document. in Rs 10/- Non Judicial Stamp paper.</i>
11	<i>Declaration regarding not black listing of firm in the given format available in tender document in Rs 10/-Non Judicial Stamp paper.</i>
12	<i>Undertaking regarding payment insulation in the given format available in tender document in Rs 10/-Non Judicial Stamp paper.</i>
13	<i>Attested copy of Valid MSE Certificate, if applicable.</i>
14	<i>Labour license registration (Central Government of India).If same is not available at the time of bid submission , a declaration letter is to be enclosed that it will be submitted at the time of commencement of work, failing which EMD can be forfeited and party can be black listed from any tender in BSNL</i>
15	<i>Bid Form of Bid Document</i>
16	<i>Bidder Profile of Bid Document</i>
17	<i>EMD and Tender fee as per NIT</i>

#### 4.2.2 Contents of 2nd Envelope (Financial Bid/ BoQ)

1. Original Price Schedule (BOQ) as per Section-XVI.
2. Price Schedule as per Section-XVI. (applicable only in e-Tender)

Note:(i) If some document is not applicable for the bidder then he has to upload scanned copy of paper mentioning 'The document <name> called vide clause \_\_\_\_\_ is not applicable on us.

(ii) If document asked for contains more than one page then all those pages may be uploaded in one PDF file.

#### 5. Registration

To use the Central Public Procurement Portal (<https://www.tcil-india-electronictender.com>), Vendor need to register on the portal. The vendor should visit the home-page of the portal (<https://www.tcil-india-electronictender.com>) and go to the link then select Bidders Manual Kit.

Note: Please contact TCIL Helpdesk (as given below), to get your registration accepted/activated.

.TCIL Helpdesk/ ETS Helpdesk	
Telephone	(011) 26 1071 / 2624 1072 [between 9:30 hrs to 18:00 hrs on working days]
Mobile Nos.	98683 93717 / 98683 93775/ 9868393792
E-mail ID	<a href="mailto:ets_support@tcil-india.com">ets_support@tcil-india.com</a>
BSNL Contact-1	
BSNL's Contact Person	K.D.Verma AGM(Planning)/Nodal Officer
Telephone/ Mobile	07782-237701, 9425201217 [between 10:30 hrs to 17:30 hrs on working days]
E-mail ID	<a href="mailto:Kamdeoverma28@gmail.com">Kamdeoverma28@gmail.com</a>
BSNL Contact-2	
BSNL's Contact Person	Hemendra Kumar Gahirwar SDE(Cm-Plg&Opr)
Telephone/ Mobile	07782-237666, 9425201036 [between 10:30 hrs to 17:30 hrs on working days]
E-mail ID	<a href="mailto:sdeplgidp@gmail.com">sdeplgidp@gmail.com</a>

Note : Any support related mail problem should be sent to [ets\\_support@tcil-india.com](mailto:ets_support@tcil-india.com) and mark copy to [support@electronictender.com](mailto:support@electronictender.com).

#### 6. Price schedule / BOQ

Utmost care may kindly be taken to upload price schedule / BOQ. Any change in the format of price schedule / BOQ file shall render it unfit for bidding. Following steps may be followed:

1. Download price schedule / BOQ part A in XLS format and price schedule / BOQ part B in PDF format.
2. Fill rates in down loaded price schedule / BOQ as specified in XLS format only in white back ground cells. Don't fill in grey back ground cells.
3. BOQ file part A is password protected XLS file. Don't unprotect the file. Price has to be filled in the same file and the same has to be uploaded.
4. Save filled copy of downloaded price schedule / BOQ file in your computer and remember its name & location for uploading correct file (duly filled in) when required.
5. Download price schedule / BOQ part B in PDF format. Get it printed, fill up required information. Scan it and save in your computer for uploading it while submitting the bid.

#### 7. Other Instructions

For further instructions, the vendor should visit the home-page of the portal <https://www.tcil-india-electronictender.com>), and go to the Bidders Manual Kit. The compatible support software (PDF Converter, Java, etc) for online bid submission may be downloaded from TCIL Portal.

The help information provided through 'ETS User-Guidance Center' is available in three categories – Users intending to Register / First-Time Users, Logged-in users of Buyer organizations, and Logged-in users of Supplier organizations. Various links are provided under each of the three categories.

Important Note: It is strongly recommended that all authorized users of Supplier organizations should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and minimize teething problems during the use of ETS.

The following 'FOUR KEY INSTRUCTIONS for BIDDERS' must be assiduously adhered to:

- a) Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender submission deadline on ETS
- b) Register your organization on ETS well in advance of your first tender submission deadline on ETS
- c) Get your organization's concerned executives trained on ETS well in advance of your first tender submission deadline on ETS
- d) Submit your bids well in advance of tender submission deadline on ETS (There could be last minute problems due to internet timeout, breakdown, et al)

While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth instruction is relevant at all times.

8. Minimum Requirements at Bidders end
  - Computer System with good configuration (Min P IV, 1 GB RAM, Windows XP)
  - 2 Mbps Broadband connectivity with UPS.
  - Microsoft Internet Explorer 6.0 or above
  - Digital Certificate(s) for users.

Note: For Participating in this Tender the bidder must be registered with TCIL.

#### **REMARKS**

\*Main bid means Tender document

\*Bid Annexure means Technical/Financial Bid

\*Any difference between Online Vs Electronic form ,than will be consider only on line document as per Electronic form .

\*Evaluation of Technocomrcial and financial bid offline document will be compare only from Electronicform

## SECTION – VI

### GENERAL (COMMERCIAL) CONDITIONS OF THE CONTRACT

1. **APPLICATION:**

The General conditions shall apply in contracts made by the BASTAR SSA for the execution of JF Underground cable construction works.

2. **STANDARDS:**

The works to be executed under the contract shall conform to the standards prescribed in the UG Cable construction practices.

3. **PRICES:**

3.1 Prices charged by the Contractor for the works performed under the Contract shall not be higher from the prices quoted by the Contractor in his Bid.

3.2 Price once fixed will remain valid for the period of contract. Increase of taxes/duties will not affect the price during this period. However for decrease of taxes duties, the benefit will go to BSNL.

4. **SUBCONTRACTS:**

The contractor shall not assign, sub contract or subject the whole or any part of the works covered by the contract, under any circumstances.

5. **SECURITY:**

(i) **Material Security:**

a. The successful tenderer will have to deposit material security as mentioned in the Scope of Work, subject to a minimum of Rs 2 Lacs, in the form of bank guarantee (valid up to and including six months after, the period of the contract) from a scheduled/nationalized bank and in the material security bond form provided in the bid document, section - IX. Material Security can also be submitted in the form of crossed Demand Draft drawn in favour of. Accounts Officer (Cash), O/o GMTD BASTAR issued by a schedule bank and payable at BASTAR. The Material Security will be a non interest bearing deposit, for any period what so ever. In addition to that EMD (Bid security) deposited at the time of tender submission shall be converted into part of material security deposit for successful bidder.

b. The contractor at any point of time will not be issued stores costing more than material security. If due to any reason more stores has to be issued to the contractor, then the material security will be suitably enhanced. In this regard the decision of the GMTD BASTAR shall be final and binding.

c. The proceeds of the material security shall be payable to the BASTAR SSA as a compensation for any loss resulting from the contractor's failure to handle properly the material issued to him under the contract.

d. The Material security shall be released/ refunded within a fortnight from the date of the payment of the last final bill of the work under the contract: or final settlement of material account whichever is later on production of "**no dues certificate**" from "**Engineer-in-charge**".

(ii) **PERFORMANCE SECURITY:**

a. The contractor shall permit the BASTAR SSA, at the time of making any payment to him for works done under the contract, to deduct such sum in addition to the sum already deposited (due to conversion of bid security), an amount to the tune of 10% of running bills/final bill.

- b. The proceeds of the performance security shall be payable to the BASTAR SSA as compensation for any loss resulting from the contractor's failure to complete its obligations under the contract.
- c. The performance security deposit shall be refunded after expiry of warranty period of last work executed provided there are no recoveries to be made arising out of poor quality of work, incomplete work and/or violation of any terms and conditions of the contract as Stipulated in the bid document.
- d. No interest will be paid to the contractor on the security deposit.
- e. Performance security release after successful completion of tender and NOC issued by field unit. P.S. are in the form of BG/FDR will be release by SDE(Planning) on the behalf of AO (Cash) after approval by Manager(Planning, CAO, and SSA head but in the form of Cash PS will be release through AO cash.

## 6. **ISSUE OF WORK ORDERS AND TIME UNIT:**

- 6.1 The work order shall be issued so as to include all items of works of required in Scope of NIT one or more primary cable(s) in large exchange systems (MDF to pillar and/or pillar to DPs) or for entire exchange area in case of small and medium exchanges. The idea behind issuing work orders in this way is to ensure that the network becomes ready from MDF to Pillar and/or Pillar to DPs for release of connections on completion of works entrusted against the work order. This makes it possible for ensuring end-to-end testing of cable pairs. The contractor shall organize the work in such a way so as to deliver meaningful output of requisite quality within shortest possible time. If there is a trench common to number of primary cables works, which are to be given in different work orders, the common trench may be given in one work order and in other work orders only Construction of cables in that common trench - and other works shall be mentioned. The work shall be taken up in such a way that cables are available from MDF to Pillar or Pillar to DP in a shortest possible time.
- 6.2 **The work orders shall be issued by the Manager (CFA)** after examining the technical and planning details of the works to be executed. Necessary detail estimate should be thoroughly checked for provisioning of stores, cash before issuance of work order.
- 6.3 If due to any reason partial work order is to be issued then the same shall be issued with the approval of an officer not below the rank of SSA Head.
- 6.4 The Divisional Engineer shall mention the time limit to execute the work order after seeing the quantum of work and store availability position.
- 6.5 The BASTAR SSA reserves the right to cancel or modify the scope of work stipulated to be carried out against the work order in the event of change of plan necessitated on account of technical reasons or in the opinion of work order issuing authority or the head of SSA, the contractor is not executing the work at the required rate.

## 7. **EXTENSION OF THE TIME:**

### 7.1 **General**

- 7.1.1 In each work order, the work order issuing authority shall specify the time allowed for completion of work consistent with the magnitude and urgency of work. The time allowed for carrying out the work is to be strictly observed by the contractor and shall be reckoned from seventh day from the date of issue of work order.
- 7.1.2 In as much as "the time being deemed to be the essence of contract", throughout the stipulated period of contract, the work is to be proceeded with all due diligence on the part of the contractor.

### 7.2 **Application for Extension-of the Time and Sanction of Extension of Time (EOT):**

- 7.2.1 There may be some hindrances, other than covered under force major, while execution of work and In such cases the contractor shall apply in writing in the prescribed Form (Part-A) to the engineer- in-charge for extension of time (EOT), on account of whom he desires such extension within three days of occurrence of hindrance. The Engineer-in-charge shall forward the request to the competent authority (an officer of the rank of JAG level in-charge of cable construction work) with his detailed -report and photocopy of the hindrance register, in the prescribed Form (Part-B) within three days of receipt of request from the contractor. The

competent authority is empowered to grant extension of time for completion of work on certain conditions. He shall exercise such powers, if the following conditions are satisfied.

- 7.2.1.1 The application contains the ground(s), which hindered the contractor in execution of Work.
- 7.2.1.2 The Engineer-in-charge is of the opinion that the grounds shown for extension of time are reasonable.
- 7.2.2 The competent authority shall consider the request keeping all the facts and circumstances in view and shall grant extension of time, if in his opinion, there are reasonable and sufficient grounds for granting such extension and the reasons for delay are not ascribable to the contractor.
- 7.2.3 The competent authority may also grant extension of time for completion of work in cases where reasons for delay are ascribable to the contractor, but such extension of time shall be with LD charges as per clause dealing with penalty for delays in execution of works. The extension of time with LD charges shall be issued under the signature of JAG level Telecom. Officer competent to grant the extension of time.
- 7.2.4 The competent authority shall grant EOT with time period for completion of work expressly mentioned. The sanction of the competent Authority of EOT shall be issued under the signature of the Engineer-in-charge.
- 7.2.5 If the competent authority is of the opinion that the grounds shown by the contractors are not reasonable and sufficient and declines to grant the extension of time, the contractor cannot challenge the soundness of the opinion by reference to arbitration. The decision of the competent authority on period of extension of time or refusal for extension of time shall be final and binding on the contractor.

### 7.3 **Grant of Extension of Time without Applications:**

- 7.3.1 There are, at times, practical difficulties like non-availability of materials, delay in providing permissions/right of way etc. reasons of which are ascribable to the BASTAR SSA. In such cases, the Engineer-in-charge with the approval of competent authority to sanction EOT, may Issue extension of time suo moto without waiting for contractor to make an application for EOT. Entry of hindrances shall be made in the Hindrance Register. The BASTAR SSA will, however, not be liable to the contractor for any losses or damages, costs, charges, or expenses that the contractor may in any way sustain/suffer due to delay in making the above available.

## 8. **MEASUREMENT. INSPECTION. TESTING AND ACCEPTANCE TESTING:**

### 8.1 **Measurement:**

- 8.1.1 The measurement books are to be maintained by the officer in-charge of the work or his immediate engineering subordinate not below the rank of Junior Telecom Officer. The entry shall be made in ink; No entry shall be erased. If a mistake is made, it should be corrected by crossing out the incorrect words or figures and inserting the corrections, the corrections thus made shall be initialed & dated by the officer concerned.
- 8.1.2 Responsibility of taking and recording measurements: The measurement of various items of work shall be taken and recorded in the measurement book issued with each work order. The measurement shall be taken and rechecked by an officer not below the rank of Junior Telecom Officer, supervising the work. The Junior Telecom Officer/Sub Divisional Engineer, directly responsible for supervision of work, shall be responsible for accuracy of 100% of measurements. The Sub Divisional Engineer where Junior Telecom Officer is supervising officer shall be responsible for conducting test check of 20% of measurements. The Divisional Engineer shall be responsible for conducting test check of 10% of measurements.
- 8.1.3 **Method of recording of nomenclature of items:** Complete nomenclature of items, as given in the agreement need not be reproduced in the measurement book for recording the measurements but corresponding Item Code as provided, shall be used.
- 8.1.4 **Method of measurements:** The measurements of the work shall be done for activity-wise as and when the item of work is ready for measurement. The methods of measurement of various items are enumerated as under:
  - \* Measurement of depth of trenches

The cable routes of one work order shall be divided into a number of segments each of maximum 100 meters length bounded by identifiable landmarks at both the ends of the segments. If landmarks are not available, length of segment may be maintained at 100 meters. One segment shall cover only one type of trench. The measurement of depth shall be recorded at each point of measurement (POM) in the measurement book in meters up to two decimal points. For example, 97 cms. depth shall be recorded as 0.97 m. The points of measurements shall be at a distance of 10 meters starting from 0 (zero) Meter. For example, if the length of segment is 75 meters, the POMs shall be at 0 M, 10 M, 20 M, 30 M, 40 M, 50 M, 60 M, and 70 M. The last POM shall be at 75<sup>th</sup> M to be

recorded against residual POM. For each segment average depth shall be worked out by dividing the total depth by number of POMs. The measurements of depth shall be recorded in measurement book.

The efforts required to excavate trenches is not proportionate especially with reference to depth. Therefore, normally the workers tend to dig shallow trenches. As standard depth of the trench is important for future life and protection of cables, this tendency has to be discouraged. In order to encourage the Contractor to achieve best possible depth in the face of site constraints, the following scale of payment shall be applied for digging trenches of lesser depths, subject to Condition that relaxation has been granted by the competent authority for lesser depths.

**Depth between Rates applicable as % of approved rates.**

90 Cms to 99 Cms	Proportionate of approved rates
80 Cms to 89 Cms	75 % of approved rates.
70 Cms to 79 Cms	65 % of approved rates
60 Cms to 69 Cms.	50 % of approved rates
50 Cms. to 59 Cms.	40 % of approved rates.
40 Cms. to 49 Cms.	30 % of approved rates
30 Cms. to 39 Cms.	20 % of approved rates
20 Cms. to 29 Cms.	NIL
10 Cms. to 19 Cms.	NIL
Below 10 Cms.	NIL

- Measurement of Lengths and profiles of strata and protection.

The measurements of length of trenches are on running meter basis for particular category of surface strata viz. non-surfaced strata and surfaced strata irrespective of type of soil encountered while digging.

The length of trenches dug in different strata in a segment shall be measured and recorded Item code-wise in the measurement book. The segment length from POMs and total of Item code-wise length should match.

The type of protection provided (item code wise) in a segment shall be recorded in the measurement book in the sheet provided for this purpose.

\* Measurement of length of cable: The length of cables laid in trenches, through pipes and through ducts shall be measured by use of RODO Meter/Measuring Tape. The length should be cross-verified with the marking of lengths on the cables. The lengths shall be recorded in sheet provided in the measurement book.

\* Measurement of other items: The measurement/numerical details of other items shall be recorded in the sheets provided for respective items viz

- > Erection, Termination, Painting and Sign Writing of D.Ps.
- > Construction of Plinths and Erection, Paining and Sign Writing of Pillars.
- > Termination of Cables on MDF and Pillars (Primary Cables)

8.1.5 The contractor shall sign all the measurement recorded in the measurement book. This will be considered as an acceptance by the contractor, of measurements recorded in the MB. In case contractor fails to countersign or to record the difference within a week, than in any such events the measurements taken by Engineer-in-charge or by the subordinate as the case may be shall be final and binding on the contractor and the contractor shall have no right to dispute the same.

8.1.6 The Divisional Engineer before passing the bill for sections covered by each set of measurement may carry out test check by re-opening trench at as many locations as necessary as specified in document procedures for underground cable construction and bills will be passed only when he is personally satisfied of the correctness of entries in the "Measurement Book" and also when he is satisfied of other aspects of the work as per the terms of the contract. The contractor shall provide the necessary assistance of labour for re-opening of trench for test check by the Divisional Engineer. Separate payment shall not be made to the contractor for excavation of such test checks, however such test pits shall not be more than 10% of the cable Construction work.

8.1.7 Measurement of the work of cable pulling through pipe/duct will be taken equal to the length of the pipe / duct through which the cable has been pulled and not the total length of the cable pulled through pipe / duct.

8.2 **Inspection, and Quality Control:**



- 8.2.1 The Quality of Works: The importance of quality of U.G. cable Construction works cannot be over-emphasized. The quality of Telecom Service largely depends on the quality of external Plant of which U.G. cable Component covers the major portion. The U.G. cables are vulnerable to damages due to work of other agencies.
- 8.2.2 The quality of U.G. cable Plant depends upon the quality of individual items of work involved viz Depth of Cables laid, while Construction, Protection, Jointing of Cables and Termination on MDF, Pillars & DPs. and at last but not the least on documentation of cable network. To ensure quality in Cable Construction Work, each component of work needs attention. The works shall be carried out strictly in accordance with specifications laid down to achieve the requisite quality aim.
- 8.2.3 It is imperative that the contractor(s) is/are fully conversant with the construction practices and shall be fully equipped to carry out the work in accordance with the specifications. The contractors are expected and bound to ensure quality in construction works in accordance with specifications laid down. The contractor shall engage adequate and experienced supervisors to ensure that works are carried out as per specifications and with due diligence and in a professional manner. The contractors shall satisfy himself/themselves that the work conforms to the quality specifications before offering the same to A/T Wing for Acceptance and Testing.
- 8.2.4 In addition to Acceptance Testing being carried out by A/T Wing and supervision by Construction Officers, all works at all times shall be open to inspection of the BSNL Bastar. The contractors shall be bound, if called upon to do so, to offer the works for inspection without any extra payment.
- 8.2.5 Site Order Book: The site order book is one of the primary records to be maintained by the JTO supervising the work during the course of execution of works. The noting made by officers as well as contractors will form as basis for operation of many contractual causes. The contractor shall remove all the defects pointed out by the BSNL BASTAR in the Site order book. The site order book is to be maintained in the prescribed format. The contractor or their authorized representatives shall also be at liberty to note their difficulties etc. in these books. The site order books shall invariably be consulted at the time of making final payments to the contractor.
- 8.2.6 An assessment of extent of interest shown by the contractors in executing the works with requisite quality shall be recorded and used in evaluating the Contractors Performance Rating (CPR).
- 8.3.2 **Testing and Acceptance Testing:**
- 8.3.1 The work shall be deemed to have been completed only after the same has been accepted by the A.T. Officer. The contractor shall make test pits at the locations desired by A. T. Officer for conducting test checks without any extra payment. The contractor shall restore the pits after test measurements to its original shape. The contractor shall be responsible to provide test/measurement tools and testers for conducting various tests.
- 8.3.2. **Scope of Acceptance and Testing:** The purpose of acceptance and testing is to verify integrity of measurement and quality of work done. The A.T. Officer shall not be responsible for recording of measurements for the purpose of billing and contractual obligations. However, if the measurements taking by A.T. Officer are found to be lesser than the measurements recorded by the officer responsible for recording the measurements, the measurement taken by A. T. Officer shall prevail without prejudice to any punitive action against the contractor as per provisions of the contract and the officer recording the measurements. The contractor shall be obligated to remove defects/deficiencies pointed out by the A. T. Officer without any additional cost to the BSNL BASTAR.
- 8.3.3 Offering the work for acceptance and testing: The Sub Divisional Engineer responsible for construction, after having satisfied himself of completion of work ready for A.T, shall offer the Work to A.T. Officer for conducting Acceptance and Testing. The work shall be offered for A. T. as Soon as work of a primary cable from MDF to Pillar or work of distribution cable from Pillar to DPs. are completed in all respects. The work against any work order can be offered for A. T. in a number of such stages.
- 8.3.4 The contractor shall provide labour, if demanded by the AT officer for digging of test pits and other necessary infrastructure for carrying out the AT work. No extra payment will be made for the digging of test pit.
- 8.3.5. **In absence of A.T. payment will be made 50 % of amount of bill after making statutory deductions.**
9. **WARRANTY:**
- 9.1 The contractor shall warrant that the material supplied for the work shall be new and free from all defects and faults in material, workmanship and manufacture and shall be of the highest grade and consistent with the established and generally accepted standards for materials of the type ordered and shall perform in full conformity with the specifications and drawings. The contractor shall be responsible for any defects that may develop under the conditions provided by the contract and under proper use, arising from faulty materials, design or workmanship such as corrosion of the equipment, inadequate quantity of materials etc. and shall remedy such defects at his own cost when called upon to do so by the BSNL BASTAR who shall state in writing in what respect the stores are faulty. This warranty shall survive inspection or payment for, and acceptance of goods, but shall expire except in respect of complaints notified prior to such date, twelve months after the acceptance testing.

9.2 If it become necessary for the contractor to replace or renew any defective portion /portions of the material under this clause, the provisions of the clause shall apply to the portion / portions material so replaced or renewed or until the end of the above mentioned period of twelve months, whichever may be later. If any defect is not remedied within a reasonable time, as prescribed by the BSNL Bastar, the BSNL BASTAR may proceed to do the work at the contractor's risk and costs, but without prejudice to any other rights which the BSNL BASTAR may have against the contractor in respect of such defects.

9.3 **The Cable joint shall be guaranteed for a period of ONE year from the date of closing of joint.** In case of failure of the joint due to poor workmanship i.e. failure of joint without external damage, with in the stipulated period of guarantee the contractor shall repair the joint(s) at his own cost within 24 hours of informing him, **Failing which the BSNL BASTAR may carry out the repairs and penalty equivalent to five times of the approved rate of the jointing work** plus the cost of materials used shall be recovered from the contractor from his pending bill/So or any amount due to him without prejudice to any other action as per terms and conditions of the tender. The cost of jointing kit, supplied by the BSNL Bastar, So used to revive the joint shall be deducted from the running bills of the contractor pending for payment or from security if all bills have been settled.

9.4 Replacement under warranty clause shall be made by the contractor free of all charges at site including freight, insurance, cost of works and other incidental charges.

#### 10. **AUDIT AND TECHNICAL EXAMINATION:**

10.1 BSNL shall have the right to cause an audit and technical examination of the work and the final bills of the contractor including all supporting vouchers, abstract etc. to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have overpaid in respect of any work done by contractor under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed, the contractor shall be liable the refund the amount of over payment and it shall be lawful for BSNL to recover the same from him in the manner prescribed in clause with the heading payment of bills (same chapter), or in any other manner legally permissible and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by BSNL to the contractor.

10.2 Provided that BSNL shall be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment have been agreed upon between the Divisional Engineer or his subordinate officer on one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the **GMTD BASTAR** or his subordinate officer.

10.3 Any sum of money due and payable to the contractor including security deposit returnable to him under this contract may be appropriate by the BSNL for the payment of a sum of money arising out or under any other contract made by the contractor with the BSNL.

#### 11. **PAYMENT TERMS:**

##### 11.1 **Procedure for Preparation and settlement of bills:**

11.1.1 The work order shall contain work of one or more primary cables and/or distribution cable works of one or more pillars. As stated earlier the work has to be organized in such a way so that the cables are available for release of connections at the earliest and in line with this thinking the contractor should carry out the works in a systematic, manner either of a primary cable or a number of primary cables on the same route or distribution cables of a pillar in one stretch. All items of work involved in this unit of work (MDF to Pillar and Pillar to DPs) shall be completed in all receipted before preferring the bills for the work. The provision of running bill has been made to make it easy for the contractor to manage his cash flow and to complete the work systematically and meaningfully in a shortest possible time. The procedure for preparation of running and final bills is enumerated as under:

11.1.1.1 **Procedure for preparation, processing and payment of running bills:** The contractor shall prepare the running bills in triplicate ensuring execution of part work in it completeness as envisaged above, correctness of rates and quantum of work and submit the bills to S.D.E. in-charge of work. The bills shall be prepared accurately and as per measurements recorded in the measurement book and after acceptance and testing of all the items involved in the work. The contractor should submit the running bill within 10 days of acceptance and testing. The S.D.E. in-charge shall record the certificate on the running bill that the site order books have been consulted before signing the

running bills. This would enable the S.D.E. to ensure whether the defects pointed during execution have been rectified or not. The S.D.E. in-charge of work shall scrutinize the bills and accord necessary certificates and submit the running bills with the documents as mentioned below to the Divisional Engineer, in-charge of work.

- First copy of bill with first copies' of measurement sheets of measurement book and A/T reports. (Payable Copy).
- Second copy of bill with second copies of measurement sheets of measurement book and A/T reports. (Not for Payment).
- Third copy of the bill with photocopies of measurement sheets and A/T reports. (Not for Payment).
- **Copies of authenticated documents of payments of EPF contribution paid for the last month should be attached along with the current month bill.**
- **GSTN may be added as per applicable rates in each running bills. GSTN no. is to be printed on top of the bills.**

11.1.1.2 The Divisional Engineer shall exercise the prescribed checks on the bills and accord necessary certificates on the bills. The Divisional Engineer shall retain the third copy in record and record it in the estimate file maintained in his office and send first and second copies with all' documents to Works Section of Planning Cell for processing of bills and release of payment .

11.1.1.3 The work section of Planning Cell shall process the bills in the estimate file of the concerned work and scrutinize the bills vis-a-vis work order issued, sanctioned provisions in the estimate etc. The bill shall be passed, after necessary scrutiny by Works Section, by the officer competent to pass the bill. Against any running bill, **payment to the extent of only 90%** shall be made which shall be treated as an. advance to the contractor. **10% of the bill amount towards Performance Security Deposit and Statutory** taxes (Income Tax etc.) applicable to contract shall be deducted at the time of payment from each running bill. Account payee cheque for the amount passed in the bill will be issued only after the contractor gives a stamped receipt for the amount, if the bills are not pre-receipted. Details of payment of all the bills shall be entered into contract's ledger by Work Section of the Planning Cell.

11.1.1.4 In exceptional cases where work required for preferring a Running Bill can not be completed within reasonable time due to non-availability of stores or other reason and where the BSNL BASTAR is responsible for delay, the concerned D.G.M. may Permit payment of running bill (prepared without completing the work end trend for that unit of work) to the extent of 70% so that the contractor does not face resource crunch. Such payment shall be treated as an advance payment to the contractor like any other Running Bill.

11.1.2 Procedure for preparation, processing and payment of final bill: The contractor shall prepare the final bill in triplicate after acceptance and testing of all the works and submit the same to S.D.E. incharge of work within 45 days of acceptance and testing and payment shall be made within three months if the amount of the contract is up to ` Two lacs and in six months if the same exceed ` Two lacs.

The final bill shall be prepared all the measurements of all items involved in execution of Construction work details. The contractor shall prepare the final bill containing the following details.

\* The bill for all the quantities as per Measurements at the approved rates.

- Adjustment of amount paid against running bills
- \* Adjustment of performance security deposit and statutory taxes already recovered.
- Store reconciliation statement furnishing account of stores received against the Work order and returned to the designated Store as surplus with requisite verifications from store in-charge/S.D.E. in-charge of work.
- Letters of grant of E.O.T(s). if work could not be completed within stipulated time.
- Six sets of bound documentation; .
- \* A/T report.

11.1.2.1 The S.D.E. in-charge of work shall scrutinize the final bill against the works entrusted and accord necessary certificates stating that the work has been executed satisfactorily in accordance with specifications and terms and conditions of the contract. The S.D.E. shall verify the quantities of items of work with reference to measurements recorded in the measurement book (and also A/T reports in case of any deviations noted by A/T officer).

11.1.2.2 The S.D.E. in-charge of work shall submit the final bills, along with other documents mentioned above, with the documents as mentioned hereunder to the Divisional Engineer, in-charge of work.

- \* Bill prepared by the contractor.
- \* Material reconciliation statement.
- \* Measurement Book.
- \* A/T Certificates.
- \* The site order Book.
- \* The hindrance registers.

- \* Details of recoveries/penalties for delays, damages to BSNL Bastar/Third party properties as per provisions of the contract. In case no recovery is to be made, NIL report needs to be submitted. Details of empty cable drums cost of which needs to be recovered from the bill.

11.1.2.3 The Divisional Engineer shall exercise the prescribed checks on the bills and accord necessary certificates on the bills. The Divisional Engineer shall retain the third copy of the bill along with photocopies of other documents not available in his estimate file and send first and second copies of the bill, measurement book and other documents submitted by S.D.E. along with the bills as above to Works Section of the Planning Cell for processing and final payments.

11.1.2.4 The work section of Planning Cell shall process the bills in the estimate file of the concerned work and scrutinize the bills vis-a-vis work order issued, sanctioned provisions in the estimate etc. The Works Section shall scrutinize the bills who recover all the liabilities of the contractor and statutory taxes besides 7.5% payments against security deposit other than GSTN. The bill shall be passed, after necessary scrutiny by Works Section, by the *officer* competent to pass the final bill.

## **11.2 Procedure for Payment for sub standard works:**

11.2.1 The contractors are required to execute all works satisfactorily and in accordance with the specifications. If certain items of work are executed with unsound, imperfect or unskilled workmanship or with materials of any inferior description or that any materials or articles provided by him for execution of work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract (referred to as substandard work hereinafter), the Divisional Engineer in-charge shall make a demand in writing specifying the work, materials or articles about which there *is* a complaint.

11.2.2 Timely action by Construction Officers: Timely reporting and action, to a great extent, can prevent occurrence of sub standard work, which will be difficult or impossible to rectify later on. It is incumbent on the part of Construction Officers to point out the defects in work in time during progress of the work. The Junior Telecom Officer/Sub Divisional Engineer responsible for execution and supervision of work shall without any loss of time submit a report of occurrence of any sub standard work to the Divisional Engineer in-charge besides making an entry in the site order book.

A notice in respect of defective work shall be given to the contractor by Divisional Engineer In-charge in writing during the progress of work asking the contractor to rectify/replace/remove the sub standard item of work and also definite time period within which such rectification/removal/replacement has to be done. After expiry of the notice period, If there contractor fails to rectify/replace/remove the sub standard items, the defects shall be. Got rectified/replaced/removed BSNL BASTAR all or through some other agency at the risk and cost of the contractor.

11.2.3 Non-reporting of the sub standard work In time on the part of Construction *Officer* (s) shall not in any way entitle the contractor to claim that the defects were not pointed out during execution and as such the contractor cannot be absolved *of* the responsibility for sub standard work and associated liabilities.

11.2.4 Authority and Procedure to accept sub standard work and payment thereof: There may be certain items of work pointed out as sub standard which may be difficult to rectify and in the opinion *of* the Head *of* S.S.A., the items in question will not materially deteriorate the quality *of* service provided by the construction, the head *of* S.S.A. shall appoint committee to work out the reduced rates payable to the contractor for such sub standard work. The committee shall constitute one Divisional Engineer other than the one who is directly in-charge of Cable Construction involving sub standard items *of* work, as "chairman and one S.D.E. (Planning) and an Accounts Officer as members. The committee shall take into account the approximate cost of material/work pointed out as sub standard' and recommend the rates payable for sub standard work which shall not exceed 60% of the approved rates of the item in question.

11.2.5 Record of sub standard work: The items adjudged as sub standard shall be entered into the measurement book with red ink.

## **12. DISPOSAL OF EMPTY CABLE DRUMS:**

12.1 The contractor shall be responsible to dispose off the empty cable drums after Construction of the cable. The competent authority taking in to account the prevailing market rates has fixed the cost of various, sizes of cable drums. The Cost of empty cable drums shall be deducted from the bill for the work on which the cable along with the drum has been issued or any other amount due to the contractor or from security deposit.

12.2 Rates fixed for various types *of* empty cable drums are given in Tender Document (Qualifying Bid). The rates are fixed and there is no percentage above or below applicable on these rates.

12.3 The contractor shall be responsible for the accounting of the cable drums issued and shall mention the number and types *of* cable drums in the bill so that the amount is deducted from the bills due.

12.4 The contractor shall not be allowed to dump the empty cable drums in Govt/ public place, which may cause inconvenience to Govt/Public. If the contractor does not dispose off the empty cable drums within 3 days of becoming empty, the BSNL BASTAR is at liberty to dispose off the drum in any manner deemed fit and also recover the amount fixed in this contract for empty cable drums along with the transportation charges (to be decided by GMTD Bastar) from the bill/ security deposit/ any other amount due to the contractor.

### 13. **PENALTY CLAUSE:**

#### 13.1 **Delays in the contractor's performance:**

13.1.1 If work remains: - uncompleted within 07 days after the date of issue of work order and unfinished / Slow in process in execution of work not adhering to the time schedule given in the work order .So Compensation of an amount equal to 1% of estimate cost of work will be deducted from any amount due to contractor.

13.1.2 The time allowed for completion of the work as entered in the tender shall be strictly adhered by the contractor and shall be deemed to be the most important aspect of the contract on the part of the contractor. The work shall, throughout the stipulated period of contract, be proceeded with all due diligence to achieve the desired progress uniformly, and the contractor shall pay as penalty as mentioned above.

13.1.3 On any date the penalty payable as above, reaches 10 (ten) percent of the estimated cost of the work , the contractor should proceed with the work further only on getting a written instructions from the Divisional Engineer that , he is allowed to proceed further with the work. It will be in the discretion of the Divisional Engineer to allow the contractor to continue with the work on the basis of any written agreement reached between the contractor and the Divisional Engineer one of the conditions of such agreement may be a stipulation for the contractor to agree for realization of penalty for delay at a higher rate as may be agreed between the Divisional Engineer and contractor.

13.1.4 Penalty for delay in completion of the work shall be recoverable from the bills of the contractor and / or by adjustment form the security deposit or from the bills of any other contract. However, adjustment from security deposit will be made only when the contract has been terminated or at the time of final settlement of bills on completion of work.

In case of slow progress of the work in a section which have been awarded to a particular contractor, and the public interest does not permit extension of time limit for completion of the work, the GMTD BASTAR will have the full right to order that the scope of the contractor may be restricted to such fraction of the whole of the work and get the balance executed at the risk and cost of the contractor. The details are given in Rescission of the contract clause of the bid document All such payments shall be recovered from the contractor's pending bills or security deposit.

13.1.5 The GMTD BASTAR reserves the right. Of cancel the contract and forfeit the security deposit If the contractor falls to commence the work within 7 days after issue of the work order. .

#### 13.2 **Penalty for causing inconvenience to the Public:**

13.2.1 To ensure progress during the execution of work and to cause minimum inconvenience to the public, the contractor shall not dig a trench of more than 200 meters at a stretch in a route at a time. He shall cause to lay cable and close such trenches expeditiously. Under any circumstances a stretch of trench of maximum 200 meters shall not be kept open for more than 4 days in case of cable Construction by digging paved surfaces. In the event of contractor falling to comply with, these conditions, a penalty of recovery up to ` 300/- per day the trench is kept open beyond the time limit allowed may be imposed by the BSNL BASTAR This penalty will be in addition to that payable for delay or slow work.

13.2.1 The contractor shall not be allowed to dump the empty cable drums/waste materials in Govt./public place, which may cause inconvenience to Govt. /Public. If the contractor does not dispose off the empty cable drums/waste materials within 3 days of becoming empty, the BSNL BASTAR is at liberty to dispose off the drum in any manner fit and also recover the amount fixed in this contract for empty cable drums/waste materials from the bill/security deposit along with the costs incurred by the BSNL BASTAR in disposing off such materials. The BSNL BASTAR may also levy a penalty up to ` One Thousand for each such default.

13.2.2 If any such penalty is levied on a contractor for more than 2 occasions, then his/her contract could be terminated in this regard the decision of GMTD BASTAR shall be final and binding.

### 13.3.1 **Penalty for cutting/damaging the old cable:**

13.3.1 During excavation of trench utmost care is to be taken by the contractor, so that the existing underground cables are not damaged or cut. In case any damage/cut: is done to the existing cables, a penalty as per the schedule given below will be charged from the contractor or the amount will be deducted from his running bills;

<b>Size of existing cables cut/damaged</b>	<b>Amount of penalty per cut/damage</b>
Up to 100 pairs cable	<b>Rs 500.00</b> (Five Hundred)
Up to 100 pairs & up to 400 pairs	<b>Rs 1000.00</b> (One thousand)
Above 400 pairs	<b>Rs 2000.00</b> (Two thousand)
OFC	<b>Rs 150000 /-</b> (One lac fifty thousand)

Besides the above penalty, the contractor shall carry out such repairs for restoration of the damage cable free of charge. The cost of jointing kit shall also be borne by the contractor. If contractor fails to repair the damage, the cost of repair (including cost of labour + Jointing kit) shall be recovered from the contractor. For damage / cut to OFC cable, charges will be recovered as per guidelines / rate prescribed by BSNL H.Q.

### 13.4 **Penalty to damage stores/materials Supplied by the department While Construction :**

13.4.1 The contractor while taking delivery of materials supplied by the BSNL BASTAR at the designated place shall thoroughly inspect all items before taking them over. In case of execution of the work, if any material is found damaged/working unsatisfactorily, then a penalty equivalent to the cost of material + 10 % as penalty shall be recovered from the contractor's payments/securities.

13.4.2 In case of damage to P/JF cables, while Construction, the cost of number of pairs damaged (including Construction charges, transportation/storage charges) adding 10% as penalty shall be recovered from the contractor's bills/securities. ..

13.4.3 However, contractor will not be penalised for any defect In workmanship of the materials, which shall be taken up separately. With the supplier of the stores.

## 14. Rescission/Termination of contract

### 14.1 Circumstances for rescission of contract:

Under the following conditions the competent authority may rescind the contract:

- If the contractor commits breach of any item of terms and conditions of the contract.
- If the contractor suspends or abandons the execution of work and the engineer in-charge of the work comes to conclusion that work could not be completed by due date for completion or the contractor had already failed to complete the work by that date.
- If the contractor:- had been given by the officer-in-charge of work a notice in writing to rectify/replace any defective work and he/she fails to comply with the requirement within the specified period.

14.2 Upon rescission of the contract, the material security performance security, EMD (if not adjusted already) deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the BSNL as under:

14.2.1 Measurement of Works executed since the date of last measurement and up to the date of rescission of contract shall be taken in the presence of the contractor or his authorized representative .who shall sign the same in the MB. If the contractor or his authorized representative do not turn up for joint measurement. The measurement shall be taken by the officer authorized for this purpose after expiry of due date given for joint measurement. The measurement taken by the officer so authorized shall be final and no further request for joint measurement shall be entertained. '

14.2.2 The unused material (Supplied by the BSNL Bastar) available at site shall be transported back by the BSNL BASTAR to the Telecom Store at the risk and cost of the contractor. If any such material is found damaged/lost then the penalty shall also be recovered from the contractor as per conditions in tender documents, *ibid*

14.2.3 The un-executed work shall be got executed through the qualified bidder from amongst the bidders, who participated in the bidding process, by giving them offers in their order of ranking (L2, L3---) at their quoted rates. If the work was awarded on single' tender basis then the BSNL BASTAR shall get' the unexecuted work completed through any other contractor approved in (the SSA) at the approved rates of that particular section or to execute the work BSNL BASTAR ally, as is convenient or expedient to the BSNL BASTAR at the risk and cost of the contractor. In such a event no compensation shall be payable by the BSNL to the contractor toward any inconvenience/loss that he may be subjected to as a result or' such an action by the BSNL. In this regard the

decision of (the SSA' Head) shall be final and binding. In all these cases, expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him shall be borne, and paid by the original contractor and shall be deducted from any money due to him by: the BSNL under the contract or any other account whatsoever any where in the BSNL BASTAR or from a security deposit.

- 14.2.4 The certificate of the Divisional Engineer in-charge of work as to the value of work done shall be final and conclusive against the contractor, provided always that action shall only be taken after giving notice in Writing to the contractor.

#### **14.3 Termination for Insolvency:**

- 14.3.1 The BSNL BASTAR may at any time terminate the Contract by giving written notice to the Contractor, without compensation to Contractor, if the Contractor becomes bankrupt or otherwise insolvent as declared by the competent court provided that such termination will not prejudice or affect any right or action or remedy which has accrued or will accrue thereafter to the BSNL Bastar.

#### **14.4 Optional Termination by BSNL (Other than due default of the Contractor):**

- 14.4.1 The BSNL may, at any time, at its option cancel and terminate this contract by written notice to the contractor, in which event the contractor shall be entitled to payment for the work done up to the time of such cancellation and a reasonable compensation in accordance with the contract: prices for any additional expenses already incurred for balance work exclusive of purchases and/or whole of material, machinery and other equipment for use In or in respect of the work.
- 14.4.2 In the event of the termination of the contract, the contractor shall forthwith clear the site of all the contractor's materials, machinery and equipment's and hand over possession of the work / operations concerned to the BSNL or as the BSNL may direct.
- 14.4.3 The BSNL may, at its option, cancel or omit the execution of one or more items of work under this contract and may part of such items without any compensation whatsoever to the contractor.

#### **14.5 Issuance of Notice:**

- 14.5.1 The Divisional Engineer in-charge of work shall issue show cause notice giving details of lapses, violation of terms and conditions of the contract, wrongful delays or suspension of work or slow progress to the contractor directing the contractor to take corrective action. A definite time schedule for corrective action shall be mentioned in the show cause notice. If the contractor fails to take corrective action within the stipulated time frame, the Divisional Engineer in-charge shall submit a draft of final notice along with a detailed report to the competent authority who had accepted the contract.
- 14.5.2 The final notice for rescission of contract to the contractor shall expressly state the precise date and time from which the rescission would become effective. The following safe guards shall be taken while issuing the final notice:
- a) During the period of service of notice and its effectiveness, the contractor should not be allowed to remove from the site any material/equipment belonging to the BSNL Bastar.
  - b) The contractor shall give in writing the tools and plants he would like to take away/remove from the site. Such of the materials as belong to him and which may not be required for future execution of balance work may be allowed by the Divisional Engineer in-charge of work to be removed with proper records.
  - c) No new construction beneficial to the contractor shall be allowed.
  - d) Adequate BSNL BASTAR security arrangement in replacement of the contractor watch and ward shall be made forthwith. Expenses on this account are recoverable from the security deposit or any amount due to the contractor.

### **15 INDEMNITIES:**

- 15.1 The contractor shall at all times hold the BSNL harmless and indemnify from against all action, suits, proceedings, works , cost, damages, charges claims and demands of every nature and descriptions, brought or procured against the BSNL , Its *officers* and employees and forthwith upon demand and without protest or demur to pay to the BSNL any and all losses and damages and cost ( Inclusive between attorney and client) and all costs incurred in endorsing this or any other indemnity or security which the BSNL may now or at any time have relative to the work or the contractor's obligation or in protecting or endorsing its right in any suit on other legal proceeding, charges and expense and liabilities resulting from or incidental or in connection with injury, damages of the contractor or damage to property resulting from or arising out of or in any way connected with or incidental to the

operations caused by the contract documents. In addition the contractor shall reimburse the BSNL or pay to the BSNL forthwith on demand without protest or demur all cost, charges and expenses and losses and damages otherwise incurred by it in consequences of any claim, damages and actions which may be brought against the BSNL arising out of or incidental to or in connection with the operation covered by the contractor.

- 15.2 The contractor shall at his own cost at the BSNL's request defend any suit or other proceeding asserting a claim covered by this indemnity, but shall not settle, compound or compromise any suit or other finding without first consulting the BSNL.

**16. FORCE MAJEURE:**

- 16.1 If any time, during the continuance of this contract, the performance in whole or in part by either party or any obligation under this contract shall be prevented or delayed by reason of any war, or hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts or act of God (Herein after referred to as events) provided notice of happenings, of any such eventuality is given by either party to the other within 21 days from the date of occurrence thereof, neither party shall by reason of such event be entitled to terminate this contract nor shall either party have any such claim for damages against the other in respect of such non-performance and work under the contract shall be resumed as soon as practicable after such event may come to an end or cease to exist, and the decision of the BSNL BASTAR as to whether the work has been so resumed or not shall be final and conclusive, provided further that if the performance, in whole or part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 60 days either party may, at his option terminate the contract.

- 16.2 Provided also that if the contract is terminated under this clause, the BSNL BASTAR shall be at liberty to take over from the contractor at a price to be fixed by the BSNL BASTAR, which shall be final, all unused, undamaged and acceptable materials, bought out components and stores in the course of execution of the contract, in possession of the contractor at the time of such termination of such portions thereof as the BSNL BASTAR may deem fit excepting such materials bought out components and stores as the contracts may with the concurrence of the BSNL BASTAR elect to retain.

**17. ARBITRATION:**

- 17.1 In the event of any question, dispute or difference arising under this agreement or in connection therewith except as to matter the decision of whom is specifically provided under this agreement, the same shall be referred to sole arbitration of the Chief General Manager, C.G.Circle RAIPUR C.G. or in case his designation is changed or his office is abolished then in such case to the sole arbitration of the officer for the time being entrusted whether in addition to the functions of the Chief General Manager C.G.Circle RAIPUR C.G. or by whatever designation such officers may be called (hereinafter referred to as the said officer) and if the Chief General Manager, C.G.Circle RAIPUR C.G. or the said officer is unable or unwilling to act as such to the sole arbitration or some other person appointed by the Chief General Manager, or the said officer. The agreement to appoint an arbitrator will be in accordance with the Arbitration and Conciliation Act, 1996.

There will be no objection to any such appointment that the arbitrator is BSNL Servant or that he has to deal with the matter to which the agreement relates or that in the course of his duties as BSNL Servant he has expressed views on all or any of the matter under dispute. The award of the arbitrator shall be final and binding on the parties. In the event of such arbitrator to whom the matter is originally referred, being transferred or vacating his office or being unable to do for any reasons whatsoever such Chief General Manager or the said officer shall appoint another person to act as arbitrator in accordance with terms of the agreement and the person so appointed shall be entitled to proceed from the stage at which it was left out by his predecessors.

- 17.2 The arbitrator may from time to time with the consent of parties enlarge the time for making and publishing the award, Subject to aforesaid Indian Arbitration and Conciliation Act 1996 and the Rules made there under, any modification thereof for the time being in force shall be deemed to apply to the arbitration proceeding under this clause.

- 17.3 The venue of the arbitration proceeding shall be the Office of the Chief General Manager, Chhattisgarh Circle or such other Places as the arbitrator may decide. The Following procedure shall be followed:



- 17.3.1 In case parties are unable to \_a settlement by themselves, the dispute should be submitted or arbitration, In accordance with contract agreement
- 17.3.2 There should not be a joint submission with the contractor to the sole Arbitrator.
- 17.3.3 Each party should submit its own claim severally and may oppose the claim put forward by the other party.
- 17.3.4 The onus of establishing his claims will be left to the contractor.
- 17.3.5 Once a claim has been included in the submission by the contractor, a reiteration or modification thereof will be opposed.
- 17.3.6 The "points of defence" will be based on actual conditions of the contract.
- 17.3.7 Claims in the nature of ex-gratia payments shall not be entertained by the Arbitrator as these are not contractual.
- 17.3.8 The question whether these conditions are equitable shall not receive any consideration in the preparation of "points of defence".
- 17.3.9 If, the contractor includes such claims in his submission, the fact that they are not contractual will be prominently placed before the Arbitrator.

*The award of the sole Arbitrator shall be final and binding on all the parties to the dispute.*

18. **SET OFF:** Any sum of money due and payable to the contractor (Including security deposit refundable to him) under this contract may be appropriated by the BSNL BASTAR or any other person or persons contracting through the BSNL BASTAR and set off the same against any claim of the BSNL BASTAR or such other person or persons for payment of a sum of money arising out of this contract made by the Contractor with BSNL BASTAR or such other person or persons contracting through BSNL Bastar.

19. Near Relative Clause

- 1.12(a) The near relatives of all BSNL employees either directly recruited or on deputation are prohibited from participation in tenders and execution of work in different units of BSNL. The detail is as under.

The near relatives for this purpose are defined as under.

- (a) Member of Hindu Undivided Family
- (b) They are husband and wife.
- (c) The one is related to the other in the manner as father, mother, son(s) & son(s) wife (Daughter in law), Daughter & daughter's husband (son in law), brother(s) & brother's wife, sister(s) & sister's husband(brother in law).

The company or firm or any other person is not permitted to tender for work in BSNL unit in which his near relatives are posted the unit is defined as SSA/ Circle/Chief engineer /chief archt/ corporate office Binders should have to furnish the declaration as per section XI.

SECTION VII  
SPECIAL CONDITIONS OF CONTRACT

1. GENERAL:

- 1.1 The work shall be accepted only after Acceptance Testing carried out by BSNL team, designated by the BSNL, as per prescribed schedule and work/material passing the test successfully.
- 1.2 The BSNL BASTAR reserves the right to disqualify such bidders who have a record of not meeting contractual obligations against earlier contracts entered into with the BSNL BASTAR.
- 1.3 The BSNL BASTAR reserves the right to black list a bidder for a suitable period In case he falls to honour his bid without sufficient grounds.
- 1.4 The BSNL BASTAR reserves the right to counter offer price(s) against price(s) quoted by any bidder.
- 1.5 Any clarification issued by BSNL BASTAR, in response to query raised by prospective bidders shall form an integral part of bid documents and it may amount to amendment of relevant clauses of the bid documents.
- 1.6 Tender will be evaluated as a single package of all the items given in the price schedule.
- 1.7 All work to be executed under the contract shall be executed under the direction and subject to the approval in all respects of by the Divisional Engineer or Site Engineer In-charge of work site who shall be entitled to direct at what point or points and what manner they are to be commenced, and from the time to time carried on.
- 1.8 The work may be split up between two or more contractors or accept any tender in part and not entirely if considered expedient by the GMTD BASTAR.
- 1.9 If the contractor shall desire an extension of time for completion of the work on the grounds of unavoidable hindrance in execution of work or on any other ground he shall apply in writing to the Divisional Engineer within 3 days of the date of hindrance on account of which he desires such extension as aforesaid. In this regard the decision of (the SSA Head) shall be final.
- 1.10 If at any time after the commencement of the work, the BSNL BASTAR may feel that execution of whole or part of work, as specified in the tender is not required to be carried out, then the BSNL BASTAR shall give notice in writing of the fact to the contractor who shall have no claim. to any payment of compensation whatsoever on account of any profit or advantage which he might have derived in consequence of the full amount of the work not having been carried out neither shall he have any claim for compensation by reason of any alterations having been made in the original specifications, drawings, designs and instructions which shall instructions any curtailment of the work as originally contemplated.
- 1.11 Whenever any claims against the contractor for the payment of a sum of money arises out of or under the contract, the BSNL BASTAR shall be entitled to recover such sum by appropriating in part or whole the security deposit of the contractor, and to sell any BSNL promissory notes etc, forming the whole or part of such security or running I Anal bill pending against any contract with the BSNL BASTAR In the event of the security being insufficient or if no security has been taken from the contractor , then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time there after may become due to the contractor under this or any other contract with BSNL. Should this sum be not sufficient to rover the full amount recoverable the contract or shall pay to BSNL BASTAR on demand the balance remaining due.
- 1.12 No official of Gazetted rank or other Gazetted officer employed in Engineering or administrative duties in an Engineering BSNL BASTAR or any other BSNL BASTAR of the BSNL of India is allowed to work as a contractor for a period of two years after his retirement from BSNL service without the previous permission of BSNL of India. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who hadn't obtained the permission of BSNL of India as aforesaid before submission of the engagement In the contractor's service as the case may be.

- 1.13 In the event of the contractor being, adjusted insolvent or going voluntarily into liquidation or having received order or other order under insolvency act made against him or in the case of company, of the passing of any resolution, or making of any order for winding up whether voluntarily or otherwise, or in the event of the contractor failing to comply with any of the conditions herein specified. The GMTD BASTAR shall have the power to terminate the contract without any notice.
- 1.14 Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the (the GMTD BASTAR) on behalf of the BSNL can terminate the contract without compensation to the contractor. However (GMTD BASTAR) at his discretion may permit contractor's heirs to perform the duties or engagements of the contractor under the contract, in case of his death. In this regard the decision of (GMTD BASTAR) shall be the final.
- 1.15 In the event of the contractor, winding up his Company on account of transfer or merger of his company with any other, the contractor shall make it one of the terms and Stipulations of the contract for the transfer of his properties and business, that such other person. or company, shall continue to perform the duties or engagement of the contractor under this contract and be subject to his liabilities there under.
- 1.16 Interpretation of the contract document:
- 1.16.1 The representative of (the GMTD BASTAR) and the contractor shall in so far as possible by mutual consultation, by to decide upon the meaning and intent of the contract document. In-case of disagreement the matter shall be referred to GMTD BASTAR whose decision shall be final. Any change in the contract: documents shall be set forth in writing by the representative of the parties hereto. It shall be the contractor's responsibility to thoroughly familiarize all of his supervisory personnel with the contents of all the contract documents.
- 1.17 Notification:
- 1.17.1 The contractor shall give in writing to the proper person or authority with a copy to the Divisional Engineer such notification as may be mandatory or necessary In connection with the commencement, suspension, resumption, performance and I or completion of the contracted work . All notice shall be given sufficiently in advance of the proposed operation to permit proper co-relation of activities and the contractor shall keep all proper persons or authorities involved and advised of the progress of operations through out the performance of the work and/or with such 'other Information and or supporting figure and data as may from time to time as directed or required.
- 1.18 Shut down on account of weather conditions:
- 1.18.1 The contractor shall not be entitled to any compensation whatsoever by reason of suspension of the whole or any part of the work made necessary by the BSNL or deemed advisable on account of bad weather conditions or other force majeure conditions.
2. EASEMENTS. PERMITS. LICENCES AND OTHER FACILITIES:
- 2.1 The contractor shall obtain/provide at his own cost all easements, permits and license necessary to do its work. However charge claimed demanded by State / Central / Local Bodies for required permission will be paid by BSNL. The work of applying for permission follow up and getting required demand note and permission will be done by contractor.
- 2.2 The contractor shall be fully responsible for angling and obtaining all necessary easements, permits and licenses, for moving all construction equipment, tools, supplied materials and men across Railways and Highways, across public or private road as well as premises of any public utility within the right of user and for bearing all costs that may be incurred in respect of the same.
- 2.3 The contractor is to confine his operation to the provided construction "Right of User" unless it has made other arrangement with the particular property owners and or tenants such other arrangements shall be entirely at the responsibility of the contractor as to cost and arrangement as also bream and claim and shall be entitled with a copy to the Divisional Engineer.
3. Delay on part of contractor for obtaining, permission / follow up so will be dealt as per penalty clause vide 13 section no. V.

#### 4. QUALITY OF WORK:

- 4.1 The BSNL BASTAR shall be the final judge of the quality of the work and the satisfaction of the BSNL BASTAR in respect thereof set forth in the contract documents. Laxity or failure to enforce compliance with the contract documents by the BSNL BASTAR and 1 or its representative shall not manifest a change or intent of waiver, the Intention being that, notwithstanding the same, the contractor shall be and remain responsible for complete and proper compliance with the contract documents and the specification there in. The representative of GMTD BASTAR has the right to prohibit the use of men and any tools, materials and equipment which in his opinion do not produce work or performance meet the requirement of the contract documents.

#### 5. TAXES AND DUTIES:

- 5.1 Contractor shall pay all rates, levies, fees royalties, taxes and duties payable or arising from out of, by virtue of or in connection with and/or incidental to the contract or any of the obligations of the parties in terms of the contractor documents and / or in respect of the works or operations or any part thereof to be performed by the contractor and. the contractor shall indemnify and keep indemnified the BSNL BASTAR from and against the same or any default by the contractor in the payment thereof. GSTN as applicable will be paid by BSNL.

#### 6. PROTECTION OF LIFE AND PROPERTY AND EXISTING FACILITIES:

- 6.1 The contractor is fully responsible for taking all possible safety precaution during preparation for and actual performance of the works and for keeping the construction site in a reasonable safe condition. The contractor shall protect all life and property from damage or losses resulting from his construction operations and shall minimize the disturbance and inconvenience to the public.
- 6.2 If the excavation of trench alters the contours of the ground around road and highway crossing in such locations dangerous to traffic, the contractor shall at his own cost, take all necessary precautions to protect public and shall comply with all the BSNL BASTAR regulations as to placing of warning boards (Minimum size 3' x 2'), traffic signals, barricades, flags etc., at such location. If the contractor does not put the warning signal as per above directions, then a penalty of Rs 500/- per day shall be levied on the contractor, till the directions are complied by the contractor. The contractor shall take due precautions to avoid damages to other pipe lines, water mains, sewers, telephones, telegraphs and power conduits, laid wires poles and guy wires, railways, highways, bridges or other underground or above ground structure and/or property crossing or adjacent to the cable trench being excavated.
- 6.3 Attention of the contractor is drawn to the rules regarding Construction of cables at road crossing, along Railways Bridges, Highways safety precautions while working In Public Street. The contractor in writing shall obtain the detailed engineering instructions from the Divisional Engineer of the area.
- 6.4 The contractor shall be solely responsible for location through approved non-destructive means and ensuring the safety of all existing underground pipeline, electrical cables, and or other structures.
- 6.5 The contractor shall be solely liable for all expense for and in respect of repairs and / or damage occasioned by injury of or damage to such underground and above structures or other properties and under take to indemnify the BSNL BASTAR from and against all actions, cause of actions, damages, claims and demands what-so-ever, either In law or in equity and all losses and damages and costs (inclusive between attorney and client), charges and expenses in connection therewith and / or incidental thereto. The contractor shall take all responsibilities and risk in crossing other pipelines and cables and shall be responsible for protecting all such existing pipelines, poles, electric lines, sewers, cables or other facilities from damage by the contractor's operation in connection with the work. The contractor without cost of the BSNL BASTAR shall promptly repair any damage incurred.
- 6.6 The current market value of any commodities lost as a result of any damage to the aforesaid existing facilities shall be paid by the contractor together with such additional sums necessary to liquidate the personal of property damages, resulting there from.

#### 7. LABOUR WELFARE MEASURES AND WORKMAN COMPENSATION:

- 7.1 Obtaining License at the time of commencement of work:

The contractor shall obtain a valid labour licence under the Contract labour (R&A) Act 1970 and the Contract: Labour (Regulation and Abolition) Central Rules 1971, at the time of commencement of the work, and continue to have a valid license until the completion of work. The contractor shall also abide by the provisions of the child Labour (Prohibition and Regulation) Act 1986. Any failure to fulfill this requirement shall attract the penal provisions of this contract arising out of the resultant non-execution of work. .

- 7.2 Contractors Labour Regulations:

- 7.2.1 Working Hours

- 7.2.1.1 Normally working hours of an employee should not exceed 8 hours a day. The working day shall be so arranged that Inclusive of Interval for rest, if an'(), it shall not spread over more than 12 hours on any day.
- 7.2.1.2 When a worker is made to work for more than 8 hours on any day or for more than 48 hours in any week he shall be paid over time for the extra hours put in by him.
- 7.2.1.3 Every worker shall be 'given a weekly holiday normally on a Sunday, in accordance with the provisions of Minimum Wages (Central) Rules 1960, as amended from time to time, Irrespective of whether such worker Is governed by the Minimum Wages Act or not.
- 7.2.1.4 Where the minimum wages prescribed by the BSNL, under the Minimum wages Act,. .are not Inclusive of the wages for the weekly day of rest, the 'worker shall be entitled to rest day wages, at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.
- 7.2.1.5 Where a contractor is permitted by the Engineer-in-charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day, on one of the five days, immediately before or after the normal weekly holiday, and pay wages to such worker for the work performed on the normal weekly holiday at the overtime rate.

## 7.2.2 Display of Notice Regarding Wages Etc.

The contractor shall, before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain, In a dear and legible condition in conspicuous places on the work, notices in English and in local Indian languages spoken by the majority of the workers, giving the minimum rates of the wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information.

## 7.2.3 Payment of Wages.

- 7.2.3.1 The contractor shall fix wage periods in respect of which wages shall be payable.
- 7.2.3.2 No wage period shall exceed one month.
- 7.2.3.3 The wages of every person employed by a contractor, where less than one thousand such persons are employed, shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- 7.2.3.4 Where the employment of any worker is terminated by or on behalf of the contractor, the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- 7.2.3.5 All payment of wages shall be made by directly crediting the due amount into employee's/labour's bank account electronically. In case payment through bank account is not possible due to unavoidable & justified reasons, all such payment should be made manually on a working day at the work premises and during the working time and on, in presence of site Engineer or any other authorized representative of the Engineer-in-Charge, as the case may be and contractor has to get the manual payment receipt certified from engineer-in-charge/authorized person. Such manual payment is to be made on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- 7.2.3.6 Wages due to every worker shall be paid by directly crediting the due amount into employee's bank account in normal course, otherwise it should be paid to him directly or to other person authorized by employee on his/her behalf in presence of site Engineer or any other authorized representative of the Engineer-in-Charge.
- 7.2.3.7 All wages shall be paid in current coin or currency or in both.
- 7.2.3.8 Wages shall be paid without any deduction of any kind except those specified by the - Central BSNL by general or special order in this behalf or permissible under the Payment of wages Act 1956.
- 7.2.3.9 A notice showing the wages 'period and the place and time of disbursement of wages shall, be displayed at the place of work and a copy sent by the contractor to the Engineer in-Charge under acknowledgment.
- 7.2.3.10 It shall be the duty of the contractor of to 'ensure the disbursement of wages in presence of the site Engineer or any other authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of the disbursemerIt of wages by the contractor to workmen.
- 7.2.3.11 In case of manual payment, the contractor shall obtain from the site Engineer or any other authorized representative of the Engineer-in-Charge, as the case may be, a certificate under his signature at the end of the end of the entries in the "Register of wages" or the "Wage-cum-Muster Roll", as the case may be, In the following form:-

"Certified that the amount shown in the column No has been paid to the workman concerned in my presence on.....at....."

#### 7.2.4 Fines and deductions which may be made from wages

##### 7.2.4.1 The wages of a worker shall be paid to him without any deduction of any kind except the following

- (a) Fines
- (b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
- (c) Deductions for damage to or loss of goods expressly entrusted to the employed person for Custody or for loss of money or any other deductions which he is required to account, where such damage or loss is directly attributable to his neglect or default.
- (d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
- (e) Any other deduction, which the Central BSNL may from time to time, allows.

##### 7.2.4.2 No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Labor Commissioner.

##### 7.2.4.3 No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

##### 7.2.4.4 Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

#### 7.2.5 Labour Records

##### 7.2.5.1 The contractor shall maintain Register of Persons employed on work on contract in Form XIII of the contract Labour (R&A) Central Rules 1971.

##### 7.2.5.2 The contractor shall maintain a Muster Roll register In respect of all workmen employed by him on the work under Contract in Form XVI of the a. (R&A) Rules 1971.

##### 7.2.5.3 The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971.

##### 7.2.5.4 Register of accidents - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

- a) Full Particulars of the labourers who met with accident.
- b) Rate of wages
- c) Sex
- d) Age
- e) Nature of accident and cause of accident
- f) Time and date of accident
- g) Date and time when admitted in hospital
- h) Date of discharge from the hospital
- I) period of treatment and result of treatment
- j) Percentage of loss of earning capacity and disability as assessed by Medical officer.
- k) Claim required to be paid under Workmen's Compensation Act.
- l) Date of payment of compensation.
- m) Amount paid with details of the person to whom the same was paid
- n) Authority by whom the compensation was assessed
- o) Remarks

##### 7.2.5.5 The contractor shall maintain a Register of Fines in the Form XII of the a. (R&A) Rules 1971 the contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and emission for which fines can be imposed.

##### 7.2.5.6 The contractor shall maintain a Register of deductions for damage or loss in Form XX of the a. (R&A) Rules 1971.

- 7.2.5.7 The contractor shall maintain a Register of Advances in Form XXIII of the a. (R&A) Rules 1971.
- 7.2.5.8 The contractor shall maintain a Register of Overtime in Form XXIII of the a. (R&A) Rules 1971.
- 7.2.6 Attendance card-cum wage slip
- 7.2.6.1 The contractor shall issue an Attendance card cum wage slip to each workman employed by him.
- 7.2.6.2 The card shall be valid for each wage period,
- 7.2.6.3 The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- 7.2.6.4 The card shall remain in possession of the Worker during the wage period under reference.
- 7.2.6.5 The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- 7.2.6.6 The contractor shall obtain the signature or thumb Impression of the worker on the wage slip at the time of disbursement of wages and retain the card with him.
- 7.2.7 Employment card  
The contractor shall issue an Employment Card in the Form XIV of a. (R&A) Central Rules 1971 to each worker within three days of the employment of the worker.
- 7.2.8 Service certificate  
On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service Certificate in the form XV of the a. (R&A) Central Rules 1971.
- 7.2.9 Preservation of labour records  
The Labour records and records of Fines and deductions shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Communication in this behalf.
- 7.3 Power of labour officer to make investigations or enquiry  
The labour officer or any person authorised by the Central BSNL on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage Causes and provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor In regard to such revision.
- 7.4 Report of Investigating officer and action thereon  
The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer in-charge indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. The Engineer in-charge shall arrange payments to the labour concerned Within. 45 days from the receipt of the report from the Labour Officer or the authorized officer as the case may be.
- 7.5 Inspection' of Books And Slips  
The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorized by the Central BSNL on his behalf.
- 7.6 Submission of Returns  
The contractor shall submit periodical returns as may be specified from time to time.
- 7.7 Amendments  
The Central BSNL may from time to time add to or amend the regulations and on any question as to the application/interpretation or effect of those regulations.
8. INSURANCE:
- 8.1 Without limiting any of his other obligations or liabilities, the contractor shall, at his own expense, take and keep comprehensive insurance including third party risk for the plant, machinery, men, materials etc. brought to the site and for all the work during the execution. The contractor shall also take out workmen's compensations insurance as required by law and under take to indemnify and keep indemnified the BSNL from and against all manner of claims and demands and losses and damages and cost (including between attorney and client) charges and expenses that may arise in regard the same or that the BSNL may suffer or incur with respect to end / or incidental to the same. The contractor shall have to furnish originals and / or attested copies as required by the BSNL BASTAR of the policies of insurance taken within 15. (Fifteen) days of being called upon to do so together with all premium receipts and other papers related thereto which the department may require.

9. COMPLIANCE WITH LAWS AND REGULATION:

9.1 During the performance of the works the contractor shall at his own cost and initiative fully comply with all applicable laws of the land and with any and all applicable by-laws rules, regulations and orders and any other provisions having the force of law made or promulgated or deemed to be made or promulgated by the BSNL, BSNL agency or BSNL BASTAR, municipal board, BSNL of other regulatory or Authorized body or persons and shall provide all certificates of compliance therewith as may be required by such applicable law. By-laws, Rules, Regulations, orders and / or provisions. The contractor shall assume full responsibility for the payment of all contributions and pay roll taxes, as to its employees, servants or agents engaged in the performance of the work specified in the contractor documents. If the contractor shall require any assignee or sub-contractor to whom any portion of the work to be performed hereunder may be assigned, sub-leased or sub-contracted to comply with the provisions of the clause and in this connection the contractor agrees as to undertake to save and hold the BSNL harmless and indemnified from and against any/all penalties, actions, suits, losses and damages, claims and demands and costs (inclusive between attorney and client) charges and expenses whatsoever arising out or occasioned, indirectly or directly, by failure of the contractor or any assignee or sub-contractor to make full and proper compliance with the said by-laws, Rules, Regulations, Laws and Order and provisions as aforesaid.

10. TOOLS AND PLANTS:

The contractor shall provide at his own cost all tools, plants appliances, implements etc. required for proper execution of works. The contractor shall also supply without charge the requisite number of persons with the means and materials. Necessary for the purpose of setting out works, counting, weighing and assisting the measurements for examination at any time and from time to time. The contractor shall be responsible to make all arrangements, at his own cost for de-watering of trenches/ducts and de-gasification of the ducts before carrying out the work. The contractor shall also be responsible to make arrangements, at his own cost, for water required for carrying of works at sites including curing of CC/RCC works. Failing his so doing the same may be provided by the Engineer-in-charge at the expense of the contractor and the expenses shall be deducted from any money due to the contractor under this contract or otherwise.

10.1 Compliance of EPF Act - 1952

The contractor will have to fulfill / compliance of provision of EPF & misc. provisions Act - 1952 & employees provident fund scheme 1952 by the contractor in respect of Labours / Employees engaged by them. For performing the work in BSNL while submitting the claim of bills to wards works executed by him, he must accompany the

- (i) List showing the details of Labours / employees engaged along with EPF account no.
- (ii) Duration of their engagement
- (iii) The amount of wages paid to such Labours / employees for the duration in question.
- (iv) Amount of EPF contribution (both employees & employers) for the duration in question
- (v) Copies of authenticated of payment of such contribution to EPF authority and a declaration from the contractor regarding compliance of EPF Act – 1952

10.2 If contractor fails to compliance the EPF Act 1952, BSNL Shall deduct the EPF (Both Employees & Employers) and deposited to EPF authority under BSNL EPF accounts.

10.3 The contractor has to observe all provision of ESI and submit proof of deposits of necessary amount as per ESI act/rules at the time of claim of work duty acknowledge by ESI authority. Copy of register/ deposit maintain for ESI must be got checked by the A.G.M. (A & P) and certificate given with claim.

11. Employees State Insurance Corporation

E.S.I. Scheme being contributory in nature, all the employees in the factories or establishments to which the Act applies shall be insured in a manner provided by the Act. The contribution payable to the Corporation in respect of an employee shall comprise of employer's contribution and employee's contribution at a specified rate. The rates are revised from time to time. Currently, the employee's contribution rate is 1.75% of the wages and that of employer's is 4.75% of the wages paid/payable in respect of the employees in every wage period. Employees in receipt of a daily average wage upto Rs.70/- are exempted from payment of contribution. Employers will however contribute their own share in respect of these employees.



#### Collection of Contribution

An employer is liable to pay his contribution in respect of every employee and deduct employees contribution from wages bill and shall pay these contributions at the above specified rates to the Corporation within 21 days of the last day of the Calendar month in which the contributions fall due. The Corporation has authorized designated branches of the State Bank of India and some other banks to receive the payments on its behalf.

Contribution Period and Benefit Period: As per ESIC rules & regulations.

## SECTION VIII

**SCOPE OF WORK AND JURISDICTION OF CONTRACT****1. SCOPE OF WORK**

1.1 **MAIN CABLE CONSTRUCTION ACTIVITIES:** The items of work involved in UG cable CONSTRUCTION are as under:

- 1.1.1 Excavation of trench up to Depth such that the top of the cable is one meter below the normal ground level according to the construction specifications.
- 1.1.2 Construction and Pulling of Cables in Trenches or through Pipes/Ducts/Walk through trenches.
- 1.1.3 Placing of half round RCC Pipes/Stone slabs/Pre cast RCC slabs/Layer of Bricks as per specifications.
- 1.1.4 Back filling and compacting of the excavated trenches according to construction specifications and removal of excess earth from the site.
- 1.1.5 Reconstruction of pillar foundations, erection, painting and sign writing of pillars. Erection, termination, painting and sign writing of DPs , up gradation of old pillars and replacement& shifting of damaged pillars.
- 1.1.6 Termination of cables in MDF, Pillars and DPs., opening of new DPs and conversion of poll to wall DPs
- 1.1.7 Jointing and end-to-end Testing of cables - Correspondence and Electrical tests. And applying kits or closures.
- 1.1.8 Removal of pole and deposition of recovered stores e.g. pillar cell, DPs, post and other associated material at SSA stores.
- 1.1.9 Neat and clean wiring of existing MDF of any capacities, recoveries of old buried cable, earthing in existing pillars,
- 1.1.10 Documentation and updating of MDF, pillar, DP records & preparation& updating of cable diagram with details of joint.

**1.2 ALLIED ACTIVITIES:**

1.2.1 **Transportation of Materials:** The materials required for executing the work entrusted to the contractors against a work order shall be made available at District Store Depot at \_Bastar\_City. In some cases the materials may be available at sub-Divisional store godown. The contractor shall be responsible for transporting the materials, to be supplied by the BSNL BASTAR or otherwise to execute the work under the contract., to site at his/their own cost.  
The costs of transportation are subsumed in the standard Schedule Rates and therefore no separate charges are payable on this account.

1.2.2 **Disposal of Empty Cable Drums:-** The contractor shall be responsible to dispose of the empty cable drums after Construction of the cables. The cost of various sizes of empty cable drums recoverable from the contractor has been fixed taking in to account the prevailing market rates as mentioned in this document.

1.2.2.1 It shall be obligatory on part of the contractor to dispose of the empty cable drums at his/their level and the amount fixed for various empty cable drums shall be recovered from the bill for the work for which the drum(s) was/were Issued or from any other amount due to the contractor or the Security Deposit.

1.2.2.2 The contractor shall not be allowed to dump the empty cable drums in Govt. /Public place which may cause inconvenience to the BSNL Bastar/public. If the contractor does not dispose of the empty cable drums within 3 days of becoming empty, the BSNL BASTAR shall be at liberty to dispose of the drums in any manner deemed fit and also recover the amount fixed in this contract from the bill/security deposit/any other amount due to the contractor.

1.2.3 **Supply Of Materials:-** There are some materials required to be supplied by the contractor for execution of works under this contract like Bricks, Cement, Wire Mesh and Steel for protection, etc., besides using other consumables which do/don't become the part of the asset. The contractor shall ensure that the materials supplied are of best quality and workmanship and shall be strictly in accordance with the specifications.

**2. VALUE OF WORK:** The estimated cost of work Is as mentioned in the Notice Inviting Tenders which has been

worked out based on standard scheduled rates and present market rates. The actual value of work may vary based on the actual requirement but generally being limited to (+) or (-) 25% of the estimated value.

3. **JURISDICTION OF CONTRACT:-** The jurisdiction of the contract shall be for **AREA wise**. The telephone Exchange areas in different areas are mentioned in the NIT. If any additional telephone exchange is planned, the same shall be included in the area in the vicinity of concerned exchange keeping in view the logistics of carrying out the work.

## **UNDERGROUND CABLE CONSTRUCTION SPECIFICATIONS**

The guidelines in the form of Engineering Instructions (E.Is.) on construction Practices of Underground Cables are issued by T & D wing of the Department, from time to time. However, the present practices are summarized here under, from the point of view of describing scope of work under various items of work.

- 1.0 General:-** The underground Copper Cables are extensively used in outdoor network of an exchange system. The cables are laid from Telephone Exchange up to Distribution Points (D.Ps.). For the purpose of flexibility, pillars are introduced in the network. The Primary Cables, which are of higher size, are laid from Telephone Exchange to pillars. The Distribution Cables are laid from pillar to D.P. The capacity of pillars and D.Ps. are decided in accordance with the demand and size of the network. The planning of U.G. cable network is guided by the planning guidelines of the department of external plant issued from time to time. The major portion of investment in telecom network goes into construction of U.G. cable network. Further, the quality of construction of U.G. cable network decides the quality and reliability of Telecom Services delivered to the customers to a large extent. Therefore, the construction practices of U.G. cables should be of very high quality, strictly in accordance with construction specifications.

- 1.1 The works involved:-** The underground cables are buried to a depth such that the top of the cable is one meter (100Cms) below the normal ground level. The items of work involved in U.G. cable Construction are as under:-

- (i) Excavation of trench up to a depth such that the top of the cable is one meter below the normal ground level according to the construction specifications.
- (ii) Construction and Pulling of Cables in Trenches or through Pipes/Ducts.
- (iii) Placing of half round RCC Pipes/Stone slabs/Pre Cast RCC slabs/Layer of Bricks as per specifications.
- (iv) Back filling and compacting of the excavated trenches according to construction specifications and removal of excess earth from the site.
- (v) Construction of pillar foundations, erection, painting and sign writing of pillars.
- (vi) Erection, termination, painting and sign writing of D.Ps.
- (vii) Termination of cables in MDF and pillars.
- (viii) Jointing and end-to-end Testing of cables-Correspondence and electrical tests. And applying of joint kits/closures.
- (ix) Removal and replacement of damaged pillar and DPs and deposition at stores.
- (x) Documentation.

### **2.0 Construction Specifications**

- 2.1 Classification of Soil Strata:-** For the purpose of trenching, the soil strata shall be categorized as under:

#### **2.1.1 NON SURFACED STRATA:**

- i) **Non Rocky:-** This will include all types of soils – soft soil/hard soil/ morrum i.e. any strata, such as sand, gravel, loam, clay, mud, black cotton morrum, shingle, river or nallah bed boulders, soling of roads, paths, densely pebbles/stones etc., lime concrete, mud concrete and their mixtures which for excavation yields to the application of picks, showels, sacrificers, ripper and other manual digging implements including chiseling.

Resorting to light blasting/electro mechanical breakers for loosening the material does not in any way entitle the strata to be classified as rocky.

- ii) **Rocky:-** Strata means generally any rock or boulder, for the excavation of which hand tools can not be used and blasting/electro mechanical breaker is required, such as quartzite, granite, basalt, reinforced cement concrete ( reinforcement to be cut through but not separated from concrete) and the like.

**2.1.2 SURFACED STRATA:-** The surfaced strata shall cover the following irrespective of strata encountered below the surface.

**2.1.2.1 Foot paths:**

- i) **Tarmac (Asphalt) Foot Path:-** means foot path with tarmac surface with or without compacted strata below the tarmac surface, irrespective of thickness of Tarmac/Metal.
- ii) **Kharaanja:-** means Footpath covered with bricks with or without compacted strata below the surface, irrespective of thickness of bricks.
- iii) **Tiled Foot Path:-** means Footpath covered with various types of tiles/stone slabs with or without compacted strata below the tiled surface, irrespective of thickness of tiles/ stone slabs.
- iv) **Cement Concrete Foot Path:-** means the surface on footpath covered with CC (cement concrete) with or without compacted strata below the surface, irrespective of thickness of Cement Concrete.

**2.1.2.2 Along Road Side:-** Trenching along road on carpeted surface may be necessary in certain stretches where roads have been metalled edge to edge and there is no un-metalled corridor or footpath available for trenching and Construction the cables.

- i) **Tarmac (Asphalt) Road:-** means roadside with tarmac/asphalt surface with or without compacted strata below the tarmac surface, irrespective of thickness of Tarmac/Metal.
- ii) **Kharaanja Road:-** means road covered with various types of bricks with or without, compacted strata below the tiled road surface, irrespective of thickness of bricks.
- iii) **Tiled Roads:-** means road covered with various types of tiles/bricks/stone slabs with or without compacted strata below the tiled road surface, irrespective of thickness of tiles/bricks/stone slabs.
- iv) **Cement Concrete Road:-** means CC (Cement Concrete) road with compacted strata below the surface on road, irrespective of thickness of cement concrete.

**2.1.2.3 Road Crossings:-**

- i) **“Tarmac or Asphalt Road”** means the road surface, which is metalled by asphalt/tarmac normally having compacted strata below the metalled surface, irrespective of thickness of asphalt/tarmac.
- ii) **Kharaanja Road:-** means road covered with various types of bricks with or without, compacted strata below the tiled road surface, irrespective of thickness of bricks.
- iii) **Tiled/CC Road:-** means road made of tiles of any type/stone slabs/bricks or CC road normally having compacted strata below the tiled/CC surface, irrespective of thickness of tiles/CC.
- iv) **RCC Road:-** means the surface made of cement concrete duly reinforced with steel bars normally having compacted strata below RCC, irrespective of thickness of RCC.

**At road crossings, the trenches shall be so dug that top of RCC pipe shall be at one meter depth from ground level.**

**2.2 Excavation of Trenches:** Before excavation of trenches the route should be marked for trenching. Care should be taken to see that the route of the trench to excavate is reasonably straight avoiding the existing underground services. The contractor should take trial pits to locate the underground services before commencement of actual trenching. These trial pits shall be 30 cms. wide 120 cms. deep and 120cms. long at right angles to the proposed trench at an interval of 20 to 50Mtrs along the proposed cable route. If a slab is encountered, the same may be removed and trial pits may be made.

In city areas, the trench will normally follow the footpath of the road except where it may have to come to

the edge of carriage way or cutting across roads with the specific permission from the concerned authorities maintaining the road (such permission shall be obtained by the department). Outside the city limits, the trench will normally follow the boundary of the roadside land. However, where the roadside land is full of burrow pits or afforestation or when the cables have to cross culverts/bridges or streams, the trench may come closer to the road edge or in some cases, over the embankment or shoulder of the road. (Permission for such deviations for cutting the embankment as well as shoulder of the roads shall be obtained by the department).

The alignment of the trench will be decided by a responsible departmental official, not below the rank of a Junior Telecom Officer. Once the alignment is marked, no deviation from the alignment is permissible except with the approval of Engineer-in-charge. While marking the alignment only the centre line will be marked and the contractor shall set out all other works to ensure that, the excavated trench is as straight as possible. The contractor shall provide all necessary assistance and labour, at his own cost for marking the alignment. Contractor shall remove all bushes, undergrowth, stumps, rocks and other obstacles to facilitate marking the centre line without any extra charges. It is to be ensured that minimum amount of bushes and shrubs shall be removed to clear the way and the contractor shall give all consideration to the preservation of the trees.

The line-up of the trench must be such that cables shall be laid in a straight line except at locations where it has to necessarily take a bend because of change in the alignment or gradient of the trench.

2.3 **Methods of Excavation:** In city limits as well as in built up areas, the contractor shall resort to use of manual labour only to assure that no damage is caused to any underground or surface installations belonging to other public utility services and / or private parties. However, along the Highways and cross country routes, there shall be no objection to the contractor resorting to mechanical means of excavation, provided that no underground installations exist in the path of excavation, if any, are damaged. There shall be no objection to resort to horizontal boring to bore a hole of required size and to push through G.I. Pipe through horizontal bore at road crossing or rail crossing or small hillocks etc.

In rocky strata excavation shall be carried out by use of electro mechanical means like breakers or by blasting wherever permissible with express permission from the competent authority.

Necessary barricades, night lamps, warning board and required watchman shall be provided by the contractor to prevent any accident to pedestrians or vehicles. While carrying out the blasting operations, the contractor shall ensure adequate safety by cautioning the vehicular and other traffic. The contractor shall employ sufficient manpower for this with caution boards, flags, sign writings etc.

When trenches are excavated in slopes, uneven ground, inclined portion, the lower edge shall be treated as normal level of the ground for the purpose of measurement of depth of the trench. In certain locations, such as uneven ground, hilly areas and all other places, due to any reason whatsoever it can be ordered to excavate beyond standard depth of 100 Cms above the cable to keep the bed of the trench as smooth as possible.

If excavation is not possible to the minimum depth of 100 Cms. above the cable, as detailed above, full facts shall be brought to the notice of the Engineer-in-charge in writing giving details of location and reason for not being able to excavate that particular portion. Approval shall be granted by the competent authority in writing under genuine circumstances.

The contractor shall be responsible for all necessary arrangements to remove or pump out water from trench. The contractor should survey the soil conditions encountered in the section and make his own assessment about dewatering arrangements that may be necessary. Wherever the soil is hard due to dry weather conditions, if watering is to be done for wetting the soil to make it loose, the same shall be done by the contractor.

**For excavation in hard rock,** where blasting operations are considered necessary, the contractor shall obtain the approval of the Engineer-in-charge in writing for resorting to blasting operation. The Contractor shall obtain license from the competent authority for undertaking blasting work as well as for obtaining and storing the explosive as per the explosive Act, 1884 as amended up to date and the explosive rules 1983. The contractor shall purchase the explosives, fuses, detonators, etc. only from a licensed dealer. Transportation and storage of explosives at site shall conform to the aforesaid Explosive Act and Explosive Rules. The contractor shall be responsible for the safe custody and proper accounting of the explosive materials. Fuses and detonators shall be stored separately and away from the explosives. The Engineer-in-charge or his authorised representative shall have the right to check the contractor's store and account of explosives. The contractor shall provide necessary facilities for this.

The contractor shall be responsible for any damage arising out of accident to workmen public or property due to storage, transportation and use explosive during blasting operation. Blasting operations shall be carried out under the supervision of a responsible authorised agent of the contractor (referred subsequently as agent only), during specified hours as approved in writing by the Engineer-in-charge. The agent shall be conversant with the rules of blasting.

All procedures and safety precautions for the use of explosives drilling and loading of explosives before and after

shot firing and disposal of explosives shall be taken by the contractor as detailed in **IS: 4081** safety code for blasting and related drilling operation.

### **2.3.1 Trenching Near Culverts / Bridges:-**

At bridges and culverts the cable shall be laid in GI pipe of suitable size with the permission of concerned authorities maintaining the roads/bridges. While carrying out the work on bridges and culverts, adequate arrangement for cautioning the traffic by way of caution boards during day time and danger lights at night shall be provided.

Of late the bridge construction authorities are providing ducts below the footpaths on the bridges for various services. The telecom officers need to maintain good liaison with the concerned authority to get one side of the duct allotted for Telecom Cables. In such ducts G.I. pipes can be coupled and laid for pulling the cables. It would be pertinent to mention here that close liaison with bridge construction authorities would be of immense advantage in ensuring provision of ducts on one or both the sides of the bridges as per future requirements. However, for Construction Cables on existing bridges, where duct arrangement does not exist, one of the following methods may be adopted.

- i) Where the cushion on top of the arch of the culvert is 45 Cms. or more, the pipe to carry the cable may be buried on the top of the arch adjoining the parapet wall by digging close to the wheel guard. Every precaution shall be taken to see that no damage occurs to the arch of the culvert. After burying the GI pipe, the excavated surface on the arch shall be restored.
- ii) When the thickness of the cushion is less than 45 Cms., the pipe to carry the cable may be buried under the wheel guard masonry. After burring the pipes, wheel guard should be re-built.
- iii) If neither of the two methods mentioned above is possible, the pipe should be clamped to the outside of the parapet wall of the culvert or bridge with the help of clamps, nails, nuts, bolts and screws of suitable size to ensure that the pipe is securely fixed. The GI clamps should be of minimum 25 mm width and 3 mm thickness and should be fixed at an interval of 50 Cms. If necessary, the pipe should be taken to the parapet walls at the ends where the wall diverges away from the roads. The work should be carried out in consultation with the authorities concerned maintaining the roads and bridges.

After burring the G.I. Pipes, the wheel guards or arch may require repairing by connecting at site. For carrying out protection by connecting at site, the nominal dimension of concreting shall be according to the requirements of the site. Cement Concrete Mixture used shall be of 1:2:4 composition i.e. 1: 53 grade cement of a reputed company, 2: Coarse Sand, 4: Graded Coarse stone aggregate of 6 mm nominal size, reinforced with MS weld mesh. As the RCC is cast at site, it is imperative to ensure that special care is taken to see that proper curing arrangements are made with adequate supply of water. The contractor shall invariably use mechanical mixer at site for providing RCC protection, to ensure consistency of the mix.

In case of small bridges and culverts, where there is likelihood of their subsequent expansion and remodeling, the cable should be laid with some curve on both sides of the culvert or the bridge to make some extra length available for readjustment of the cable at the time of reconstruction of culvert or the bridge.

### **2.3.2 Excavation in Surfaced Strata:**

**2.3.2.1 Excavation on Footpath:** The excavation of trenches in all types of footpaths including dismantling of asphalt/all type of tiles/CC and WBM shall be done up to a depth such that the top of the cable is 1.0 M below the normal ground level. The excavation on the footpaths will be done manually. The contractor shall have to provide shoring wherever necessary, in case the depth of trench is more than one meter. It is expected that the other services may be present below the footpath, therefore, extra care needs to be exercised while excavation of trenches.

**2.3.2.2 Excavation of Trenches along the roads (Which are carpeted end to end):** The excavation of trenches along the road which are carpeted from end to end including dismantling of asphalt, concrete and WBM shall be done up to a depth such that the top of the cable is 1.0 M below the normal ground level. The excavation along the roads shall be done manually. The contractor shall have to provide shoring wherever necessary, in case the depth of trench is more one meter. It is expected that the other services may be present below the roads, therefore, extra care needs to be exercised while excavation of trenches.

**2.3.2.3 Excavation at Road Crossings / Railway Crossings:** The excavation of trenches in all types of roads including dismantling of asphalt/all type of tiles/CC and WBM shall be done up to a depth such that the top of the RCC pipe is 1.0 meter below the normal ground level. After excavation of trench, RCC Pipes of

100mm/150mm/225mm/300mm dia shall be laid at the road crossings. On minor roads which can be temporarily closed to traffic, it is possible to open up across the entire width of the road, the pipes should be installed quickly in the trench which should then be filled in, there by reducing the time to a minimum for which the road is required to be closed. The roads, which are broad, may be opened for half their width, allowing the other half for use of vehicular traffic. The second half of the width should be opened after Construction pipes and reinstating the first half of the trench. Pipes laid in the second half should be coupled firmly with those laid in the first half. Care must be taken to couple the pipes fully. The pipes should be laid with a slight slope from the center to the sides of the road to prevent collection of water. 8 mm PP rope shall be drawn through the laid pipes to facilitate cleaning and cable pulling at a later date before closing the trench.

As the work on road crossings entails lot of inconvenience to vehicular traffic and pedestrians, it is desirable to bury extra pipes for future expansion at the initial stage itself. The spare pipes must be sealed properly at both the ends of the road to obviate the possibility of pipe getting choked due to settlement of sedimentation etc. The contractor shall have to provide shoring, wherever necessary, in case the depth of trench is more than one meter. Necessary barricades, night lamps, warning boards and required watchman shall be provided by the contractor to prevent any accident to pedestrians or vehicles.

The excavation within the railway property should be taken up after getting express permission from railway authorities. When a cable has to cross a railway track, it should be laid in Iron pipes at a minimum depth of 1.25 M below rail level. The iron pipes of the requisite type shall be supplied by the Department or Railway Authorities as mentioned in the permission letter. If the pipes are supplied by the railways, cost shall be borne by the Department. The pipeline should extend on both sides of the Railway track for a sufficient distance to enable repairs to the cable, whenever necessary without disturbing the formation under the railway track. The 8 mm PP Rope shall be drawn through the laid pipes to facilitate cleaning and cable pulling at a later date. It is desirable to bury extra pipes for future expansion at the initial stage itself. The spare pipes must be sealed properly at both the ends to obviate the possibility of pipe getting choked due to settlement of sedimentation etc.

2.4 **Classification of Trenches:** The trenches have been categorized based on its size required for Construction different sizes and number of cables as under:

Sl. No.	Type of trench	Trench size in Cms.			Required for
		Width		Depth above Cable/pipe	
		Top	Bottom		
I	A				a. Single cable of any size <b>or</b> b. Construction any number of cables below 400 pairs* <b>or</b> c. Construction two cables of 400 pairs and above with / without any number of additional small size cables.
II	B				Construction three cables of 400 pairs and above with/without any number of additional small size cables.*
III	C				Construction four cables of 400 pairs and above with/without any number of additional small size cables.*
IV	D				Construction five cables of 400 pairs and above with/without any number of additional small size cables.

- **The bottom width is mandatory.**
- **In case of large number of cables to be laid in a trench, the type of trench can be upgraded to higher type of trench by the DGM in-charge considering site conditions.**
- **Where more than one cable is being laid in a trench there should be a gap of 5 cms. in between the cables. No cable should be laid one-over the other.**

2.5 Trenches of Less Depth: Relaxation and competent Authorities to Grant Relaxation: The depth of trench is very important for future life of cables. Therefore, the contractor is obligated to ensure that the standard depth is

maintained in normal circumstances. However, due to obstructions, if the standard depth cannot be achieved, lower depth up to certain limits are acceptable by the authorities as prescribed below with extra protection as per specifications. The relaxation by the competent authority prescribed below shall be obtained giving reasons for not achieving standard depth.

Size of cable	Standard depth in Cms.	Minimum Acceptable Depth without relaxation	Powers delegated for relaxation for depth up to the depth in Cms.	
			DET	DGM
All sizes	100	90	80	30

**3.0 Construction and Pulling of Cables:** The normal methods used in the department for Construction Underground Cables are:

- i) Construction direct in the ground
- ii) Pulling through Ducts

**3.1 Construction direct in the ground:** After excavation of trenches, approximately 5 Cms thick bed of soft soil/ or sand (in case the excavated material contains sharp pieces of rock /stones) is laid before directly Construction the cable. Adequate care shall be exercised while Construction the cables so that the cables are not put to undue tension/pressure as this may adversely affect the electrical characteristics of cables with passage of time. The cables shall invariably be laid in the trenches through jack and spindle at appropriate position for easy unwinding, putting cable rollers in the trenches, if required at a regular interval of approx. 20 Mtrs. under proper supervision. Adequate overlaps shall be left for jointing 2 successive lengths of cables as under:

Size of cable	Length of overlap
1200 pairs and above	1.5 meter.
800 and 1000 pairs	1.4 meter.
400 and 600 pairs	1.2 meter.
Below 400 pairs	1.0 meter.

In case the previous length ends in the middle of a carriage way / foot path / road crossing/ bridge/culvert, it should be negotiated out of the carriage way/foot path/ road crossing/bridge/culvert by Construction the next length early and removing the excess overlap cable and depositing to the stores under proper receipt.

Where more than one cable are laid in the same trench, the jointing locations shall be suitably staggered. When a cable is to be terminated in a pillar, the length of cable for such termination shall be equal to jointing length + height of the pillar.

Sharp bends shall be avoided. Bends, if any, the radius of curvature should be more than at least six times the diameter of the cable. After the completion of Construction, sand/sieved earth, free of stones etc, shall be placed over the cable to a height of 7.5 Cms. duly leveled and rammed lightly to form a bedding for warring bricks or Half round RCC pipes/stone slab/Pre cast RCC slab for mechanical protection.

The cables may be required to be pulled through RCC/GI pipes at road crossings, railway crossings, bridges and culverts. Extra care should be taken to avoid damage to the cable while pulling through pipes which may occur due to kinks. The contractor should have the required tools and equipments for the purpose to complete the job in a professional manner.

The contractor shall ensure that trenching and cable Construction activities are continuous, without leaving patches or portions incomplete in between. When trenches are excavated up to specified depth, properly dressed and leveled and the cable(s) is/are laid, joint measurement of depth above cable shall be taken by representative of contractor and Engineer-in-charge. Measurements shall be recorded in measurement book with their signature. Trenches for which measurements are recorded in measurement book shall be considered as approved trenches.

When there are number of cables of the same size in the same trench it becomes difficult to identify the particular cable at time to CONSTRUCTION. Therefore, identification collars bearing L.I. Number of the cable shall be tagged to all the cables. The identification collars shall be provided at an interval of not more than 2 meters.

**3.2 Cable Pulling through Ducts:** Before starting the cable pulling work, the duct and manholes/hand holes must be cleaned and made free from obstructions so that cable is not damaged while hauling. The contractor shall be adequately equipped with tools and the equipments like-continuous steel rod, winch machine, cable hauling rope



fittings, swivels, hauling eyes, cable grips etc. to carry out the cable pulling work through ducts in a professional manner. As the cable pulling through ducts is specialized work and any damage to cable in duct may lead to development of faults progressively with the passage of time, it is imperative that the work force and the supervisions responsible to carry out this work are fully trained and have sufficient experience.

#### 4.0 **Placing of Half Round RCC Pipes / Stone slabs / Pre Cast RCC slabs / Layer of**

**Bricks:** After Construction cables, it is covered by a consolidated layer of 8 Cms. of soft earth (or sand in special cases where excavated material contains sharp stones/objects) which should be free from stones or other sharp objects, carefully pressed and lightly tamped. On this layer of soft earth, a layer of half round RCC pipes (100/150 mm dia)/Stone slabs/ Pre Cast RCC slabs/Bricks is placed as a warning layer and also as a mechanical protection, as the telecom cables are vulnerable to damages due to excavations by other agencies.

The warning / protection layer of half round RCC pipes / Stone slabs / Pre Cast RCC slabs / Bricks is laid as per following schedule depending upon the size of the cables and depth of trench.

Sl. No.	Size of Cable	Depth (In Cms.)	Warning Layer / Protection
1	200 pairs & below	All depths	Bricks / Stone slabs
2	400 pairs & above	Up to 80 Cms.	Bricks / Stone slabs
3	400 pairs & above	Below 80 Cms.	Half round RCC pipes / Stone slabs / Pre Cast RCC slabs / Bricks

The choice for protection layer out of half round RCC pipes, stone slabs and Pre Cast RCC slabs or bricks may be decided based on availability and comparative cost. Regarding half round RCC pipes, up to 400 pairs cable 100 mm dia RCC pipe and above 400 pairs cables 150 mm dia RCC pipes shall be required.

**4.1 Layer of Bricks:** Well burnt non-modular bricks of nominal size 229 mm (+/-4mm) x 114 mm (+/-3mm) x 70 mm of minimum compressive strength of 75 Kgf per square cm shall be used as a warning / protection layer. Bricks shall be used longitudinally over the cables up to 400 pairs and transversely over cables above 400 pairs or two cables of size up to 400 pairs. Approximately **4400 bricks** per kilometer shall be required for Construction longitudinally and **9000 bricks** per Km. Shall be required for Construction transversely. SDE in-charge of work shall get the bricks tested from a reputed laboratory for compressive strength. One test sample shall be got tested for a lot of 50,000 bricks or part thereof. The test certificate shall be attached along with the final bill.

#### 5.0 **Back Filling and Compacting of the Excavated Trenches:**

After Construction the cables and providing warning / protection layer as per specifications, the remaining portion of the trench shall be filled in and well tamped in steps. The trench should be back filled in layers not exceeding 20 cms. Each at a time and rammed. The contractor shall remove the excess earth from the site and leave only a crown of earth rising approximately 5 cms. in the centre. This allows for natural subsidence. When digging on footpaths, along roads and road crossings, care should be taken to see that the road is motor-able as soon as the work is completed. The permanent reinstatement of roads and pavement shall be done by the local authorities.

#### 6.0 **Erection of Pillars:**

The pillars should be installed in safe places on footpaths at suitable locations convenient and accessible for CONSTRUCTION. The positions close to the edge of footpaths, near transformers or below Electric Lines particularly H.T. must be avoided. The location of pillar, which may obstruct the view of drivers of vehicles as on kerb lines at street intersections, locations in which the doors of the pillars when opened constitute a danger to pedestrians or traffic must be avoided. In general, the pillar shall be so located that reasonable and safe working conditions to the staff are possible throughout the year. The height of the pillar shall be such that the pillar does not get submerged during rains.

##### 6.1. **Construction of RCC Plinth for Pillars and Erection of Pillars:**

The Plinth for erection of pillars shall be made of RCC, cast at site. The dimensions of the pits for casting the foundation of the plinth shall be as under:

$$\begin{aligned} \text{Length} &= W+30 \text{ cms.} \\ \text{Width} &= D+30 \text{ cms.} \\ \text{Depth} &= 110 \text{ cms} \end{aligned}$$

Where W= Width of the pillar shell, D= Depth of the pillar shall.

After digging the pit for casting the plinth of the pillar, a G.I. Plate of size 300 mm X 300 mm and 4 mm thickness bolted to copper wire of 7/18 size (2 meter length) with the help of lug shall be buried in the bottom of the trench

to form earth for the pillar. The copper wire shall be embedded in RCC work with one end coming out on top of the plinth to be terminated in the C.T. box mounting frame inside the pillar shell.

The earth in bottom of the plinth shall be well rammed. The concrete base for the pillar should be dimensioned to suit the particular pillar shell dimensions. The RCC for the pillar foundation should be in the ratio of 1:2:4 (1 Cement of 53 Grade of reputed brand, 2 coarse sand, 4 graded stone aggregate of 20 mm nominal size). The details of reinforcement and dimensions of plinth work are shown in **Figures 1&2**. The height of the pillar plinth shall be such that the bottom of pillar shell should normally remain 45 cms, above the normal ground level. However, in localities, which are subjected to flooding during the rainy season, the height of the base shall be suitably raised so that the bottom of the pillar is kept well above the high flood level. The plinth shall be cast as per the approved drawings and with the use of proper form work. After the RCC work is settled and cured, the plinth shall be finished with cement mortar in proportion of 1: 3 (1Cement of 53 grade of reputed brand 3 Fine sand) of 6 mm thickness. The contractor shall arrange water for curing the plinth for at least 7 days to give necessary strength. The sides of the RCC form work shall be filled with the excavated earth and rammed properly to give it necessary strength so that the plinth does not tilt and loose its verticality at a later date. Finally the plinth above the ground level shall be painted with black oil paint.

Erection of pillar shall be done by fixing the pillar boxes on the plinth with 10 mm bolts embedded in RCC formwork firmly and terminating the earth wire on the C.T. Box mounting frame inside.

**6.2 Painting and Sign Writing of Pillars:** The pillar shell should be cleaned thoroughly and one coat of red oxide primer shall be applied on all surfaces i.e. inside and out side surfaces. After it is dried up, spray painting shall be done with battleship grey paint of reputed brand on all surfaces. Once the grey paint dries up, the sign writing shall be done after cleaning the surface with dry cloth, with white enamel paint of reputed brand.

**6.2.1 Sign Writing of Pillars:** Sign writing shall be carried out in capital letters of height 10 Cms. and width 7.5 Cms. (4"X3") and as per instructions of Engineer-in-charge. The following contents shall be sign written on the face of the pillar shell:

- Logo of the Department.
- Name of Telecom District
- Number of the pillar, which will carry, abbreviated 3-4 digit alphabetical code of the exchange system followed by the number of the pillar.

**7 Erection of D.Ps:** The distribution points (D.Ps.) are fitted on poles, walls or in the staircase walls easily accessible for CONSTRUCTION, to terminate distribution cables coming from pillars. There are two types of D.Ps, which are required to be erected.

**A) External D.Ps & B) Internal D.Ps**

**7.1 External D.Ps:** The items of work involved in erection of **External D.Ps.** are as under:

- i)** Fitting of post with all components: i.e. Hamilton tubes (normally A4BC or BC), socket, cap and spikes.
- ii)** Digging Pit for the post.
- iii)** Fitting Sole plate in the assembled tube and lowering the assembled post in the pit.
- iv)** Re-instating and consolidating after making the post upright and rigid.
- v)** Preparation and installation of stay(s).
- vi)** Pulling the L.I. cable (5 pair/ 10pair/ 20pair) through 20/32 mm dia G.I. pipe and terminating the cable pairs in D.P. box and fixing of D.P. box on the post with the help of fixtures (either steel tapes & accessories such as buckles, pole rings, pole Brackets, Retainer Clamps & Hooks, Drive Bolts, Wall rings, Plastic Plugs etc. or set of three G.I. clamps, saddles, brackets etc.).
- vii)** Painting & Sign writing of the D.P. Post. The D.P. post shall be painted with enamel paint of reputed brand in the three colored bands of ten inch each (Red, Blue, and Red). The painting of lower red band will start at five feet from ground. The sign writing will be done in the middle of the Blue band with white enamel paint of reputed brand. The contents of the sign writing are given below.
  - \* Abbreviated code of name of SSA
  - \* Abbreviated code of exchange system
  - \* Numbering of the D.P.

The height of the letters and contents according to numbering scheme of D.Ps. in the SSA will be given by Engineer-in-charge.

## 7.2 **Internal D.Ps:** The Items of work in erection of Internal D.Ps are as under:

- i) Fixing of 20/32 mm G.I. Pipe with the help of clamps nails and saddles at every 30 Cms. The clamps should be made of 25 mm wide and 3 mm thick G.I. strips properly galvanized.
- ii) Pulling of L.I. cable (5pairs/10pairs/20pairs/50pairs) through 20/32 mm dia G.I. pipe of approximately 7 to 10 ft. and terminating the cable pairs in D.P. box and fixing of D.P. box on the wall with the help of suitable rawl plugs/wooden gitti and screws.
- iii) Painting & Sign writing of the D.P.: The sign writing shall be done on the wall near the D.P. box. The sign writing shall be done on blue background of 300 mm X 200 mm with sign writing in white colour. Enamel paint of reputed brand shall be used for painting and sign writing. The contents of the sign writing are given below:
  - \* Abbreviated code of name of SSA
  - \* Abbreviated code of exchange system
  - \* Numbering of the D.P.

The height of the letters and contents according to numbering scheme of D.Ps. in the SSA will be given by Engineer-in-charge.

## 8 **TERMINATION OF CABLES IN MDF & PILLARS:**

The U.G. cables are terminated on tag blocks on line side of the MDF. The MDF consists of iron framework and line side tag blocks are fitted on verticals. In the department, depending upon the height of the MDF room, MDFs of different sizes are erected. For simplicity and uniformity, a standard numbering scheme of verticals, tag blocks and tag numbers in the tag block is followed. From the non-growing end, the verticals are numbered as 01, 02 and so on. The tag blocks in a vertical are numbered as 01,02 and so on from top to bottom. In the tag block, which is of 100 pairs, tags are numbered as 01 to 100 from top most left corner to bottom most right corner.

The U.G. Cables are terminated on MDF from top to bottom on a vertical. The cables in pillars are terminated in the tag blocks of 100 pairs each. For the sake of simplicity and uniformity, a standard numbering scheme of tag blocks in a pillar is followed. The verticals in pillar are numbered as A, B, C & D. The tag blocks are counted are from top to bottom in a column as A1, A2... B1, B2... C1, C2...& D1, D2... The tags in a tag block of 100 pairs are counted as 01,02.. 100 from top most left corner to bottom most right corner. The A and C column tag blocks are used for terminating the primary cables and B and D column tag blocks are used for terminating the distribution cables.

While terminating the cables in MDFs and pillars, the correspondence of pairs shall be maintained from the point of view of counting of pairs and CONSTRUCTION of the cables. In case of armoured cables, the armour of the cable shall be connected to the C.T. box mounting frame in the pillar and to the verticals of MDF, which are earthed.

For terminating the cables in pillars, the joints at the foot of the pillar should be avoided and the cable should be directly led into the pillar through bottom inlet of the pillar shell. The sheath of the cable should be removed inside the pillar and the bunches of the pairs shall be terminated on tag blocks after cleaning and lacing neatly. The termination of cables of MDF and pillars (and of course in D.P. also) should be done using only the standard tools.

The work of "termination of MDF and pillars" includes:

- i. Fixing of Tag Blocks on MDF vertical / C.T. boxes in pillars.
- ii. Drawing the cable into the pillar and removing the cable sheath for required length.
- iii. Providing earth continuity with the armour of the cable(s)
- iv. Cleaning the insulated conductors and covering the formed bunches with PVC sleeve / tape.
- v. Termination of cable pairs in Tag blocks / C.T. Boxes
- vi. Sign writing with white enamel paint of reputed brand on inner panel of the pillar shall be done indicating the termination details. On MDF, the written labels shall be put in place provided for it indicating the termination details. The details of sign writing shall be given by the Engineer-in-charge.

The termination of cables should be done using standard tools.

## 9.0 Jointing of Cables and End to End Testing

“A chain is as strong as its weakest link”, hence, the quality of external plant is depends upon quality of jointing work to a huge extent. As mentioned elsewhere, the external plant using U.G copper Cables entails huge investment to the tune of `10,000/- per pair on an average. If some pairs are lost in one joint, the pairs are not available for the entire length of the cable. The loss of pairs is not only loss of capital but also the department looses the potential revenue by not able to provide the connections. In view of these facts, the quality of jointing work is of immense importance and therefore, the jointing work should be done by experienced jointers using standard tools and accessories.

The work of cable jointing involves jointing of pairs by twisting or machine jointing using modular connectors. The quality of joint is vital for overall electrical characteristics and quality of transmission of the subscriber loop and therefore, the same has to be done meticulously. There are three different types of joints;

- (i) Straight joint: for connecting all the pairs of two cables
- (ii) Branch joint: for connecting pairs of one cable to two or more different cables branching out at the joint.
- (iii) Teeing joint: Teeing of cable is done at the time of area transfer or re-arrangements of cables in the external plant.

### 9.1 Straight and Branch Joints: The items of work involved in jointing are as under:

- a. Digging the pit for the joint
- b. Preparation of cable ends for jointing.
- c. Jointing of cable conductors by twisting or by machine jointing using modular connectors.
- d. Closing the joint & Flooding of the joint \* (Flooding of joints shall be mandatory).
- e. Providing protection to the joint with half round RCC pipe / stone slab / Pre cast RCC Slabs.
- f. Back filling and compacting.
- g. Providing joint indicators and noting distances from three permanent points for future reference to locate the joints.

### 9.2 Teeing work involved in Area Transfer/Re-arrangement work: The following works are involved in teeing for area transfer / Rearrangement work

- a. Digging pit for the joint
- b. Operating the cable and Numbering out
- c. Putting sleeves with indicator slip on cable pairs
- d. Jointing with new cable i.e. Tee joint.
- e. Conducting correspondence test between old D.P. and New D.P. on MDFs.
- f. Closing the joint by Thermo Shrinking if required before releasing the Tee.
- g. Release of Tee after Area Transfer.  
Closing the joint by Thermo shrinking after release of Tee. And flooding of the joint \* (Flooding of joints shall be mandatory)
- h. Providing protection to the joint with half round RCC pipe / stone slabs / Pre cast RCC slabs.
- i. Back filling and compacting.
- j. Providing joint indicators and noting distances from three permanent points for future reference to locate the joints.

For area transfer work, it is preferable to award teeing and cable construction work from new MDF to the teeing point covering Construction, jointing and termination of cables on new MDF to a single contractor to facilitate smooth completion and testing.

The contractor shall make hundred percent pairs available from end-to-end. To ensure the availability of 100% pairs end-to-end it is a good practice not to close the joints until all the pairs are tested from MDF to pillar for primary cable work and from pillar to D.P. for distribution cable work. **“An ounce of prevention is worth a pound of cure”**. In case of some pairs missing, the defects should be rectified at this stage itself, as the joints are still kept open. Once all the pairs are available, joint shall be closed properly using jelly and other accessories as per instructions. Proper and adequate filling of jelly in the joints is of importance as any water ingress and trapped in the cavities will result into low insulation fault at later date.

Before closing the joint the contractor is required to place a slip inside the joint, indicating the following:

- Name of the contractor
- Name of the official of the department supervising the work

- Date of joint

9.5 **End-To-End Testing:** The cables are to be tested for continuity of pairs and electrical and transmission characteristics of the cable pairs, between MDF and pillar in case of primary cables and pillar and D.Ps in case of distribution cables, separately. The test parameters should conform to the A.T. standards of the department issued by T & D Circle. Broadly the following parameters are tested. (i) Insulation (ii) Cross insulation (iii) continuity (iv) loop resistance (v) transmission loss (vi) cross talk level.

#### 9.6 **Cable route & Joint Indicators:**

Cable route and joint indicators are to be provided to indicate the cable route and location joints. The route and joint indicators are to be used for cables laid in rural areas as availability of landmarks over wide expanse of lands is scanty. The route indicators are to be placed at every 200 meters and at every place where the cable changes direction. Joint indicators are to be provided at all joints. For the sake of uniformity and from viewpoint of identification of cable at later date for CONSTRUCTION, the route indicators shall be provided in the alignment of the trench and the joint indicators should be provided in the alignment of the trench 2 meters towards exchange from the location of joint to obviate removal of joint indicator at the time of operating the joint.

The route and joint indicators are of RCC of trapezoidal shape having base of approximately 250 mm X 150 mm and top 200 mm X 75 mm and height 1000 mm. The indicators shall be supplied by the department. For fixing the route / joint indicators, the pits of size 60 Cms X 60 Cms. And 75 Cms depth shall be dug. The indicator shall be secured in upright position by ramming with stone and murrum up to a depth of 15 Cms and concreting the remaining portion of 15 Cms by concrete mix of 1:2:4 (1 Cement, 2 coarse sand and 4 Stone aggregate of 20 mm nominal size. Necessary curing shall be carried for the concreting structure with sufficient amount of water for reasonable time to harden the structure.

The Route / Joint indicators shall be painted with Primer before painting with Oil Paint. The route indicators shall be painted with yellow paint and joint indicators shall be painted with red paint. The construction specifications of route and joint indicators are given in the **figures 3.**

#### 10. **SPECIFICATION AND SCOPE OF WORK FOR CONSTRUCTION OF L&W**

The erection of post will consist of fitting of tubes A, B, A-4, B, C, fitting, socket, fixing sole plate, digging hole for posts, erecting posts, providing stay wherever it is necessary including providing S.S.N.P. Providing stay rods, digging holes for anchors, fixing anchors, providing stay collar wherever necessary. The stay will be provided by 600 lbs G.I. Wire as per departmental standards. The work further includes erecting bracket/brackets on the erected posts, fixing of stalks & insulators, if necessary.

10.1. The erected post should be suitably rammed and stays are provided the anchors should also be properly rammed.

10.2. The contractor(s) are liable to carry out the work as per requirement given by concerned SDO. While erecting the wire the contractor/contractors will be fully responsible for proper leveling of erected wire. He will properly tie the wire with the neck of the insulator by appropriate wire as desired by SDO concerned. The contractor(s) are fully responsible for proper jointing of the wires, wherever it is needed.

10.3. **Erection of sub's loop by Drop wire:-** The erection of drop wire for subs loop from D.P (Distribution point) to junction box/window /house bracket or any accessory book as the case may be using drop wire accessories as per BSNL standard can be had from SDOP/JTO Incharge. In some cases it may happen that the drop wire is required to be taken directly up to rosette point inside the sub's premises avoiding junction point. The drop wire entry hole for taking drop wire inside the sub's premises is also the part of sub's loop portion.

The contractor(s) shall maintain minimum headway as desired by the concerned SDO through out the line erection he will also provide appropriate headway at road crossing or in low level areas as per departmental standard.

11.1 **Documentation:** The documentation, consisting of Route Diagrams, depicting Joint Locations, Termination details of cables on MDF, Pillars and D.Ps., is of immense help at the time of CONSTRUCTION or undertaking any re-arrangement work in the external plant. The details available in documentation prove to be of huge value in subsequent planning and construction activities in the external plant. These documents are also useful in coordinating excavating activities by other agencies thus saving out huge investment from getting damaged and also avoiding disruption of services.

The documentation shall be prepared primary cable wise for one or more than one primary cables with all its Pillars shown and for all its Pillars the Distribution Cables shown Pillar wise, for the works ordered against a work order. The scope of work in documentation shall be include the following:

- Route Diagrams:** Preparation of route diagram depicting alignment of cables on roadsides on a geographical map of the pillar area / exchange area. Though it is desirable to prepare these diagrams on geographical maps to the scale but in case geographical maps are not available, the maps should be constructed to a reasonable accuracy by taking details from the local bodies of the area.

On this diagram, besides showing alignment of the cable, the topographical details of the road, location of pillars and landmarks along side should also be shown to locate the cable(s) easily as and when required.

**These diagrams shall be prepared on A-3 sheets 80 GSM.**

- ii) **Joint offsets:** The joints offsets will *inter-alia* show the locations of joints by showing distances from three permanent points so that the joints can be located easily as and when required. Besides showing the locations of joints, it shall also show details of distribution of pairs in the joint in case of branch joint. **These joint offsets shall be prepared in A-4 size sheets of 80 GSM.**
- iii) **Pillar Cards:** The pillar cards shall show the termination details of primary as well as distribution cables in the pillar. **These cards shall be prepared in A-4 size sheets of 80 GSM.**
- iv) **MDF Termination Cards:** The MDF termination cards shall provide details of termination of cable depicting full details of MDF vertical, tag block numbers and pair numbers of the cable terminated on the MDF and its correspondence with termination in pillars. **These cards shall be prepared in A-4 size sheets of 80 GSM.**

**The route diagrams, joint offsets, pillar cards and MDF termination cards shall be prepared by the contractor through an experienced draughtsman or these may be computerized.** The utility of the documentation will be enhanced if the existing cables are also shown on these diagrams being prepared for the new work. The contractor shall be bound to implant the details on the documents if supplied by Engineer-in-charge timely, without any extra cost. All the diagrams / cards / joint offsets shall bear the signatures of the contractor, the Engineer-in-charge and the A.T. Officer as a proof of accuracy of the diagram.

All the above documents (i to iv) pertaining to a pillar area / exchange system (in case of small exchange system) shall be bound in A-4 size. The cover sheets shall be of 110 GSM and laminated. The front cover shall have the following details.

1. Name of the SSA
2. Name of the Exchange System
3. Name of the Contractor
4. Name and Number of the pillar / exchange system
5. Work Order No.
6. Date of commencement of work
7. Date of completion of work

The contractors shall supply 6 copies of bound documents as one set of Documentation. The rate for one set documentation is given in standard schedule rates.

## **12. SAFETY PRECAUTIONS:**

### **12.1 Safety Precautions when excavating or working in excavations close to electric cables:**

The Engineer-in-charge of the work should get full information from Electricity undertaking regarding any electric cables, which are known or suspected to exist near the proposed excavation and unless this is done, excavation should not be carried out in the section concerned. The electricity undertaking should be asked to send a representative and work should be preceded with close consultation with them.

Only wooden handled hand tools should be used until the electric cables have been completely exposed. Power Cables not laid in conduits are usually protected from above by a cover slab of concrete, brick or stone. They may or may not be protected on the sides. It is safer, therefore, always to drive the point of the pickaxe downwards then uncovering a cable, so that there is less chance of missing such warning slabs. No workman should be permitted to work alone where there are electric cables involved. At least one more man should be working near by so that help can be given quickly in case of an accident. If disconnection of power could be arranged in that section it will be better. No electric cables shall be moved or altered without the consent of the Electric Authority and they should be reported to the Electric Authority and any warning bricks disturbed during excavation should be replaced while back filling the trench. Before driving a spike into the ground, the presence of other underground properties should be checked. Information on plans regarding the location of power cables need not to be assumed as wholly accurate. Full precautions should be taken in the vicinity until the power cable is uncovered. All electric cables should be regarded as being live and consequently dangerous. Any power is generally dangerous, even low voltage proving fatal in several cases.

- 12.1.1 Electric Shock-Action and treatment:** Free the victim from the contact as quickly as possible. He should be jerked away from the live conductors by dry timber, dry rope or dry clothing. Care should be taken not to touch with bare hands as his body may be energized while in contact. Artificial respiration should begin immediately to restore breathing even if life appears to be extinct. Every moment of delay is serious, so, in the meanwhile, a doctor should be called for.
- 12.2 Safety precautions while working in Public Street and along railway lines:** Where a road or footpath is to be opened up in the course of work, special care should be taken to see that proper protection is provided to prevent any accidents from occurring. Excavation work should be done in such a manner that it would not unduly cause inconvenience to pedestrians or occupants of buildings or obstruct road traffic. Suitable bridges over open trenches should be so planned that these are required for the minimum possible time. Where bridges are constructed to accommodate vehicular traffic and is done near or on railway property, it should be with the full consent and knowledge of the competent railway authorities.
- 12.2.1 Danger from falling material:** Care should be taken to see that apparatus, tools or other excavating implements or excavated materials are not left in a dangerous or insecure position so as to fall or be knocked into the trench thereby injuring any workman who may be working inside the trench.
- 12.2.2 Care when working in Excavations:** Jumping into a trench is dangerous. If it is deep, workmen should be encouraged to lower themselves. Workers should work at safe distance so as to avoid striking each other accidentally with tools. If the walls of the trench contain glass bits, corroded wire or sharp objects they should be removed carefully. If an obstruction is encountered, it should be carefully uncovered and protected if necessary. Care must be taken to see that excavated material is not left in such a position that it is likely to cause any accident or obstruction to a roadway or waterway. If possible the excavated material should be put between the workmen and the traffic without encroaching too much on the road.
- 12.2.3 Danger of cave in:** When working in deep trenches in loose soil, timbering up/shoring the sides will prevent soil subsidence, The excavated material should be kept at sufficient distance from the edge of the trench or pit. Vehicles or heavy equipment must not be permitted to approach too close to the excavation. When making tunneled opening, it should be ensured that the soil is compact enough to prevent cave in even under adverse conditions of traffic. Extra care should be taken while excavating near the foundations of buildings or retaining walls. In such cases, excavation should be done gradually and as far as possible in the presence of the owners of the property.
- 12.2.4 Protection of Excavations:** Excavations in populated areas, which are not likely to be filled up on the same day should be protected by barriers or other effective means of preventing accidents and the location of all such openings must in any event be indicated by red flags or other suitable warning signs. During the hours from dusk to dawn, adequate number of red warning lamps should be displayed. Supervisory officers should ensure that all excavations are adequately protected in this manner as serious risk and responsibility is involved. Notwithstanding adoption of the above mentioned precautions, works involving excavations should be so arranged as to keep the extent of opened ground and the time to open it to a minimum.
- 12.2.5 Precautions while working on roads:** The period between half an hour after sun-set and half an hour before sunrise, and any period of fog or abnormal darkness may also be considered as night for the purpose of these instructions, for the purpose of providing the warning signs. Excavation liable to cause danger to vehicles or the public must at all times be protected with fencing of rope tied to strong uprights or bamboo poles at a suitable height or by some other effective means. Any such temporary erection which is likely to cause obstructions and which is not readily visible should be marked by posts carrying red flags or boards with a red background by day and by continuously lighted lamps at night.

The flags and the lamps should be placed in conspicuous positions so as to indicate the pedestrians and drivers of vehicles the full expanse i.e. both width and length of the obstruction. The distance between lamps or between floors should not generally exceed 1.25 meters. Along the width and 6 meters. Along length of the obstruction in non-congested areas, but 4 meters along the length in congested areas. If the excavation is extensive sufficient notice to give adequate warning of the danger, should be displayed conspicuously not less than 1.25 meters. Above the ground and close to the excavation. Where any excavation is not clearly visible for a distance of 25 meters. To traffic approaching from any direction or any part of the carriage way of the road in which the excavation exists, a warning notice should be placed on the kerb or edge of all such roads from which the excavation or as near the distance as is practicable but not less than 10 meters. From the junction of an entering or intersecting road in which the excavation exists. All warnings, in these should exhibit a red light, but white lights may be used in addition to

facilitate working at night. Wherever required a passage for pedestrians with footbridge should be provided. At excavations, cable drums, tools and all materials likely to offer obstructions should be properly folded round and protected. This applies to jointer's tents as well. Leads, hoses etc. stretched and across the carriage way should be guarded adequately for their own protection and also that of the public.

#### **12.2.6 Traffic Control:**

The police authorities are normally responsible for the control of traffic and may require the setting up of traffic controls to reduce the inconvenience occasioned by establishment of a single line of traffic due to restriction in road width or any other form of obstruction caused by the work. As far as possible, such arrangements should be settled in advance. If there are any specific regulations imposed by the local authorities, these should be followed.

#### **12.2.7 Work along Railway Lines:**

Normally all works at Railway crossing is to be done under supervision of the railway authorities concerned, but it is to be borne in mind that use of white, red or green flags by the Departmental staff is positively forbidden to be used when working along a railway line as this practice may cause an accident through engine drivers mistaking them for railway signals. When working along a double line of railway, the men should be warned to keep a sharp look on both the "UP" and "DOWN" lines to avoid the possibility of any accident when trains pass or happen to cross one another near the work spot.

### **12.3 Procedure and Safety precautions for use of explosives during blasting for Trenching:**

In areas where the cable trench cannot be done manually on account of boulders and rocks, it is necessary to blast the rocks by using suitable explosives. The quality of explosive to be used depends on the nature of the rocks and the kind of boulders. A few types of explosive fuses and detonators normally used for making trenches for cable works are detailed below:

- i) Gun power
- ii) Nitrate Mixture
- iii) Gelatin
- iv) Safety fuse
- v) Electric Detonator
- vi) Ordinary Detonator

#### **12.3.1 Procedure:**

A detailed survey of the route is to be done to assess the length of the section where trenching is to be done with the help of blasting. A route diagram of the rocky section may be prepared indicating the length of the route where the explosive is to be used. For the purpose of obtaining license, longer length of route should be given the application as in many cases, after digging, rocks appear where blasting was not initially anticipated.

Next a license will have to be obtained for use and storing of explosive in that section. If the area falls under a police commissioner, the authority for granting such license is the police commissioner, the authority for issuing license is the district magistrate.

The concerned authority should be applied in prescribed form with the route map. The concerned authority will make an inquiry and issue a license for using/storing explosives for cable trenching works. Such license will be valid for 15 days only. The license should be renewed if the blasting operation need to be extended. Once the license is granted, it is the responsibility of the holder of the license for the proper use of explosive, its transportation and storing.

#### **12.3.2 Method of using:**

The safest explosive is the Gelatin and electric detonator. Gelatin is in the form of a stick. Electric detonator is a type of fuse used for firing the explosive electrically. holes are made at suitable interval on rocky terrain boulder either by air compressor and by manual chipping. The depth of the hole should be 2 to 3 ft. Fill up the hole with small quantity of sand for about 6". first the electric detonator is to be insert into the Gelatin and the Gelatin is to be inserted into the holes keeping the +ve and -ve wiring of electric detonator outside the holes. Again refill the hole by sand. These +ve and -ve insulated wire of detonator are then extended and finally connected to an exploder kept at a distance of not less than 100mtrs.



Now the explosive is ready for blasting. But before connecting wires to exploder for blasting, all necessary precaution for stopping the traffic, use of red flags, exchange of caution signals, etc., should be completed and only then Exploder should be connected and operated.

#### 12.3.2.1 Operation of exploder (IDL Schaffer type 350 type exploder):

The type 350 blasting machine consists of a bearing block with blasting machine system and the explosion proof light – alloy injected molded housing. The exploder is held with the left hand. The twist handle is applied to the drive pin, dapped with the right hand turned in the clock wise direction in continued measurement at the height speed from the initial position until it reached to a stop. At the stage an indication lamp will glow. When the indication lamp glow, “press button switch” should be pressed. This will extend the electric current to detonator and Gelatin will be detonated. The rock will be blasted out of the trench. Number of holes can be blasted in a single stroke by connecting all such detonator in series connection and finally to the exploder. After blasting , again mazdoors are engaged on the work to clear the debris. If the result of the first blasting is not satisfactory, it should be repeated again on the same place.

#### 12.3.3 WARNING :

There may be two reasons for unsatisfactory result of the blasting:

- a) Misfire of Gelatin due to leakage of current from detonator.
- b) Over loading because of overburdens.

Never pull the broken wire pieces from the holes in such cases, Attempts should not be made to re-blast the misfired Gelatin. The safest way is to make a fresh hole but its side and put fresh Gelatin in that hole and blast it.

#### 12.3.4 PRECAUTIONS:

The abstract of explosives Rules 1983 that are relevant to our work is given below:

Restriction of delivery and dispatch of explosives:

No person shall deliver or dispatch any explosives to any one other than a person who.

- a) Is the holder of a license to possess the explosives or the agent of a holder of such a license duly authorized by him in writing on his behalf.

**OR**

- b) Is entitled under these rules to possess the explosive without the license.

The explosive so delivered or dispatched shall in no case exceed the quality, which the person to whom they are delivered or dispatched is authorized to possess with or without a license under these rules.

No person shall receive explosive from any person other than the holder of a license granted under these rules. No person shall receive from or transfer explosives to any person for a temporary storage or safe custody in a license premise unless prior approval is obtained from the chief controller.

A person holding license for possession of explosives granted under these rules shall store the explosives only in premises specified in the license.

- **Protection from Lightning During Storing:**

Every magazine shall have attached there to one or more efficient lightening conductors designed and erected in accordance with the specification laid down in Indian standard specification No. 2309 as amended from time to time. The connection to various parts of earth resistance of the lightening conductor terminal on the building to the earth shall be tested at least once in every year by a qualified electrical; engineer or any other competent person holding a certificate of competency in this behalf from the state electricity Department. A certificate showing the results of such tests and the date of the last test shall be hung up in conspicuous place in the building.

- **Precautions during thunder-storm:**

When a thunder-storm as pear to be imminent in the vicinity of a magazine or store house every person engaged in or around such magazine and store house shall be withdrawn to a safe distance from such distance from such magazine and store house and the magazine and store house shall be closed or locked until the thunder storm has ceased or the threat of it has passed.

- **CONSTRUCTION of records:**

Every person holding a license granted under these rules for possession, sale or use of explosives shall maintain records in the prescribed forms and shall produce such record on demand to an inspection Officers.

- **Explosives not to be kept in damaged boxes:**

The license of every magazine or store house shall ensure that, the explosives are always kept in their original outer package. In case, the outer package gets damaged so that the explosive contained there in cannot be stored or transported, such explosive shall be repackaged only after the same are examined by controller of explosives.

- **Stored of explosives in excess of the licensed quantity:**

The quantity of any kind of explosives kept in any licensed magazine or store house shall not exceed the quantity entered in the license against such kind of explosives. No explosives in excess of the licensed quantity shall be stored in the magazine or store house unless a permit in this behalf is obtained from the licensing authority by a letter or telegram.

### 12.3.6 Precautions to be observed at site:

The electric power at the blasting site shall be discontinued as far as practicable before charging the explosives. No work other than associated with the charging operations shall be carried out within 10 meters of the holes unless otherwise specified to the contrary by the licensing authority.

When charging is completed, any surplus explosive detonators and fuses shall be removed from the vicinity of the hole and stored. At a distance which should prevent accidental detonation in the event of a charge detonating prematurely in any hole. The holes which have been charged with explosives shall not be left unattended till the blasting is completed. Care shall be taken to ensure that fuse or wires connected to the detonation are not damaged during the placing of stemming materials and tamping.

- \* **Suitable warning procedure to be maintained:-**

The licensee or a person appointed by the licensee to be in charge of the use of explosives at the site shall lay down a clear warning procedure consisting of warning signs and suitable signals and all persons employed in the area shall be made fully conversant with such signs and signals.

- \* **Precautions to be observed while firing:-**

The end of the safety fuse if used in place of a detonator should be freshly cut before being lighted. The exploders shall be regularly tested and maintained in a fit condition for use in firing. An exploder shall not be used for firing a circuit above its rated capacity. The electric circuits shall be tested for continuity before firing. All persons other than the shot-firer and his assistant, if any shall be withdrawn from the site before testing the continuity.

For the purpose of jointing, the ends of all wires and cables should have the insulation removed for a maximum length of 5 cms. and should, then be made clear and bright for a minimum length of 2.5 cms. and the ends to be joined should be twisted together so as to have a positive metal contact. Then these should be taped with insulation to avoid leakage when in contact with earth.

In case of blasting with dynamite or any other high explosive, the position of all the bore holes to be drilled shall be marked in circles with white paint. These shall be inspected by the contractor's agent. Bore holes shall be of a size that the cartridge can easily pass down. After the drilling operation, the agent shall inspect the holes to ensure that drilling has been done only at the marked location and no extra hole has been drilled. The agent shall then prepare the necessary charge separately for each bore hole. The bore holes shall be thoroughly cleaned before a cartridge is inserted. Only cylindrical wooden tamping rods shall be used for tamping. Metal rods or rods having pointed ends shall never be used for tamping. One cartridge shall be placed in the bore hole and gently pressed but not rammed down. Other cartridges shall then be added as may be required to make up the necessary charge for the bore hole. The top most cartridges shall be connected to the detonator which shall in turn be connected to the safety fuses for required length. All fuses shall be cut to the length required before being inserted into the holes. Joints in fuses shall be avoided. Where joints are unavoidable, a semi-circular niche shall be cut in one piece inserted into the niche. The two pieces shall then be wrapped together with string. All joints exposed to dampness shall be wrapped with rubber tape.

The maximum of eight bore holes shall be loaded and fired at one occasion. The charges shall be fired successively and not simultaneously. Immediately before firing, warning shall be given and the agent shall see that all persons have retired to a place of safety. The safety fuses of the charged holes shall be ignited in the presence of the agent, who shall see that all the fuses are properly ignited.

Careful count shall be kept by the agent and others of each blast as it explodes. In case all the charged bore holes have exploded, the agent shall inspect the site soon after the blast but in case of misfire the agent shall inspect the site after half an hour and mark red crosses (X) over the holes which have not exploded. During his interval of half an hour, nobody shall approach the misfired holes. No driller shall work near such bore until either of the following operations have been done by the agent for the misfired bore holes.

- a) The contractor's agent shall very carefully (when the tamping is a damp day) extract the tamping with a wooden scraper and withdraw the primer and detonator.
- b) The holes shall be cleaned for 30 cm of tamping and its direction ascertained by placing a stick in the hole. Another hole shall then be drilled 15 cm away and parallel to it. This hole shall be charged and fired. The misfired holes shall also explode along with the new one.

Before leaving the site of work, the agent of one shift shall inform the another agent relieving him for the next shift, of any case of misfire and each such location shall be jointly inspected and the action to be taken in the matter shall be explained to the relieving agent.

The Engineer-in-Charge shall also be informed by the agent of all cases of misfire, their causes and steps taken in that connection.

- 12.3.7 **General Precautions:** For the safety of persons red flags shall be prominently displayed around the area where blasting operations are to be carried out. All the workers at site, except those who actually ignite the fuse, shall withdraw to a safe distance of at least 200 meter from the blasting site. Audio warning by blowing whistle shall be given before igniting the fuse.

Blasting work shall be done under careful supervision and trained personnel shall be employed. Blasting shall not be done within 200 meters of an existing structure, unless specifically permitted by the Engineer-in-Charge in writing.

**Precautions against misfire:** The safety fuse shall be cut in an oblique direction with a knife. All saw dust shall be cleared from inside of the detonator. This can be done by blowing down the detonator and tapping the open end. No tools shall be inserted into the detonator for this purpose.

If there is water present or if the borhole is damp, the junction of the fuse and detonator shall be made water tight by means of tough grease or any other suitable material. The detonator shall be inserted into the cartridge so that about one-third of the copper tube is left exposed outside the explosive. The safety fuse just above the detonator shall be securely tied in position in the cartridge. Water proof fuse only shall be used in the damp borehole or when water is present in the borehole.

If a misfire has been found to be due to defective fuse, detonator or dynamite, the entire consignment from which the fuse, detonator or dynamite was taken shall be got inspected by the Engineer-in-Charge or his authorised representative before resuming the blasting or resuming the consignment.

#### 12.3.8 **Precautions against stray currents:**

Where electrically operated equipment's is used in locations having conductive ground or continuous metal objects, tested shall be made for stray current to ensure that electrical firing can proceed safely.

**SECTION – IX**  
**FORMAT OF AGREEMENT**

This agreement made on this \_\_\_\_\_ day of (month) \_\_\_\_\_ (year) \_\_\_\_\_ between M/s \_\_\_\_\_, herein after called "The Contractor" ( Which expression shall unless excluded by or repugnant to the context , include its successors , heir, executors, administrative representative and assignee) of the one part & the CMD BSNL here in after referred to as the BSNL, of other part.

Where as the contractor has offered to enter into contract: with the said BSNL for execution of **TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA** (the BSNL BASTAR) on the terms and conditions herein contained and the rates approved by the BSNL (copy of Rates annexed) have been duly accepted and where as the necessary security deposits have been furnished in accordance with the provisions of the tender document and where as no interest will be claimed on the security deposits.

Now these presents witness and it is hereby agreed and declared by and between the parties to these presents as follows.

- 1) The contractor shall, during the period of this contract: that is to say from \_\_\_\_\_ to \_\_\_\_\_ or completion of work for Rs \_\_\_\_\_ (In words) \_\_\_\_\_ whichever is earlier or until this contract: shall be determined by such notice as is hereinafter mentioned, safely carryout, by means of labourers employed at his own expenses and by means of tools, implements and equipment etc. to be supplied by him to his labour at his own expenses, all associated works as described in documents (annexed to the agreement), when the BSNL or GMTD BASTAR or any other persons authorised by GMTD BASTAR in that behalf require. It is understood by the contractor that the quantity of work mentioned on the schedule is likely to change as per actual requirements as demanded by exigencies of service.
- 2) The NIT (notice Inviting tender), Bid documents (Qualifying and Financial), letter of intent, approved rates, annexed hereto and such other additional particulars, Instructions, drawings, work orders as may be found requisite to be given during execution of the work shall be deemed and taken to be an integral part of the contract and shall also be deemed to be included in the expression "The Agreement" or "The Contract" wherever herein used.
- 3) The contractor shall also provide services at the requisite number of service units with means & materials as well as tools, appliances, machines, implements, vehicles for transportation, cartage etc. required for the proper execution of work within the time prescribed in the work orders.
- 4) The contractor hereby declares that nobody connected with or in the employment of the BSNL Department of Telecommunications/DTS is not/shall not ever be admitted as partner in the contract:
- 5) The contractor shall abide by the terms and conditions, rules, guidelines, construction practices, safety precautions etc. stipulated in the tender document including any correspondence between the contractor and the BSNL having bearing on execution of work and payments of work to be done under the contract.
- 6) Copies of authenticated documents of payments of EPF/ESI contribution paid for the last month should be attached along with the current month bill.

In witness whereof the parties present have here into set their respective hands and seals the clay and year in \_\_\_\_\_.

Above written :

Signed sealed & Delivered by  
the above named Contractor in  
the presence of.

Witness :

1.

2.

Signed & Delivered on behalf  
of the BSNL of India by the

Witness :

1.

2.

**SECTION - X**

**DECLARATION-I**  
**(No Near Relative Declaration)**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

I ..... S/o..... R/o  
....., hereby certify that none of my relative(s) as defined below is/are employed in BSNL/DOT unit. In case at any stage, it is found that the information given by me is false/incorrect, BSNL shall have the absolute right to take any action as deemed fit without any prior intimation to me.

Note: The near relatives for this purpose are defined as:

1. Members of a Hindu Undivided family,
2. They are husband and wife,
3. The one is related to the other in the manner as father, mother, son(s) & son's wife (daughter-in-law), daughter(s) & daughter's husband (son-in-law), brother(s) & brother's wife, sister(s) & sister's husband (brother-in-law).

Station:

Name of the contractor  
(Capacity in which signing)

Date:

**Note:-**

- This Declaration is required to be submitted as affidavit in original for this tender in Rs10/- non Judicial stamp paper.
- The above certificate is to be signed by :
  - ✓ The Proprietor in case of Proprietorship firm
  - ✓ All the partners in case of Partnership firm
  - ✓ All the directors in case of Limited Company

**DECLARATION-II**  
**(Non Blacklisting/ Non Debar Declaration)**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

I/We hereby declare that my/our firm has/have not been declared blacklisted / debar for taking part in tender any where in the unit of BHARAT SANCHAR NIGAM LIMITED. I/We am/are aware that any breach of this condition would result in immediate termination of contract/cancellation of the existing contract/contracts and also forfeiting of my/our security deposit held by BSNL CG .

Signature of BIDDER

Name of the BIDDER  
(Capacity in which signing)

Station:

Date:

**Note:-**

- This Declaration is required to be submitted as affidavit in original for this tender in `10/- non Judicial stamp paper.
- The above certificate is to be signed by :
  - ✓ The Proprietor in case of Proprietorship firm
  - ✓ All the partners in case of Partnership firm
  - ✓ All the directors in case of Limited company

**DECLARATION-III**  
**(PAYMENT INSULATION UNDERTAKING)**

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

I/We undertake that I/We have sufficient capital resources to carry out operations and will make due payment to our firms labour / employees assigned to execution of the this tender of BSNL CG RAIPUR as per laws every month insulating it from payments from BSNL. I/We also undertake to perform in faithful & efficient manner the work of this tender without linking it to payments from BSNL.

(Signature of BIDDER/Authorized signatory)

Name of the BIDDER with seal  
(Capacity in which signing)

Station:

Date:

**SECTION XI**

## LETTER OF AUTHORISATION FOR ATTENDING BID OPENING

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**

Subject: Authorisation for attending bid opening on \_\_\_\_\_(date) in the tender of \_\_\_\_\_

The following persons are hereby authorized to attend the bid opening for the tender mentioned above on behalf of \_\_\_\_\_(Bidder) in order of preference given below.

Order of Preference	Name	Specimen Signatures
---------------------	------	---------------------

I

II

Alternate  
Representative

Signatures of bidder

or

Officer authorized to sign the bid documents on behalf of the bidder.

Note:-

1. Maximum one representative per BIDDER will be permitted to attend bid opening. Representative will be permitted when regular representatives are not able to attend.
2. Permission for entry to the hall where bids are opened may be refused in case authorization as prescribed above is not recovered.



**SECTION - IX****EMD (EARNEST MONEY DEPOSIT)**

To,

The AGM(Planning)  
Telecom District Bastar (Chhattisgarh).

With reference to your tender notice E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018 for TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSAI/We offer our rates as under :-

- a. The rates quoted are inclusive of all materials, labour, transportation from Sub Divisional Headquarter to work site, Taxes etc.
- b. I/We have deposited earnest money of Rs. .... (Rupees .....  
.....) vide DD No. .... Dated .....  
of nationalized Bank .....  
or cash deposited at Cash Counter vide receipt No. .... dated ..... at  
O/o GMTDBastar which is enclosed in original.

I/We agree with all the terms & conditions of the tender and would be abide by all these terms & conditions.

Signature of the Tenderer

Name .....

Date : .....

Place : .....

**SECTION: XII**

**LIST OF THE DOCUMENTS TO BE UPLOADED DURING ONLINE BID**

The BIDDER will have to upload attested copies of following documents/deposits during online Bid submission. Any bid not accompanying the below mentioned documents / deposits will be liable to be rejected;

<i>Documents required to be submitted for establishing Bidders Eligibility and Qualifications (Notarized Attested copies to be attached)</i>	
<i>Sl No</i>	<i>Particular (Documents)</i>
1	<i>The registration of the firm.: Attested copy of registration of the firm (Registration with Nagar Nigam/Gumasta/Department of Labour or competent office in case of Proprietary firm &amp; in case of Pvt. Ltd. Company/Partnership firm registration with Registrar of firms is required, or any other competent office). Authenticated copy of the partnership deed in case of partnership firm or copy of Memorandum and articles of Association in case of companies. List of all Partner/Directors including their name(s), Director Identification Number(s) (DIN) and address (es) along with contact telephone numbers of office and residence if applicable</i>
2	<i>Original "Power of Attorney" in case person other than the BIDDER has signed the tender documents.</i>
3	<i>Attested copy of EPF registration no</i>
4	<i>Attested copy of ESI registration no</i>
5	<i>Attested copy of PAN No (In case of Partnership/Pvt Ltd firm PAN No of firm is required, in case of Proprietorship firm PAN No of proprietor &amp; in case of Consortium PAN No. of leading bidder is to be enclosed)</i>
6	<i>Attested copy of Valid Turn Over Certificate from Chartered Accountant. Average Annual Financial Turn Over during the last 3 years ending 31st March (14-15,15-16,16-17) should be at-least 40% of estimates cost.</i>
7	<i>Attested copy of Latest IT return</i>
8	<i>Attested copy of valid GST Registration</i>
9	<i>Experience certificate-As per NIT.</i>
10	<i>Declaration regarding no near relative employed in BSNL in the given format available in tender document. in Rs 10/- Non Judicial Stamp paper.</i>
11	<i>Declaration regarding not black listing of firm in the given format available in tender document in Rs 10/-Non Judicial Stamp paper.</i>
12	<i>Undertaking regarding payment insulation in the given format available in tender document in Rs 10/-Non Judicial Stamp paper.</i>
13	<i>Attested copy of Valid MSE Certificate, if applicable.</i>
14	<i>Labour license registration (Central Government of India).If same is not available at the time of bid submission , a declaration letter is to be enclosed that it will be submitted at the time of commencement of work, failing which EMD can be forfeited and party can be black listed from any tender in BSNL</i>
15	<i>Bid Form of Bid Document</i>
16	<i>Bidder Profile of Bid Document</i>
17	<i>EMD and Tender fee as per NIT</i>

**BHARAT SANCHAR NIGAM LIMITED**  
GENERAL MANAGER TELECOM DISTRICT BASTAR  
**JAGDALPUR CG-494001**

Bid Document

( SECTION -XIII)

FINANCIAL BID

TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA

**E-TENDER NIT No.: W-19-477/Tender/JFUG/2018-19 Dated: 07.05.2018**



## BHARAT SANCHAR NIGAM LIMITED

GENERAL MANAGER TELECOM DISTRICT BASTAR  
JAGDALPUR CG-494001

**RATES TO BE OFFERED Separately in Zone wise (Name of Zone).....(Zone No)..... of TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA** The bidder have to quote the rates including cost of TENDER FOR JF UG CABLE CONSTRUCTION WORK UNDER BASTAR SSA inclusive of all taxes such as octopi, sales tax on the materials etc. GSTN will be paid extra by BSNL on demand of contractor. Bidder has to quote for all items otherwise tender will be treated as conditional and rejected. Rate in words will be treated as final if there is difference between quotes of figure and words. All overwriting/correction must be attested by bidder /authorized signatory.

Having examined the tender documents, terns and conditions stipulated therein, specification of work etc.,we the under signed offer to execute the JF UG Cable Construction Works in conformity with the said specifications and conditions of contract at the percentage (Below/ at par/above) on standard schedule rates quoted as under :

In figures..... %

BELOW

In words.....percent

OR

In words.....

AT  
PAR/SAME

OR

In figures..... %

ABOVE

In words..... Percent

If our Bid is accepted, we shall submit the securities as per the conditions mentioned in the contract. We agree to abide by this Bid for a period of 240 days from the date of opening of financial bid and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

### Note:-

1. Rates quoted shall be inclusive of all taxes but excluding GSTN which may be shown extra as applicable.
2. In case of any discrepancy in the amount written in words or numerals, the rate in words shall prevail.
3. Proposed composite evaluation of L-1 bidder is on rates quoted & comparing with estimated cost defined in NIT.
4. Quoted rate accept only on e-tendering methods

This is to certify that I/we have read and understood all the terms and conditions of the tender and these are acceptable to me/us in full.

If our Bid is accepted, we shall submit the securities as per the conditions mentioned in the contract.

Dated:-...../...../.....

Signature of the tenderer .....

Name of Tenderer.....

Address .....

Mob./Telephone .....

SOR for JF UG Cable Construction Work			
Sl.No.	Name of Items	Unit	SoR Rate
1	Digging of cable trench with back filling leveling & Ramming 45 Cms. Width & 1 mtr depth for "A" type		
	(a) Soft soil	Mtr.	50
	(b) Murum	Mtr.	105
	(c) rocky	Mtr.	218
1.1	Cable Pit for Jointing work etc		
	(a) Soft soil	Mtr.	100
	(b) Murum	Mtr.	205
	(c) rocky	Mtr.	436
1.2	Cable Pit for Searching of cable , DP work etc		
	(a) Soft soil	Mtr.	50
	(b) Murum	Mtr.	105
	(c) rocky	Mtr.	218
2	Road crossing with back filling, leveling & ramming with 45 cms. Width and 1mtr depth.	Mtr.	209
3	Horizontal drilling for road crossing at depth of 1 mtr (110 mm diameter)	Mtr.	209
4	Pulling and laying of UG Cable in trench.		
	(i) 5Prs / 10 Prs/20 Prs/50 Prs.	Mtr.	3
	(ii) 100 Prs / 200 Prs.	Mtr.	4
5	Cable Protection		
	(a) Bricks laying (Bricks B class to be supplied by contractor)(5 bricks per mtr.)	Mtr.	15
	(b) Full round RCC Pipe or road crossing	Mtr.	14
6	Installation/Errection of pillars , Constructing plinth and installation of pillars shells by fixing with nut & bolts including painting & numbering of pillars with earthing (Including the cost of material , sand cement, concrete, charcoal, salt nut bolt etc.		
	(a) for 200 /400 prs pillar	Each	2900
	(b) For 800/1000/1200 / Prs pillar.	Each	2900
	(c) Fixing of CT Box 100 prs in pillars / MDF	Each	85
	(d) Jumpering in MDF/Pillar(both end)	Per Pair	2
	(e) Providing external locking arrangement of pillar with stainless steel lock of Goderej / Harrison Model.	Each	150
	(f) Painting & numbering on Piller.	Each	750
7	Erection of D.P.		0
	(a) Erection of D.P. with all accessories.	Each	195
	(b) Painting & numbering on DP.	Each	100
	(C) Painting & numbering on Old DP.	Each	50
	(d) Dressing up D.P. Box only with all accessories.	Each	97.5
	(e) Dressing up D.P. Pipe only with all accessories.	Each	97.5
8	Providing cement concrete (1:2:4) at wheel guard of bridge/culvert over the pipe or in the trenches as per instruction of incharge( concreting will be done with 30cm*30cm over Cable /pipe or as per site condition duly approved before execution of work)	Per Q.Mtr	4500

9	Jointing of cable		
	(i) Upto 50 Prs.	Each	265
	(ii) 51 prs. To 100 prs.	Each	300
	(iii) 101 prs to 400 prs.	Each	400
	(iv) above 401	Each	600
10	Testing of cable pair	Per Pair	1.5
11	Installation of Subs fitting		
A	Dismantling of Loop	Per Subs	30
B	Errection of Loop and testing	Per Subs	40
12	Laying of Cable (50 pr to 400 pr) by Grove	Per Mtr	125
13	Laying of Cable (5 to 20pr) by Clapping per mtr with material along with road/wall	Per Mtr	40
14	Earth work in exvation by mechanic means (Hydraulic Exvater/JCB)	Per Hrs	1200
15	RRC/Bituminous Cutting 15CM with back filling through RCC	Per Mtr	323.72
16	Cable Laying by HDD method	Per Mtr	345