



BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprise)
OFFICE OF THE GENERAL MANAGER TELECOM,

TELEPHONE BHAWAN, IMPHAL

TENDER DOCUMENT LIMITED

TENDER FOR
4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan
MANIPUR BA

TENDER ENQUIRY NO:
NE2MNP-19/14(11)/14/2022-PLG MNP/07 **Dated: 06-Mar-23**

DUE DATE OF OPENING: 13:00HRs of 01-Apr-23

VALIDITY OF OFFER: 180 DAYS FROM DATE OF OPENING

Cost of Bid document = Rs. 590/-

Signature of the Bidder with seal

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The bid documents contain 56 pages.

Note: - Each and every page of the BID document must be signed by the Tenderer

Signature of the Bidder with seal

SECTION I



BHARAT SANCHAR NIGAM LIMITED
(A Govt. of India Enterprise)
OFFICE OF THE GENERAL MANAGER
TELECOM, IMPHAL, MANIPUR

No: NE2MNP-19/14(11)/14/2022-PLG MNP/07

Dated: 06-Mar-23

NOTICE INVITING TENDER

For and On behalf of BSNL, Properly Sealed (by PVC tape/ Sealing wax) Percentage Tenders are invited by the AGM (Plg), Office of the GMTD, BSNL Imphal Manipur BA from registered contractors for the work of 4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan of the Tender

NIT No.	NE2MNP-19/14(11)/14/2022-PLG MNP/07 Dated: 06-Mar-23
Name of work	4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan
Estimated Cost put to Tender	Rs. 160700 (Rupees One Lakh Sixty Thousand Seven Hundred Only)
Cost of BID document (non refundable)	Rs 590/- (Rupees Five Hundred Ninety Only)
Earnest Money Deposit	Rs. 3300 /- (Rupees Three Thousand Three Hundred Only)
Period of completion of work	As per Work Order
Sale of tender documents	From 11:00 Hrs of 07-Mar-23 to 10:59 Hrs of 01-Apr-23
Time and last date of submission of Bids (to be dropped at the TENDER BOX kept at the chamber of the AGM (Plg)	11:00Hrs of 01-Apr-23
Time & Date of Opening of Technical Bid documents of intending bidders	13:00HRs of 01-Apr-23
Time & Date of Opening of Financial Bid	The date & time of opening of "Financial Bid" shall be conveyed to all the bidders who have qualified in technical bid.

- i. The Tender Document (not transferable) will be issued on application in plain paper along with payment of (non- refundable) **Rs. 590/-** (Rupees Five Hundred Ninety Only) in the form of Demand Draft obtained from any Nationalized/Scheduled Bank or ACG-67 drawn in favour of "Accounts Officer (Cash), O/o the GMTD, BSNL Imphal Manipur BA." May be submitted to the O/o AGM (Plg), BSNL Imphal requesting for Tender Document.
- ii. The Tender Document can also be downloaded from our website www.ne2.bsnl.co.in and in such cases the cost of tender document **Rs.590/-** (Rupees Five Hundred ninety only) will have to be paid in the form of DD obtained from any Nationalized/Scheduled Bank or ACG-67 drawn in favour of Accounts Officer (Cash), O/o the GMTD, BSNL Imphal Manipur BA payable at Imphal and should be attached with the tender without which tender paper will be rejected.

Signature of the Bidder with seal

- III. The bidder shall furnish the bid EMD in one of the following ways:
- Demand Draft/ Banker's cheque / ACG-67 drawn in favour of Accounts Officer (Cash), BSNL, Imphal, 795001 and payable at Imphal.
 - Bank Guarantee from a scheduled bank drawn in favour of General Manager, BSNL Bhawan, Imphal 795001 which should be valid for 180 days from the tender opening date.
 - Note- 1) The existing/past vendors of BSNL NE-2 Circle, who have submitted their bills for different works carried out for BSNL and bills were duly passed for payment and the payment in all respect is overdue for over 90 days as on the date of publication of NIT, may participate in the tender without submitting EMD, but by the submission of an unqualified and unconditional declaration cum undertaking that the amount equivalent to EMD/BID security may be retained out of the outstanding due to the vendor by BSNL towards EMD/BID security without any interest or other liability on BSNL for the same tenure(180 days) and terms and conditions of EMD/BID security (declaration cum undertaking is to be given as per format at annexure-I). The hard copy (ink signed) of the declaration cum undertaking should be submitted to AGM (Plg), O/o GMTD, Imphal in the tender box in a sealed envelope along with other bank instruments (original DD/BC) for tender paper fee and original power of attorney (if applicable).
- IV. The tender, which is not accompanied by the requisite cost of the Tender document and Bid Security (EMD), shall be summarily rejected.
- V. **The MSE bidders are exempted from payment of bid security.**
- VI. Bid Validity Period: Validity of Bid offer for acceptance by BSNL is **180 days** from the tender opening date and for further extension of 120 days.
- VII. If the last date of selling/dropping and opening falls on a holiday or bandh, then this date will be deferred to the next working day. However, the time fixed will remain same.
- VIII. Tender will not be accepted/received after expiry date and time.

IX. Bid should be submitted in three envelopes placed under the main cover.

These three envelopes should be marked with "Bid Security (EMD)/Technical Bid/Financial Bid". These envelopes should contain the following:

Envelope	Marked on the Cover	Contents of the Envelope
First	Bid Security(EMD)	Containing Bid Security
Second	Technical Bid	Containing documents
Third	Financial BID	Rates duly quoted by the bidder in the prescribed format

On all these envelopes as per Section-VI, the name of the firm and whether "Bid Security" OR "Technical Bid" or "Financial Bid" must be clearly mentioned and should be properly sealed (with sealing wax/packing PVC tape). These envelopes are to be placed inside another envelop and properly sealed (with sealing wax/packing PVC tape). The Bids which are not submitted in above mentioned manner shall be summarily rejected.

- X. The qualified Tenderer will have to deposit an amount @ 10% of the estimated cost or the quoted amount whichever is higher as Performance Security Deposit. The EMD of the successful bidder shall compulsorily be converted into security deposit & rest 8% amount Security Deposit will be deducted from running/ Final Bills. Thus total security deposit will be 10%.
- XI. In case of any correction/addition/alteration/omission in the tender document, the tender bid shall be treated as non- responsive and shall be rejected summarily.

XII. The rates quoted by the agency shall be exclusive of GST.

Signature of the Bidder with seal

XIII. The Competent Authority of BSNL reserves the right to reject any or all tenders without assigning any reason whatsoever.

Assistant General Manager (Plg)
O/o General Manager, BSNL MNP BA
Imphal- 795001

Copy to: -

1. Notice Board of O/o GMTD, BSNL MNP BA
2. All Notice Boards of DEs/ SDEs in MNP BA
3. AGM (IT), O/o the CGMT, NE-II Circle for uploading on BSNL Website.

Signature of the Bidder with seal

SECTION – II
BID FORM

To,
The General Manager
BSNL Imphal
Manipur BA,

With reference to tender notice number:-**NE2MNP-19/14(11)/14/2022-PLG MNP/07 Dated 06-Mar-23**, I/we have read and understood all the terms and conditions mentioned in the tender form and agree to abide by all conditions laid down there in.

1. Bid submitted by us is properly sealed and prepared so as to prevent any subsequent alteration and replacement.
2. We agree to abide by this Bid for a period of 180 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.
3. The firm has not bid for this tender under any other name
4. I/we understand that GMTD Manipur can reject the tender without assigning any reason thereon. The decision of the GMTD Manipur will be the final in all cases.
5. We undertake, if our Bid is accepted, we will execute the work in accordance with specifications, time limits and terms and conditions stipulated in Bid document.
6. EMD is deposited and original receipt is attached
7. Rates offered by me are given in the separate envelope for financial bid.
8. If our Bid is accepted, we shall submit the securities as per the conditions mentioned in the contract.
9. We undertake, if our Bid is accepted, we will comply with all the mandatory provision of labour laws, EPF, ESI & Misc provision Act & Employer Provident Scheme in respect of Labours/Employees engaged by me for performing the work under the contract as per terms and conditions stipulated in the tender document.
10. Until a formal 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.

Signature of Party with rubber stamp & date

Full Name (In block letters) _____

Capacity in which signed _____

Signature of the Bidder with seal

SECTION – III

TENDERER'S PROFILE

1. Name of the tenderer /firm _____
2. Name of the person submitting the tender. Shri _____
(In case of proprietary/partnership firms, the tender has to be signed by Proprietor/Partner only, as the case may be)
3. Address of the firm. _____
4. Tel. No. (With STD code) (O)..... (Fax).....(R).....
5. Registration & incorporation particulars of the firm: (please Tick as applicable) (i) Proprietorship (ii) Partnership (iii) Private Limited Co. (iv) Public Limited Co.

Passport size Photograph of the Tenderer / authorized Signatory holding Power of

(Please attach attested copies of documents of registration/incorporation of your firm with the competent authority as required by business law).

6. Name of Proprietor/Partners/Directors _____
7. Income tax PAN Number of the party/Firm _____
(Please attach a copy of PAN card & copy of last income tax return of firm)
8. My GST registration number is _____
9. My EPF Registration No. _____
10. Banker & A/C No. of tenderer: _____
11. Infrastructure capabilities:
 - i. Capacity of engaging mazdoors per day _____
 - ii. Capacity of trenching per day (in meters) _____
 - iii. Capacity of pipe laying per day(in meters) _____
 - iv. Capacity of pulling cable through duct/pipe per day (in meters) _____

12. Particulars of machines possessed by the contractor which can help in trenching through HDD method (Whether it is own or leased?) _____

13. Tenderer will submit the attested copy of the PAN card/Election Commission I-Card/Passport of the proprietor or authorized signatory in case of proprietor is not signing the tender document. The tender is liable to be rejected if the signature and photograph do not match with the photograph affixed and the signature made in the tender documents (Photograph and the signature of the authorized signatory should be duly attested by the proprietor or the partners/Director).

I/we hereby declare that my firm is not Black Listed by any BA/circle of BSNL and the information furnished above is true and correct.

Place: Signature of tenderer / authorized signatory with seal Date:

Signature of the Bidder with seal

SECTION-IV
UNDER TAKING/ DECLARATION

I/We..... (Name of Prop/Part)

..... (Name of firm/Comp)

(Address).....

Hereby give the under taking that the documents submitted by me in bids are genuine.

I/We also declare that my firm as stated above or the partner/ proprietor therein have never been black listed by BSNL or any other organization/ firm in which I/We were/ are partner/ proprietor.

I/We also declare that no store of BSNL is pending with me/us issued against completed/terminated works of BSNL.

In case it comes to the notice that the declaration/ documents/ information given by me/us are false, the GMTD BSNL, Manipur BA, Imphal is fully empowered to cancel my registration and can remove my name from the enlistment.

Signature of the Bidder with seal

DECLARATION

"I.....S/o.....

R/o..... here by certified that none my relative (s) as defined below is/ are employed in BSNL 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.

The near relatives for this purpose are defined as:

- (a) Member of a Hindu undivided family,
- (b) They are husband and wife,
- (c) The one is related to the other in the manner as father, mother, son and sons wife(daughter in law), daughter and daughters husband (son in law), brothers and brothers wife, sisters and sisters husband (brother in law),

Note: - In case of proprietorship firm certificate will be given by the proprietor. For partnership firm certificate will be given by all the partners and in case of limited company by all the directors of the company excluding govt. of India/ financial Institution nominees and independent none official part time directors appointed by Govt. of India or the governor of the state and full time directors of PSUs both state and central.

SECTION- V SCOPE OF WORK

1. **Scope of Work:** The Tendered work involves blowing of OF Cable and allied works (viz. replacing of couplers and back filling in case of Manholes, Sealing of PLB ends, refilling sand, re-fixing RCC cover and back filling in case of Joint Chamber/Manhole).

The Optical Fibre Cable is to be laid through PLB Pipes buried at a nominal depth of 165 cms. The steps involved in OF Cable construction are as under:

- a. Excavation of trench up to a nominal depth of 165 cms, according to Construction specifications along National/State Highways/other roads and also in city limits as mentioned in the notice inviting tender.
- b. Laying of PLB pipes/coils coupled by PLB sockets in excavated trenches, on bridges and culverts, drawing of 6 mm Polypropylene para pro rope (P. P. rope) through the PLB pipe ends at every manhole by PLB end caps of suitable size.
- c. Providing of mechanical protection by R.C.C. Pipes/GI pipes and/or concreting/chambering according to construction specifications, wherever required.
- d. Fixing of GI pipes/troughs with clamps at culverts/bridges and/or chambering or concreting of G.I. Pipes/troughs, wherever necessary.
- e. Back filling and dressing of the excavated trenches according to construction specifications.
- f. Opening of manholes (of size 2 meters x 1 meters x 1.65 meters depth), replacing existing 6mm P.P. ropes by 8mm P.P. rope (from manhole to manhole) for ensuring smooth passage for pulling the cable. Pulling of Optical Fibre Cable with proper tools and accessories as per construction specifications. Sealing of both ends of the manholes by hard rubber bush of suitable size to avoid entry of rodents into the PLB pipes, putting split PLB pipes over cable in the manhole to protect the bare cable in the pulling manhole. Back filling and dressing of manholes.
- g. Digging of pit of size 2 meter x 2 meter x 1.8 meter (depth) for construction of jointing chamber at approximately every two kilometers of internal size of 1.5 meter x 1.5 meter x 1.2 meter using bricks and mortar or fixing pre-cast jointing chamber of internal diameter of 1.2 meter and minimum height of 0.3 meter, filling of jointing chamber with clean sand, placing either pre-cast RCC cover or stone of suitable size on jointing chamber to protect the joint and back filling of jointing chamber with excavated soil.
- h. Digging of pits 1 meter towards jungle side at every manhole and jointing chamber to a depth of 60 cms., fixing of route indicator/joint indicator, concreting and back filling of pits, painting of route indicators with yellow colour and joint indicator by red colour and sign writing denoting route/joint indicator number, as per construction specifications.
- i. Documentation.

2. BRIEF DESCRIPTION OF WORK:

The work which shall be carried out as per Construction Specifications issued by BSNL contained in this bid document, involves Conventional Trenching and Reinstatement (CTR); Horizontal Directional Drilling (HDD); Related Allied Works (RAW). The various works can be summarized as below. The construction specification given below covers Conventional trenching and reinstatement and allied works. The specification for Horizontal Directional Drilling is specified.

Open trenching at 165 cm depth & width of 45 cms at top and 30 cms at bottom.

Permanently lubricated (PLB pipes) will be supplied by BSNL in coils of varying lengths from 200 meter onwards. Spools should be de-coiled using jack mechanism and bends removed by proper forming so that the pipes are straight. This will be part of contractor's works and no extra payment will be paid. In addition to the laying of PLB pipes, there may be cases where PVC pipes of straight lengths may have also to be provided.

Whenever there is any doubt in any of the construction step, BSNL's Engineering Instructions on Under Ground Optical Fiber Cable Laying Works shall be referred.

Signature of the Bidder with seal

SECTION – VI
INSTRUCTION TO BIDDERS

1. One set of Tender Documents can be obtained from AD (Plg) O/o GMTD, BSNL Manipur BA, Imphal– 795001 after payment of Rs.590 /-(Rs. Rupees Five Hundred Ninety Only) per form (non-refundable) to Accounts Officer(Cash), O/o GMTD,BSNL, Imphal- 795001 between 11:00 hrs to 15:00 hrs on working days and the receipt in ACG-67 may be obtained from A.O(Cash),BSNL Manipur BA, Imphal & produce the same to planning section to obtain the form.

1.1 The jurisdiction of Manipur:-Telecom District covers the areas under the Manipur state.

Area	Description of Work	Estimated cost of work (in Rs.)	Cost of Bid Document (Non-refundable)	Bid Security (EMD) (in Rs.)	Period of Completion of work
Manipur BA	4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan	Rs. 160700/- (Rupees One Lakh Sixty Thousand Seven Hundred Only)	Rs. 590/- (Rupees Five Hundred Ninety Only)	Rs. 3300/- (Rupees Three Thousand Three Hundred Only)	As per Work Order

2. Term Explained: DEFINITIONS

- a.** President of India: The President of India means the President of India and his/her successors.
- b.** Government of India: The Government or Government of India shall mean the President of India.
- c.** Department: The Department means the Department of Telecommunications/Bharat Sanchar Nigam Ltd. or any other Department under the Ministry of Communications, which invites the tenders on behalf of the CMD, BSNL India. All references of:
- BSNL
 - Chief General Manager
 - Principal General Manager
 - General Manager
 - Deputy General Manager / Area Manager / Director / Telecom Distt. Manager / Director(Projects)
 - Divisional Engineer/ Divisional Engineer (Projects) Sub
 - Divisional Engineer
 - Junior Telecom Officer
 - Chief Accounts Officer
 - Accounts Officer
 - Assistant Accounts Officer
 - Junior Accounts Officer

Including other officers in the BSNL, whatever designations assigned to them from time to time,

Signature of the Bidder with seal

who may be the in-charge of direction, supervision, testing, acceptance and maintenance including their successor(s) in the office, appearing in various clauses shall be taken to mean the BSNL of Telecommunications under the Ministry of Communications, Government of India.

- d.** (The BA Head) means the Head of BA GMTD Manipur and his successors.
- e.** The jurisdiction of (GMTD Manipur): The jurisdiction of GMTD Manipur means Manipur BA which coincides geographically with (Revenue District(s)) of Manipur.
- f.** Representative of: Representative of GMTD Manipur means GMTD Manipur officer and staff for the time being in "Manipur" deputed by GMTD Manipur 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 who may be placed by the as in GMTD Manipur – 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. Shortcomings/deficiencies noted shall be attended by contractor within 15days.
- j.** A/T Officer: An officer authorized by T & D Circle or NE-2 Circle to conduct A/T.
- k.** Contract: The term contract means, the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of BSNL& the contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings & instructions issued from time to time, by the engineer in- charge and all these documents taken together shall be deemed to form one contract and shall be complementary to one another. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them. The expression works or work shall unless there be something either, subject to context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
- l.** Contractor: The contractor shall mean the individual, firm or company, experienced in executing similar type of works, 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 "works" shall unless there be something either in the subject or context repugnant to such construction be construct & taken to mean the works by virtue of the contract contracted to be executed whether temporary or permanent and whether original altered, substitute 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 Department to complete the work beyond the normal time or stipulated time.
- r.** Date of Commencement of work: It means the date of actual commencement of work or

Signature of the Bidder with seal

- 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 are 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 Government damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods and other causes over which, the contractor has no control and the same been accepted as such, by the accepting authority or causes solely due to use or occupation by the government of the part of the work, in respect of which a certificate of completion has been issued.

3. ELIGIBILITY OF BIDDERS:

The contractors, who are participating in this Tender should have previous experience in laying U/G cables/OFC in DOT/BSNL/MTNL/TCIL/Railtel/PGCIL/ any other Govt. (Central/State) undertaking in the last five years period. Experience certificate along with PO/WO details issued by an officer not below the rank of Divisional Engineer/AGM of DOT/BSNL/MTNL or equivalent should be enclosed along with the tender. The Tenders received without experience certificates will not be considered.

3.1 BID SECURITY (Earnest Money Deposit):

The bidder shall deposit an earnest money deposit (EMD) of Rs. 3300/- (Rupees Three Thousand Three Hundred Only) in the office of the General Manager, BSNL, Imphal on any working day upto 11:00Hrs of 01-Apr-23 and the receipt in the form of ACG-67 obtained thereof should be attached with the tender document or Bid security shall also be accepted in the form of Demand Draft issued by any Nationalized/ scheduled bank payable at Imphal drawn in favour of Accounts Officer (Cash), O/o GMTD, BSNL ,Manipur BA Imphal.

3.2 No interest shall be paid by the BSNL on the bid security for any period, whatsoever.

3.3 The bid security is required to protect the BSNL against the risk of bidder's conduct, which would warrant the security's forfeiture.

3.4 The bid security of the unsuccessful bidder will be refunded as promptly as possible as but not later than 30 days after the expiry of the period of bid validity prescribed by the BSNL

3.5 The successful bidder's bid security will compulsorily be converted to part performance security deposit in accordance with the relevant clause

3.6 The bid security shall be forfeited 1) If the bidder withdraws his bid during the period of bid validity specified in the bid document or 2) If the bidder makes any modifications in the terms and conditions of the tender before acceptance of the tender, which are not acceptable to the BSNL or 3) In case the Successful bidder, fails to sign the agreement in

Signature of the Bidder with seal

accordance with the relevant clause, or to furnish Security Deposit in accordance with relevant clause.

4. PERIOD OF VALIDITY OF BIDS:

4.1 Bid shall remain valid for 180 days from the date of opening of the bid. A

BID VALID FOR A SHORTER PERIOD SHALL BE REJECTED BY THE BSNL AS
NON-RESPONSIVE

4.2 The bid shall contain no Inter-lineation, erasures or overwriting except as necessary to correct errors made by the bidder in which case such corrections shall be signed with date by the person or persons signing the bid.

5. SUBMISSION OF TENDER:

5.1 The completed and duly filled tender document should be sent in sealed covers only, prominently super-scribed "**4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan**" and should be addressed to Assistant General Manager (Plg), O/o GMTD, BSNL, Manipur BA Imphal- 795001 as to reach on or before 11.00 hrs of 01-Apr-23. Tender schedule be deposited in the box available in the office of AGM (Plg), BSNL, Manipur BA Imphal or be sent by registered post.

5.2 If the tender is sent by registered post, the delay if any in the transit will be at the risk of the sender. The company will not be responsible for the delay in transit.

6. POSTPONEMENT OF TENDER OPENING: Whenever it is considered necessary to postpone the opening date of tenders, such notice of extension of date of opening shall also be put-up on the notice board and also published in the newspapers. If the date of opening of bids is declared as holiday, the bids will be opened on the next working day at the same time and venue.

7. LATE BIDS:

Tenders will not be received after the specified time or closing of the tender and the same shall be **rejected and returned unopened to the bidder**. It is the responsibility of the tenderer to ensure timely submission of tender.

1. OPENING OF BIDS:

The BSNL shall open the bids in the presence of bidders or his authorized representatives who choose to attend, at due time on due date. The bidder's representative, who is present, shall sign an attendance register. The bidder shall submit authorization letter to this effect before they are allowed to participate in the bid opening.

8. CORPORATION'S RIGHT TO VARY QUANTUM OF WORK:

The BSNL, at the time of award of work under the contract, reserves the right to decrease or increase the work by up to 25% of the total quantum of work specified in the schedule of requirements without any change in the rates or other terms and conditions.

Signature of the Bidder with seal

9. CORPORATION'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 ever and without thereby incurring any liability to the affected bidder or bidders on the grounds for the BSNL action.

10. DOCUMENTS TO BE SUBMITTED ALONG WITH TENDER:

The following documents shall be submitted by the bidder along with the tender.

- (i) Tender document(s) in original, duly filled in and signed by tenderer or his authorized representative along with seal on each page. All corrections and overwriting must be initialed with date by the tenderer or his authorized representative
- (ii) Bid Security as pretender (EMD)
- (iii) Solvency certificate from the banker of the tenderer – up to works costing Rs. 20 lacs is Rs. 5lakhs.
The solvency certificate shall not be older than 3 months from the date of issue of NIT.
- (iv) The Registration of the firm, Authenticated copy partnership deed in cases of partnership firm.
- (v) Bid Form, duly filled in all respect
- (vi) Experience certificates for at least two years during the preceding five years period issued by Divisional Engineer/AGM of BSNL.
- (vii) Tenderer's profile, duly filled in as per Section III of the tender document.
- (viii) Original "Power of Attorney" in case person other than the tenderer has signed the tender documents.

NOTE: The Tenderer is advised to keep a photocopy of this Tender document at his own cost.

11. Security Deposit:

a. The successful tenderer's deposited EMD amount will be treated as security deposit of the work. No separate intimation will be given to the tenderer in this regard.

b. Security deposit is for ensuring satisfactory performance and execution of the contract work. The security deposit will be forfeited to BSNL, if after acceptance of the tender; the tenderer violates the agreement or fails to carry out the work in accordance with the terms and conditions of the tender

c. The Security Deposit will be released on expiry of six months from the date of settlement of last bill for the work done and after obtaining necessary "no due Certificate" from the field DEs concerned.

Signature of the Bidder with seal

SECTION-VII

GENERAL (COMMERCIAL) CONDITIONS OF CONTRACT

1. APPLICATION:-

The General conditions shall apply in contracts made by the BSNL for the execution of 4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan.

2. QUANTUM OF WORK:-

- a. The estimated value of work shown in tender document may vary on the basis of actual requirement at the discretion of GMTD Manipur limited to +25 % OR – 25% without any change in approved rates ,terms & conditions of contract.

- b) BSNL will have the right to increase or decrease upto 25% of the quantity of goods and services specified in the schedule of requirements without any change in the unit price or other terms and conditions at the time of award of contractor upto 50% of the additional quantities of goods and services contained in the running tender/contract can be ordered within a period of **12 months** from the earliest date of acceptance of APO at the same rate or a rate negotiated (downwardly) with the existing vendor considering the reasonability of rates based on prevailing market conditions and the impact of reduction in duties and taxes etc and supplies to be obtained within delivery period scheduled a fresh.

3. SUB-CONTRACTS:-

- a. The contractor shall not assign, sub contract or subject the whole or any part of the works covered by the contract, under any circumstances.
- b. Where the Contractor is a partnership firm, the previous approval in writing of the Engineer-in-charge shall be obtained before any change is made in the constitution firm. Where Contractor is an individual or a Hindu undivided family business concerns such approval as aforesaid shall likewise be obtained before the Contractor enters into any partnership agreement here under the partnership firm would have the right to carry out the work hereby undertaken by the Contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in the contravention of above Clause 4(a) thereof & the same action may be taken & the same consequence shall ensue as provided in said Clause4(a)
- c. The GMTD, BSNL Manipur BA, Imphal reserves the right to refuse or permit any person or organization or sub- contractor to participate in the works covered by the contract. The assignment or sub-contracting or sub-letting of any such work ,if permitted by the GMTD, BSNL Manipur BA, Imphal shall not relieve the Contractor of any of his liabilities and responsibilities hereunder, the intention being that notwithstanding any assignment or sub-letting or sub- contracting, the contractor shall be and remain primarily and principally liable to BSNL in terms hereof and for the due fulfillment of the contracted works by any assignee or sub-contractor shall provide insurance of the same type and limits as required of the contractor.
- d. Each assignee and sub-contractor shall be covered by the contract documents and shall perform the work which he take-up in accordance with it. BSNL will have the same privileges and rights with respect to the inspection of work of assignees or sub-contractors as are provided for under the Contract Document governing the work of the contractor.
- e. The Contractor shall indemnify, and Keep harmless BSNL from and against all

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actions suits, proceedings, costs, damages, charges, claims and demands what so ever, either in law or in equity and all costs (inclusive between attorney and client) and charges and expenses that the BSNL may sustain suffer or incur arising from or out of or incidental (to in connection with any act(s) or commission) of the Contractor or his agents, employees, assignee or sub-contractor. The provision shall also apply to the sub- contractor assignee as the case may be.

4. PRICES:

- a. 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.
- b. Prices once fixed will remain valid for the period of contract. Increase and decrease of taxes/duties will not affect the price during this period.
- c. BSNL shall not be responsible for any escalation in prices of labour or materials, etc. whatsoever or any increase in any duties, levels, or taxes in respect machinery equipment thereof whatsoever and the Contractor rates and Contractor's obligation shall remain unaffected such escalation and/or increase.
- d. The Contractor shall not be entitled to any compensation what so ever by reason of suspensions of the whole or any part of the work made necessary by BSNL or deemed devisaible on account at Force Majeure conditions.

5. SECURITY DEPOSIT:-

- A. **Performance Security Deposit:** Security deposit will be 10 % of the estimated cost or 10% of the approved amount whichever is higher.
- a) The EMD (Bid security) of the successful bidder will be converted into part of Performance Security Deposit.
 - b) The proceeds of the Security Deposit shall be payable to the department as compensation for any loss resulting from the contractor's failure to complete its obligations under the contract.
 - c) No interest will be paid to the contractor on any security deposit
 - d) The **Performance Security Deposit** shall be released / 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 condition of the contract as stipulated in the bid document.
 - e) In the event of security being insufficient or if the security has been forfeited the balance of the total sum recoverable (as the case may be) shall be deducted from any sum then or at any time there-after becomes due to the contractors under this or any other contract with Manipur BA should that sum also be not sufficient to cover the full amount recoverable, the contractor shall pay to Manipur BA on demand the remaining balance due failing which the contractor will be blacklisted
 - f) Security deposit in any form shall be liable for appropriation/adjustment against any liquidated damages for delayed or against carry forward loss to BSNL to which the contractor does not meet otherwise.
 - g) If the contractor fails or neglects to perform any of his obligation under the contract, it shall be lawful for the BSNL to forfeit either whole or any part of the Security Deposit furnished by the contractor, which does not amount to imposing of penalty, after issuing "SHOW-CAUSE NOTICE" which will be dully examined for final decision by the competent authority and the decision conveyed to the Tenderer in writing.
 - h) In the event of the contractor failing to observe or perform any of the condition of the work as set out here in the Security deposit referred to above will be forfeited by BSNL without

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prejudice to any other rights.

- i) If the contractor duly performs and completes the contracts in all respects, the B.S.N.L. shall refund the Security Deposit to the contractor after deducting all costs and other expenses that the BSNL may have incurred for making good any loss due to any action attributable to the contractor which the BSNL is entitled to recover from the contractor.
- j) Any unclaimed Security Deposit(s) as due for refund to contractor/supplier and remain unclaimed for three years after its/their refund become(s) admissible (for instance after the contractor /supplier fulfills his contract) shall be dealt with the provisions contained in the rules of the B.S.N.L.
- k) In the event of the contractor being adjudged in solvent or going voluntarily into liquidation are having receiving order or other under Insolvency Act made against 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 the contractor failing to comply with any of the conditions herein specified, General Manager Telecom District Manipur shall have the power to terminate the contract without any notice.
- l) Refund of the Security Deposit is subject to full and final settlement of the final bill for the works, contracted/executed under the Contract.

7. ISSUE OF WORK ORDERS AND TIME LIMIT:

- A) The work order shall be issued so as to include all items of works for the section allotted to the contractor.
- B) The work orders shall be issued by the AGM (Plg), O/o the GMTD, BSNL Manipur BA, Imphal after examining the technical and planning details of the works to be executed. 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.
- C) The contractor shall promptly carryout the work within the time as specified to him by the Manipur Telecom District at the time of placing work order. The time allowed for completing the works as entered in the work order shall strictly be observed by the contractor and time should be deemed to be essence of the contract on the part of the contractor. Therefore the work shall, throughout of the stipulated period be proceeded with all due diligence.
- D) If due to any reason partial work order is to be issued then the same shall be issued with the approval of GMTD, BSNL Manipur BA, Imphal.
- E) The BSNL 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 GMTD, BSNL Manipur BA, Imphal, if the contractor is not executing the work at the required place.
- F) The Contractor shall not be entitled to any compensation in addition to the contract price for the performance of any work not envisaged under the contract, unless prior to the performance of such work he has received from Engineer-in- Charge written authorization to perform such work.
- G) For extra work which is not covered within the scope of this contract, the Contractor will receive extra compensation on the basis of lump sum unit price as may be agreed upon in advance in writing between the Engineer-in-charge and the Contractor.
- H) In cases of such of the works, where an interpolation of the rates are possible, such rates shall be accepted by both the parties.
- I) If the altered, additional or substituted work includes any work for which rates are not specified in the contract for the work and cannot be derived from similar class of work in the contract, then such work shall be carried out at the rate determined by the Engineer-in-charge on the basis of prevailing market rates where the work was done & this rate shall be communicated in writing.
- J) If the rate for altered, additional or substituted work cannot be determined in the manner

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specified above, then the Contractor shall within seven days of the date of receipt of order to carry out the work, inform the Engineer-in-charge of the rate which in his intention to charge for such class of work supported by analysis of the rate or rates claimed, and the Engineer-in-charge shall determined rates on the basis of prevailing market price & pay the Contractor accordingly. However, the Engineer-in-charge by notice in writing will be at liberty to cancel his order to carry out such class of work and arrange to carry out it in such manner, as he may consider advisable.

K) Any extra quantity of work already awarded will not come within the scope of 'Extra work'

8. It is stressed that the contractor shall not resort to stoppage of work pending an agreement of rates for extra work.

9. EXTENSION OF THE TIME LIMIT:

A. Application for Extension of the Time and Sanction of Extension of time (EOT):

- a) There may be some hindrances, other than covered under force majeure, while execution of work and in such cases the contractor shall apply in writing for extension of time (EOT) with proper reasons / justification to the concerned Divisional Engineer within 3 days from the date of occurrence of such hindrance reason, on account of which he desires such extension. The Engineer-in-charge shall forward the request to the competent authority (an officer not below the rank of JAG level) within three days of receipt of request from the contractor.
- b) 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.
 - The application contains the ground(s), which hindered the contractor in execution of work.
 - The Engineer-in-charge is of the opinion that the grounds shown for extension of time are reasonable.
- c) 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.
- d) 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.
- e) 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.
- f) 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.

B. Grant of Extension of Time without Applications:

- a) 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 BSNL. In such cases, the Engineer-in-charge with the approval of competent authority to sanction EOT, may issue extension of time suo motto without waiting for contractor to make an application for EOT. Entry of hindrances shall be made in the Hindrance Register. However the BSNL will 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.
- b) The contractor shall not be justified in abandoning the contract because the BSNL has delayed making payments in respect of other work being done for the BSNL by the contractor.

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10. AUDIT AND TECHNICAL EXAMINATION:

- a) 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 been over paid in respect of any work done by the 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 to 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.
- b) 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 Manipur or his subordinate officer.
- c) 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:

A) Submission of bills:

- The bill is to be prepared & should be submitted work order wise on regular basis within one month from the date of completion of work. The bill shall be prepared at approved item rates.
- The contractor shall prepare the bills in triplicate 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.
- Any liquidated damages or penalties due shall also be recoverable from the bills submitted by the contractor.
- The bill in r/o work orders issued in the last month/Quarter of tender validity period should be submitted within three month from the date of expiry of contract validity period
- It will be the responsibility of SDE/SDO who is in charge of work, DE in charge and contractor to ensure that
 - The bills are submitted regularly as and when work of a work order is completed
 - No bills remain pending after three months from the date of expiry of tender validity period.
 - Concerned SDE/SDO who is in charge of work will accept only those bills which are completed in all respect
- The S.D.E. in-charge of work shall scrutinize the bills and accord necessary certificates and submit to the Divisional Engineer, in-charge of work along with all required documents/certificates mentioned below.
- 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 & 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.

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- Payment will be made by the Account Officer (Cash), O/o GMTD, BSNL Manipur BA, Imphal on approval of the competent authority.
 - Statutory taxes (Income Tax etc.) applicable to contract shall also be deducted at the time of payment from each bill.
- B) In exceptional cases where work required for preferring a Running Bill cannot be completed within reasonable time due to non-availability of stores or any other reason and where the department is responsible for delay, the BA Head may permit payment of running bill (prepared without completing the work end-to-end 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 Bills.
- C) The contractor should submit all their bills within three months from the date of expiry of the contract so that the refund of Security deposit may be speeded up.
- D) Any tax eligible & levied by state/central govt. will be deducted from the bill.
- E) The GMTD, Manipur shall not be liable for payment of any interest on any bill outstanding for payment.

13. PENALTY CLAUSE:-

A. Penalties for Delays in the contractor's performance:

- a) The time allowed for completion of the work 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 and shall be reckoned from Seventh day from issue of work order by the BSNL. 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 an amount equal to 1% of the amount (minimum one thousand per week)** of the incomplete work for every one week of delay, subject to a maximum of 10% of the cost of work awarded.
- b) In case, successful tenderer fails to carry out the work beyond the above stipulated time, the GMTD Manipur reserve the right to get the work done by other agencies and extra expenditure if any incurred will be recovered from the contractor's pending bills, S/D or any other payments that may be due or become due in future
- c) If the contractor has not started the work within 15 days after issue of work order, the GMTD Manipur reserve the right to cancel his contract & his Security deposit may be forfeited. The tenderer shall have no claim for compensation for any loss sustained by him due to such failure and the firm shall be blacklisted.
- d) On any date the penalty payable as above, reaches 10 (ten) percent, the contractor should proceed with the work further only on getting a written instructions from the AGM (Plg) that, he is allowed to proceed further with the work. It will be In the discretion of the AGM (Plg) to allow the contractor to continue with the work on the basis of any written agreement reached between the contractor and the AGM (Plg), one of the conditions of such agreement may be a stipulation for the contract or to agree for realization of penalty for delay at a higher rate as may be agreed between the AGM (Plg) and contractor.
- e) 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 Manipur 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.

14. RESCISSION/TERMINATION OF CONTRACT:-

- A. Circumstances for rescission of contract:** Under the following conditions the competent authority may rescind the contract:
- a) If the contractor commits breach of any item of terms and conditions of the contract.

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- b) 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.
 - c) 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.
 - d) If the Contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed if circumstances shall arise which entitle the court or credit or to appoint a receiver or a manager or which entitle the court to make a winding up order.
- B.** Upon rescission of the contract, the security deposit of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of the BSNL as under:
- a) 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.
 - b) The unused material (Supplied by the BSNL) available at site shall be transported back by the BSNL 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 Bid documents, *ibid*.
 - c) The un-executed work shall be got executed through the qualified bidder from amongst the bidders, who participated in the bidding process, by giving the offers in their order of ranking (L-2, L-3) at their quoted rates. If the work was awarded on single Bid basis then the BSNL shall get the unexecuted work completed through any other contractor approved by BSNL Manipur at the approved rates of that particular section or to execute the work through BSNL employed labours, as is convenient or expedient to the BSNL at the risk and cost of the contractor. In such a event no compensation shall be payable by the BSNL to the contractor towards any inconvenience/or that he may be subjected to as a result or such an action by the BSNL, In this regard the decision of GMTD Manipur 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 anywhere in the BSNL or from a security deposit.
 - d) 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.
 - e) In the event of any one or more of the above courses being adopted by the Engineer-in-charge, Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into, any engagements or made any advances on account or with a view to the execution of work or performance of contract. And in case action is taken under any of the provisions afore said, the Contractor shall not be entitled to recover or be paid any sum for any work there to or actually performed under this contract unless and until the Engineer-in-charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.
- C. Termination for Insolvency:**
- The BSNL may at any time terminate the Contract by giving written notice to the Contractor,

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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.

D. Optional Termination by BSNL (Other than due default of the contractor):

- a) 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.
- b) 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 handover possession of the work/operations concerned to the BSNL or as the BSNL may direct.
- c) 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 item without any compensation what so cover to the contractor.
- d) The action of the Divisional Engineer as per the above sub-clauses shall not be construed as Breach of the contract.

E. Issuance of Notice

- a) The AGM (Plg) shall issue show cause notice giving details of lapses, violation of terms and conditions of the contract, wrongful delays or suspension of work or show 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, which had accepted the contract.

- b) 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 safeguards shall be taken while issuing the final notice:

During the periods 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.

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.

No new construction beneficial to the contractor shall be allowed.

Adequate BSNL security arrangement in replacement of the contractor watch and ward shall be made forthwith. Expenses on this account are recoverable from the security depositor any amount due to the contractor.

- c) Any notice order or other communication sought to be served on the Contractor with reference to the contract shall without prejudice to any other mode of service, be deemed to have been served if delivered by hand or sent by registered post to the office of Contractor at site or to the Contractor's head-office, while any notice or order or communications by the contractor to be served on Divisional Engineer with reference to the contracts shall be valid if same is served/delivered by hand or through registered post to the office of Divisional Engineer at his head quarters.

15. INDEMNITIES:

- a) 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 forth with

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upon demand and without protector demur to pay to the BSNL any and all losses and damages and cost (inclusive between attorney and diet) and all costs incurred in endorsing this or any other indemnity of security which the BSNL may now or at any time have relative to the work or the contractors obligation or in protecting or endorsing its right in any suit on other legal proceedings. 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 forth with on demand without protect 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.

- b) 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:

- a) 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 a may come to an end or cease to exist, and the decision of the BSNL as to whether the work have seen 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.
- b) Provided also that if the contract is terminated under this clause, the BSNL shall be at liberty to take over from the contractor at a price to be fixed by the BSNL, 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 may deem fit excepting such materials bought out components and stores as the contracts may with the concurrence of the BSNL elect to retain.

17. ARBITRATION:

- A. Intheeventofanyquestion,disputeordifferencearisingunderthisagreementorin connection there-with except as to matter the decision of which is specifically provided under this agreement, the same shall be referred to sole arbitration of the Chief General Manager, NE-2 , Dimapur 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 NE-2, Dimapur or by whatever designation such officers may be called (herein after referred to as the said officer) and if the Chief General Manager NE-2, Dimapur or the said officer is unable or unwilling to act as such to the sole arbitrator 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 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.
- B. The award of the arbitrator shall be final and binding the parties. In the event of such arbitrator

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to whom the matter is originally referred, being transferred or vacating his office or being unable to act 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.

- C. 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 there off or the time being in force shall be deemed to apply to the arbitration proceeding under this clause.
- D. The venue of the arbitration proceeding shall be the Office of the CGM, NE-2, Dimapur or such other Places as the arbitrator may decide. The following procedure shall be followed:
- i. In case parties are unable to reach a settlement by themselves, the dispute should be submitted or arbitration in accordance with contract agreement.
 - ii. There should not be a joint submission with the contractor to the sole Arbitrator.
 - iii. Each party should submit its own claim severally and may oppose the claim put forward by the other party.
 - iv. The onus of establishing his claims will be left to the contractor.
 - v. Once a claim has been included in the submission by the contractor, a reiteration or modification thereof will be opposed.
 - vi. The "points of defense" will be based on actual conditions of the contract.
 - vii. The Arbitrator shall not entertain claims in the nature of ex-gratia payments, as these are not contractual.
 - viii. The question whether these two conditions are equitable shall not receive any consideration in the preparation of "points of defense".
 - ix. 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.

Amendment: Itr.no.3-2/2004-CPT/Pt.1 dt.16.11.2006 (Court Jurisdiction)

Any dispute arising out of tender/bid document/evaluation of bids/issue of APO shall be subject to the jurisdiction of the competent court at the place from where the NIT/tender has been issued.

Where a contractor has not agreed to arbitration, the disputes/claims arising out of the Contract/PO entered with him shall be subject to the jurisdiction of the competent Court at the place from where Contract/PO has been issued. Accordingly, a stipulation shall be made in the contract as under.

"This Contract/PO is subject to jurisdiction of Court at Manipur only."

18. SET OFF:

Any sum of money due and payable to the contractor (including security deposit refundable to him) under the contract may be appropriated by the BSNL or the govt. or any other person or persons contracting through the "Govt. of India and set off the same against any claim of the BSNL or Govt. or such other person or persons of payment of a sum of money arising out of this contract made by the Contractor with BSNL or Govt. or such other person or persons contraction through govt. of India.

EPF Act, 1952

- A. The contractor should be registered EPF, 1952 possessing a valid EPF Code.

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- B. The contractor shall abide by provisions of EPF Act, 1952
- C. The each claim of contractor must accompany the:
 - (i) List showing the details of labours/employees engaged
 - (ii) Duration of their engagement
 - (iii) The amount of wages paid to such labours / employees for the duration in question.
 - (iv) Amount of EPF contributions (both employee's & employee's contribution) for the duration engagement in question, paid to the EPF authorities.
 - (v) Copies of authenticated documents of payments of such contribution to EPF authorities.
 - (vi) A declaration from the contractors regarding compliance of the conditions of EPF Act, 1952.

SECTION-VIII
SPECIAL CONDITIONS OF CONTRACT

1. GENERAL:

1.0 The work shall be accepted only after Acceptance Testing carried out by DOT / BSNL team, designated by the BSNL, as per prescribed schedule and work/material passing the test successfully.

1.1 The BSNL reserves the right to disqualify such bidders who have a record of not meeting contractual obligations against earlier contracts entered into with the BSNL.

1.2 The BSNL reserves the right to black list a bidder for a suitable period in case he fails to honor his bid without sufficient grounds.

1.3 The BSNL reserves the right to counter offers price(s) against price(s) quoted by any bidder.

1.4 Any clarification issued by BSNL in response to query raised by prospective bidders shall form an integral part of bid documents and it may amount to amendment of relevant clause of the bid documents.

1.5 Tender will be evaluated as a single package of all the items given in the price schedule.

1.6 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 or 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.

1.7 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 GMTD, BSNL Manipur BA, Imphal within 3 days of the date of hindrance on account of which he desired such extension as aforesaid. In this regard decision of the GMTD, BSNL Manipur BA, Imphal shall be final.

1.8 If at any time after the commencement of the work, the BSNL 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 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 involve any curtailment of the work as originally contemplated.

1.9 Whenever any claims against contractor for the payment of a sum of money arises out of or under the contract, the BSNL 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/Final bill pending against any contract with the BSNL. 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 same be not sufficient to cover the full amount recoverable the contract or shall pay to BSNL on demand the balance remaining due.

1.10 No official of Gazette rank or other Gazetted officer employed in Engineering or administrative duties in an Engineering BSNL or any other department of BSNL 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. 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 as aforesaid before submission of the engagement in the contractor's service as the case maybe.

1.11 In the event of the contractor being, adjusted in solvent or going voluntarily into liquidation of 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

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conditions herein specified, the GMTD, BSNL Manipur BA, Imphal, shall have the power to terminate the contract without any notice.

1.12 Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the GMTD, BSNL Manipur BA, Imphal on behalf of the president can terminate the contract without compensation to the contractor. However the GMTD, BSNL Manipur BA, Imphal, at his discretion may permit contractor's heirs to perform the duties or engagement of the contractor under the contract, in case of his death. In this regard the decision of the GMTD, Manipur BA shall be the final.

1.13 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.

1.14 Interpretation of the contract document:

1.14.1 The representative of the GMTD, BSNL Manipur BA, Imphal and the contractor shall in so far as possible by mutual consultation, try to decide upon the meaning and intent of the contract document. In-case of disagreement the matter shall be referred to the GMTD, Manipur BA 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.

1.15 Notification

1.15.1 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 / or completion of the contract 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 or authorities involved and advised of the progress of operations throughout 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.

1.16 Shut down on account of weather conditions:

1.16.1 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 Government or demand advisable on account of bad weather conditions or other force majored 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 except for the following which shall be provided by the representative of the GMTD, BSNL Manipur BA, Imphal,

A. "Right of User" easements and permits

B. Railway and Highway crossing permits including bridge

C. Canal / Stream crossing permits. The contractor shall be fully responsible for angling and obtaining all necessary easements, permits and license, for moving all construction equipment, tools supplied materials and men across Railway 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.

2.2 The contractor is to confine his operation to the provided construction "Right of user" unless it has made other arrangements shall be entirely at the responsibility of the contractor as to cost and arrangements as also breach and claim and shall be entitled with a copy to the

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GMTD, BSNL Manipur BA, Imphal.

2.3 If the BSNL is not able to provide above mentioned permits etc, in time then the extension of time limit should be provided as per EOT clause given in tender document.

3 QUALITY OF WORK

The BSNL shall be the final judge of the quality of the work and the satisfaction of the BSNL in respect of set forth in the contract documents. Laxity or failure to enforce compliance with the contract documents by the BSNL and / 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 The GMTD, Manipur BA has the right to prohibit the use of men and any tools, materials and equipments which in his opinion do not products work or performance meet the requirement of the contract documents.

4 TAXES AND DUTIES:

4.2 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 obligation 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 from and against the same or any default by the contractor in the payment thereof.

4.3 The contractor has to deposit Service Tax as received from BSNL from time to time concerned authorities in due course & shall submit a copy of paid challan with subsequent for verification.

5 LABOUR WELFARE MEASURES AND WORKMAN COMPENSATION

5.1 Obtaining License before commencement of work:

The contractor shall obtain valid labor license under the Contract labor (R&A Act 1970 and the Contract Labour Regulation and Abolition) Central Rules 1971, before 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 Labor (Prohibition and Regulation) Act 1986. Any failure to fulfill the requirement shall attract the penal provisions of this contract arising out of the resultant non-execution of work.

1 LABOUR CONDITIONS

1.1 Successful bidder should have registered themselves with Assistant Labour Commissioner (central) as per contract labour (regulation and abolition) Act (Central) 1972 and Contract Labour Rules (Central) 1971 as applicable and submit the copy of the license along with the bid.

1.2 The Contractor(s) should keep the list of workers being engaged on the work with their full postal address and specimen signatures. Every day, attendance should be taken by the contractor/ In-charge of the work and no unauthorized persons should be allowed to attend the work either on the tower or near the tower.

1.3 The Contractor(s) should take all necessary precautions for the safety of the persons and other properties. The workers should be insured under Public Insurance for any type of compensation in case of any injury to any person.

1.4 The contractor Will be assigned work anywhere under the jurisdiction of Manipur BA, NE-II and should be able to deploy sufficient man power to any place in the state for carrying out the works.

1.5 Provision for shelter and other necessary amenities for the labour engaged by the contract or during the course of dismantling works should be done by the contractor

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only at his own cost. The engineer-in-charge designated by the Purchaser may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors employ upon the work who may be incompetent or exhibit misconduct and the contractor shall forthwith comply with such requirements.

1.6 Engaging child labour is strictly prohibited.

2 *INSURANCE*

Without limiting any of his/their obligations or liabilities, the Contractor(s) shall, at his/their own expense, take and keep comprehensive insurance including third party risk for the plant, machinery, and materials etc., brought to the site and for all the workers during the execution of work. The Contractor(s) shall also take out workmen's compensation insurance as required by Law and undertake to indemnify and keep indemnified BSNL from and against all manner of claims, demands, losses, damages, costs (including the cost between attorney and client) and charges and expenses that may arise in regard to the same or that the Government any suffer or incur with respect to and/or incidental to the same. The Contractor(s) shall have to furnish originals and/or attested copies when called upon by the Purchaser or its nominee of all the insurance policies taken as afore said, within 15 days of being called upon to do so together with all premium receipts and other papers related thereto which the Purchaser may require. In no case, the work should be commenced without taking the necessary insurance policies as aforesaid.

3. *FAIR WAGESCLAUSE*

3.1 The Contractor(s) shall pay wages not less than the fair wage to the labourers engaged by him/them for the work.

Explanation:

- (a) 'Fair Wage' means, wage whether for time or place of work fixed by Law or otherwise notified at the time of inviting tenders for the work and with such wages prescribed by the CPWD for the District in which the work is done.
- (b) The Contractor(s) shall, notwithstanding the provisions of any contract to the contrary, cause to be paid a fair wage to labourers indirectly engaged for the work, including any labour engaged by his sub-contractor(s) if any, in connection with the said work, as if the labourers had been immediately engaged by him/them. Vis-à-vis the Union Government of India, the Contractor(s) shall be deemed to be part of this Contract and any breach thereof shall be breach of this contract/agreement.
- (c) All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of BSNL without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

3.2 In case of a tender by partners, any change in the constitution of the firm shall be forthwith notified by the Contractor(s) to the Purchaser.

3.3 The successful bidder shall have to execute a Bond indemnifying the BSNL formal statutory / legal liabilities towards all the personnel either employed itself or in the rolls of its sub-vendors, who have been deployed for execution of various works against this project, that may arise due to various labour and other laws as specified by central/state from time to time as per the format shown in the Section XIII. Further the engagement and employment of any personnel and payment of wages to them as per the existing provisions of various labour laws and regulations is the sole responsibility of the bidder and any breach of such laws and regulations is the sole responsibility of the bidder and any breach of such laws or regulation shall be deemed

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to be breach of this contract.

8. COMPLIANCE WITH LAWS AND REGULATION:

8.1 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 Government, Government agency or BSNL, municipal board, Government 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 payroll 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 sham 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 Government 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 other and provisions as afore said.

9. TOOLS and PLANTS

The contractor shall provide at him own cost all tools, plants appliances implements, measures instruments 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 dewatering 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. If the contractor fails to do so, the Engineer in-charge may provide doing the same at the expense of the contractor and the expenses shall be deducted from any money due to the contractor under this contract or otherwise.

SECTION IX
OF CABLE CONSTRUCTION SPECIFICATION MANUAL

The guidelines in the form of Engineering Instructions (E.Is.) on Construction Practices of Optical Fibre 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. This document will need revision as and when practices undergo any revision.

1. General:

The Optical Fibre Cable is planned considering the following objectives of the scheme:

- i) Minimum possible route length vis-a-vis route having maximum number of towns with potential telecom growth.
- ii) Linking of small exchanges off main road by leading in O.F.C. vis-a-vis routing the main cable itself via such exchanges.

After deciding above mentioned issues, a detailed measurement of lengths of cable route along with details of rail/road crossings, culverts, causeways, etc. may be recorded in the detailed survey register. The probable locations of joints, terminations and re-generators may also be decided and marked on the route map.

On the basis of surveys, general permission from road and rail authorities for laying the Optical Fibre Cable along the decided routes and permission for rail / road crossings will have to be obtained. Generally, O.F.C. is laid straight as far as possible along the road near the boundaries, away from the burrow pits. The O.F.C. is laid along the roads at a minimum distance of 15 meters from the center line of the road or in accordance with the permission from the concerned road authorities in view of their road widening plan. As the O.F.C. carries high capacity traffic and is planned for 40 years of life, it is imperative that the cable is laid after obtaining due permission from all the concerned authorities to avoid any damage/shifting at a later stage and also disruption of services/ revenue loss.

In special cases, where it may be necessary to avoid burrow pits or low lying areas, the cable may be run underneath the shoulders at a distance of 0.6 meter from the outer edge of the road embankment provided the same is located at least 4.5 meters away from center line of road and 1.2 meter below the road surface.

The Optical Fibre Cable is laid through PLB Pipes/Coils buried at a nominal depth of 165 cms.

- *The steps involved in OF Cable construction are as under:*

- i) Excavation of trench up to a nominal depth as specified, according to construction specifications along National/State Highways/other roads and also in city limits as mentioned in the notice inviting tender.
- ii) Laying of PLB pipes/coils coupled by PLB sockets in excavated trenches, on bridges and culverts, drawing of 6 mm polypropylene para pro rope (P.P. rope) through the PLB pipes/coils as per Construction Specifications and sealing of PLB pipe ends at every manhole by PLB end caps of suitable size.
- iii) Providing of mechanical protection by R.C.C. Pipes/GI pipes and/or concreting/chambering according to construction specifications, wherever required.
- iv) Fixing of GI pipes/troughs with clamps at culverts/bridges and/or chambering or concreting of G.I. Pipes/troughs, whenever necessary.
- v) Bank filling and dressing of the excavated trenches according to construction specifications. Digging of pits 1 meter towards jungle side at every manhole chamber to a depth of 60 cms, fixing of route indicator, concreting and back filling of pits. Painting of route indicators with yellow colour and sign writing denoting route indicator number as per construction specifications.
- vi) Documentation: The documentation, consisting of the following shall be prepared exchange to exchange for intraBA OFC links and for each section in case of inter BA/National long distance routes.
 - a) **Route Index Diagrams – General:** This diagram shall consist of Cable Route Details on Geographical Map drawn to scale the prominent land marks and alignment of cable with reference to road. This shall be prepared on A-3 sheets of 80 GSM.

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- b) **Route Index Diagrams – Profile:** These diagrams will contain:
- Make and size of the cable.
 - Offset of cable from center of the road at every 10 meters
 - Depth profile of Cable at every 10 meters
 - Details of protection with type of protection depicted on it
 - Location of culvert and bridges with their lengths and scheme of laying of PLB pipe/PLB Blowing Type/Pre-installed ropes thereon.
 - Important landmarks to facilitate locating the cable in future
 - Location of joints and pulling manholes.
 - These diagrams shall be prepared on **A-4 sheets** of 80 GMS. On one sheet profile of maximum 400 meters shall be given to ensure clarity.

c) **Joint location Diagram:** This diagram will show:

- Geographical location of all the joints.
- Depth of Joint Chamber covers from ground level
- Type of chamber (Brick/Pre-cast)
- Length of O.F. Cable kept inside the joint chamber from either direction.

This shall be prepared on **A-4 sheets** of 80 GSM. All the diagrams (i), (ii) & (iii) shall bear the signatures of the contractor, the Engineer-in-charge as a proof of accuracy of the details. The diagrams shall be bound in A-4 size book with cover. The cover sheets shall be of 110 GSM and laminated. The front cover shall have the following details.

- Name of the BA/Project Organization.
- Name of the OFC Link
- Name of the Contractor
- Date of commencement of work
- Date of completion of work

For each route/section 6 sets of above-mentioned document shall be submitted.

2. **PLB/ROPE Materials used:**

PLB PIPE/COILS

PLB Socket: For coupling PLB Pipes/coils

PP Rope: 6mm PP rope is drawn through the PLB pipes / coils and safely tied to the end caps at either ends with hooks to facilitate pulling of the OF cables at a later stage.

PLB End Caps: For pulling the cable through the pipes, it is necessary to have suitable manholes at every 200M length and also at bends and corners suitably located. The pipes are laid for 200M or less at a time for the distance between two manholes. The ends of the PLB pipes/coils are closed with PLB End Caps. A suitable arrangement should be provided in the End Cap to tie PP Rope.

MATERIALS FOR MECHANICAL PROTECTION:

For lesser depths requiring mechanical protection as per specifications and in built up areas, in towns and cities falling within the municipal limits, suitable mechanical protection is provided to PLB pipes/coils using RCC full/half round pipes or GI pipes or concreting of size 25 cms x 25 cms reinforced with MS weld mesh or a combination of any of these as per the instructions of the SDE-in-charge of the work as per instructions of the Engineer-in-Charge.

G.I. PIPES: Whenever protection by G.I. pipe is provided, it is preferable to use PLB coils. As space on parapet wall on Bridges/culverts is limited, 40mm GI pipes may be used with 32 mm PLB coil drawn inside.

M.S. Weld Mesh: The PLB pipes can also be protected by embedding it in concrete of size of 25 cms x 25 cms reinforced with MS weld mesh.

The strength of RCC/CC is dependent on proper curing, therefore, it is imperative that water content of CC/RCC mix does not drain out into the surrounding soil.

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In order to ensure this, the RCC/CC work should be carried out by covering all the sides by yellow PVC sheets of weight not less than 1 kg per 8 sq. m. to avoid seepage of water into the soil.

RUBBER BUSH: To prevent entry of rodents into PLB pipes, the ends of PLB pipes are sealed at every manhole and joint using rodent resistant hard rubber bush (cap), so that it should be able to prevent the entry of insects, rodents, mud, and rainwater into the PLB pipe/Coil.

ROUTE INDICATOR: The route indicators are co-located with each manhole. In addition, route indicators are also to be placed where route changes direction like road crossings etc. The route indicators made of pre-cast RCC should have the following dimensions: Base(250 mm x 150 mm); Top(200 mm x 75 mm); Height(1250 mm).The word 'BSNL OFC' should be engraved on the route indicators. (**See figure 'A' for details**). The route indicators are painted yellow and the same are placed at 2 ft. away from the center of the trench towards jungle side. The engraved word 'BSNL OFC' should be painted in white, on route indicators. Numbering of route indicators should be done in white paint. The numbering scheme for route indicators will be Joint No./Route Indicator No. for that joint. For example: 2/6 marking on a route indicator means 6th route indicator after 2nd joint. Enamel paints of reputed brand should be used for painting and sign writing of route as well joint indicators.

JOINT CHAMBER

The joint chamber is provided at every joint normally at a distance of 2 Kms to keep the O.F.C. joint well protected and also to keep extra length of cable which may be required in the event of faults at a later date. The joint chambers are made at site using bricks and mortar or are of pre-cast RCC type.

Supply and fixing of Pre-fabricated RCC Closure as Joint Chamber:

For supplying RCC Ring, First, a RCC ring closure of size 1.2m (dia) x 0.3m depth and rim thickness 50mm made of standard 1:2:4 concrete mix. It should have a split (with two halves) RCC cover of thickness 50mm made of cement concrete mix of 1:2:4 (1: cement, 2: coarse sand, 4 stone aggregate mm nominal size reinforced with MS fabric 75 x 75 mm mesh of weight not less than 7.75 Kg per sq. meter having galvanized iron handles for each half to facilitate easy lifting, to be used as joint chamber. The word '**OFC**' should be engraved on each half of the cover. The joint chamber should be so designed that PLB pipe/PLB Blowing Type/Pre-installed rope ends remain protruding minimum 5 cms inside the chamber. The PLB pipes should be embedded within the chamber in such a way that PLB pipe remains free from the weight of the construction. The joint chamber should be plastered on all internal surfaces and top edges with cement mortar of 1:3 (1: cement, 3: coarse sand) with a floating coat of complete cement as per standard. The joint chamber is to be filled with clean sand before closing.

In Golden Quadrilateral & East West Corridor routes (every 10 Km):

For fixing Pre-cast RCC chamber, first a pit of size 1.5 m x 1.5 m x 1.65 m depth is required to be dug. Pre cast RCC chamber consists of three parts (i) round base plate in two half of 140 cm dia and 5 cm thickness (ii) full round RCC joint chamber with diameter of 120 cm and height of 100 cm and thickness of 5 cm (iii) round top cover will be in two halves with diameter of 140 cm and thickness of 5 cm having one handle for each half in centre and word '**BSNL OFC**' engraved on it.. After, fixing the pre-cast RCC joint chamber, the joint chamber is filled with clean sand before closing. Lastly, back filling of joint chamber pit with excavated soil is carried out.

CABLE PULLING AND JOINTING/SPLICING:

CABLE PULLING:

Manholes marked during PLB pipe Type/Pre-installed ropes laying of approx. size of 3m length x 1.0m width x 1.65m depth shall be excavated for pulling the cables. There may be situations where additional manholes are required to be excavated for some reasons, to facilitate smooth pulling of cable. Excavation of additional manholes will be carried out, without any extra cost. De-watering of the manholes if required will be carried out without any extra cost. Dewatering/ De-gasification of the ducts, if required, will be carried out without any extra cost. The existing 6mm PP rope shall be replaced by with PP rope of 8mm dia between the two consecutive manholes.

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This is to ensure that the PLB pipes Type/Pre-installed ropes are cleaned for pulling the cable without exerting undue tension on the OF cable. While cleaning, excessive pressure should not be put as this may result in breaking of P.P. rope and thus requiring opening of additional manholes. However, in case the cleaning rope gets stuck up during pulling, the location of clogging of PLB Pipe Type/Pre-installed ropes should be measured and located accurately. The trench at that location should be opened and the PLB Pipe Type/Pre-installed ropes should be cleaned properly or if not possible, it should be changed by a clean new PLB Pipe Type/Pre-installed ropes to facilitate easy cable pulling at a later stage without any breakage. If clogging of PLB Pipe Type/Pre-installed ropes is in the location where the pipes are protected either by RCC Pipe Type/Pre-installed ropes or by concreting and the protection is broken for cleaning/changing the PLB Pipe, the protection thus removed should be brought back to normal by the contractor without any extra cost. However, PLB Pipes Type/Pre-installed ropes, RCC Pipes required for this purpose will be supplied by the BSNL.

CABLE BLOWING

- The tenderer should blow/de blow the cable in the PLB duct by air jet blowing as per Specification. Within 7 days of notice, the contractor shall commence Blowing /de blowing and complete the work at an average speed of 4 KM per day. There shall not be any damage to the OF cable blown/de blown. Cable blowing shall be done using blowing machine which can be kept inside the manhole, as it will avoid formation of loop outside. Compressor of suitable capacity shall be used.
- Blowing has to be done for the route length, end to end. This implies work may have to be done beyond the section awarded to the contractor, and he is bound to do it. The works involved in blowing are listed below.
- Transportation of all materials issued by BSNL from stores including cable drums, joint rings and handling of the same (including loading, unloading, handling and local distribution).
- Digging of manhole and reinstatement after blowing of cable.
- The opening of End plug, de-ropeing of rope in PLB pipes.
- Duct integrity test as per specifications.
- If any coupler is not connected properly, they should be connected at the coupling points. If required the coupling points are to be dug open for this purpose and the existing duct cut, aligned and coupled properly. Extra piece of pipe if required has to be coupled.
- Blowing of cable and fixing cable seal plug.
- Keeping 30mtr coil in every joint chamber.
- Digging of joint chambers, placing RCC chambers supplied by BSNL, and filling with river sand.
- Closing the manhole/joint cover and ensuring that the cover sits properly.

If there is time gap after laying of pipes and blowing, the contractor should carry out Duct Integrity test of the pipe to the specified pressure and ensure that there is no block or leak, as per specifications. If there are blocks the same shall be rectified. A check list may be submitted to the site Engineer of the section after every pipe is tested, indicating the block etc. and the action taken to rectify the duct. No separate rates are payable for duct integrity test or rectification of ducts.

Cable should be blown for the entire section in the pre-assigned pipe & colour. No crossing should take place in manholes between different coloured pipes, if multiple pipes are available. Ensure no mud, water or debris goes inside the pipe during the work. Any obstructions found in the pipeline after cable blowing, shall be removed at the expense of the Contractor.

Depending upon the length of the cable and the addl. length required at manholes, chain measurement should be taken from the starting end of the section, and the drums should be properly located.

The drums are of approx. 2 Km to 4 Km and may sometimes be smaller. It may be preferable to blow the OF cable by placing the drum at the manhole point nearest to midpoint of the coil size and blow in both directions. The standard practice is to keep the clock-wise end of the cable to A side of the route and the anticlockwise end to 'B' side. Also, it is the convention to have the clock-wise end on top and anticlockwise at the bottom of the drum. With that in view, the OF Cable is mounted on the jack and wheel and positioned at the manhole point.

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It is important to keep the drum shaft (axle) in horizontal position by adjusting the jacks. After it is set in position, the cable should be inserted into the blowing machine.

Proper communication is to be established between the lead-in and take out manholes. This can be done by suitable Trans Receivers (Walkie Talkies) or Magneto telephones with drop wire. This has to be arranged by the contractor and communication with each point should be kept throughout the blowing. OF cable at RCC chambers should be lead along the walls & suitable MS clamps should be provided (4 on each side). Additional protection of cable if required shall be provided at manholes.

3. **EXCAVATION OF TRENCHES**

i) **Trenching**

Location and Alignment of the Trench: In city areas, the trench will normally follow the foot-path of the road except where it may have to come to the edge of the carriage way when cutting across road with specific permissions from the concerned authorities maintaining the road (such permissions shall be obtained by the department). Outside the city limits the trench will normally follow the boundary of the roadside land. However, where the road side land is full of burrow pits or a-forestation or when the cable has 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 (Permissions for such deviations for cutting the embankment as well as shoulder of the road shall be obtained by the contractor on behalf of BSNL).

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 center line will be marked and the Contractor shall set out all other work 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 center 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.

ii) **Line-Up:** The line-up of the trench must be such that PLB pipe(s) 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, subject to the restrictions mentioned elsewhere.

iii) **Method of Excavation:** In city limits as well as in built up areas, the contractor shall resort to use of manual labour only to ensure 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, 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 (65mm/40mm dia) through horizontal bore at road crossing or rail crossing or small hillocks etc.

All excavation operations shall include excavation and 'getting out'. 'Getting out' shall include throwing the excavated materials at a distance of at least one meter or half the depth of excavation, whichever is more, clear off the edge of excavation. In all other cases 'getting out' shall include depositing the excavated materials as specified. 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. If blasting operations are prohibited or not practicable, excavation in hard rock shall be done by authorize.

Trenching shall as far as possible be kept ahead of the laying of pipes. Contractor shall exercise due care that the soil from trenching intended to be loose for back filling is not mixed with loose debris.

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While trenching, the Contractor should not cause damage to any underground installations belonging to other agencies and any damage caused should be made good at his own cost and expense. The contractor to prevent any accident to pedestrians or vehicles shall provide necessary barricades, night lamps, warning boards and required watchman.

While carrying out the blasting operations, the contractor shall ensure adequate safety by cautioning the vehicular and other traffic. The contractor shall employ sufficient man-power for this with caution boards, flags, sign writings etc.

The contractor should provide sufficient width at the trench at all such places, where it is likely to cave in due to soil conditions without any extra payment. A free clearance of minimum 15 cms should be maintained above or below any existing underground installations. No extra payment will be made towards this.

In order to prevent damage to PLB pipes over a period of time, due to the growth of trees, roots, bushes, etc. the contractor shall cut them when encountered in the path of alignment of trench without any additional charges.

In large burrow pits, excavation may be required to be carried out for more than 165 cms in depth to keep gradient of bed less than 15 degrees with horizontal. If not possible as stated above, alignment of trench shall be changed to avoid burrow pit completely.

iv) Depth and Size of the Trench: For normal & hard soil for all areas including ordinary & hard rock for all areas minimum depth shall be 165 cms shall be for penalty. For ordinary & hard rock minimum depth shall be 135 cms shall be followed for penalty. For Hilly terrain, minimum depth shall be 90 cms shall be followed for penalty. However, Engineer-in-charge in exceptional cases due to adverse site conditions encountered may allow to lay PLB Pipes at a lesser depth with additional protection. In all cases, the slope of the trench shall not be less than 15 degrees with the horizontal surface. The width of the trench shall normally be 45 cms at the top and 30 cms at the bottom. In case, additional pipes (PLB/GI/RCC Pipes) are to be laid in some stretches, the same shall be accommodated in this normal size trench.

When trenches are excavated in slopes, uneven ground, inclined portion, the lower edge shall be treated, as top surface of land and depth of trench will be measured accordingly. 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 165 cms to keep the bed of the trench as smooth as possible. Near the culverts, both ends of the culverts shall be excavated more than 165 cms to keep the gradient less than 15 degree with horizontal. In case where depth beyond specified depth is necessary it shall be clearly indicated in the technical specification of bid documents and of each work order. No extra payment shall be made for such extra depth.

If excavation is not possible to the minimum depth of 165 cms 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 to the minimum depth. The competent authority shall grant approval in writing under genuine circumstances. The decision of the competent authority shall be final and binding on the contractor.

v) Dewatering: 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. No extra payment shall be admissible for this.

vi) Wetting: 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. No extra payment shall be admissible for this.

vii) Blasting: For **excavation in hard rock**, where blasting operations are considered necessary, the contractor shall obtain approval of the Engineer-in-Charge in writing for resorting to blasting operations.

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 explosive 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 authorized 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 of explosive during blasting operation.

Blasting operations shall be carried out under the supervision of a responsible authorized 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.

viii) Trenching Near Culverts/Bridges: The PLB pipes shall be laid in the bed of culvert at the depth not less than 165 cms protected by G.I. pipes/ DWG/ RCC and concreting as decided by Engineer-in-Charge.

Both ends of culverts shall be excavated more than 165 cms in depth to keep the gradient of not less than 15 degree with horizontal. The bed of trench should be as smooth as possible.

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.

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

4. LAYING OF H.D.P.E. PIPES / COILS:

After the trench is excavated to the specified depth, the bottom of the trench has to be cleared of all stones or pieces of rock and leveled up properly. A layer of soft soil/or sand (in case the excavated material contains sharp pieces of rock/stones) of not less than 5 cms is required for leveling the trench to ensure that the cable when laid will follow a straight alignment. Adequate care shall be exercised while laying so that the OF cables are not put to undue tension/pressure after being laid as this may adversely affect the optical characteristics of cables with passage of time.

The contractor shall ensure that trenching and pipe laying activities are continuous, without leaving patches or portions incomplete in between. In case intermediate patches are left, measurement of the completed portions will be taken only after work in such left over patches are also completed in all respects.

Preparatory to aligning the pipe for jointing, each length of the PLB pipe shall be thoroughly cleaned to remove all sand, dust or any other debris that may clog, disturb or damage the optical fiber cable when it is pulled at a later stage. The ends of each pipe and inside of each PLB socket shall be thoroughly cleaned of any dirt or other foreign materials.

After the trench is cleaned the PLB Pipes/Coil shall be laid in the cleaned trench, jointed with "O" ring type PLB Sockets & 6 mm PP rope should be drawn through the PLB Pipes at the time of laying the pipes to facilitate cable pulling at a later stage. At every manhole approximately at every 200m or at bends or turns the pp rope will be tied to the PLB end caps used for sealing the PLB pipes, to avoid entry of rodents/mud etc.

At the end of each day work, the open ends of the pipes sections shall be tightly closed with end caps to prevent the entry of dirt/mud, water or any foreign matter into PLB pipes until the work is resumed.

In City, Town, Urban area falling within Municipal/Corporation limits, the PLB Pipes shall be laid with protection using RCC/G.I. Pipes/Concreting reinforced with weld mesh. Moreover, in cross country routes, if depth is less than 1.2 meters, protection by using RCC/G.I. Pipe/Concreting reinforced with weld mesh shall be provided. Engineer-in-charge shall decide about such stretches and type of protection to be provided in view of the site requirements. Normally 100mm RCC Pipes shall be used for protecting PLB Pipe but if more than one PLB Pipe is to be laid and protected, RCC Pipe of suitable size to accommodate the required number of PLB Pipes shall be used.

The PLB Pipes shall be laid in RCC Full Round spun Pipes/DWC/GI pipes as required at road crossings. The RCC pipes/GI pipes shall extend at least 3 meters on either side of the road at road crossings. At road crossings, extra GI/PLB Pipes may be laid as per the direction of the Engineer-in-charge. On Rail bridges and crossings, the PLB Pipes shall be encased in suitable cast iron as prescribed by the Railway Authorities.

Whenever RCC pipes are used for protection, the gaps between the RCC collars and the RCC pipes shall be sealed using cement mortar 1:3 (1:53 grade cement of reputed brand, 3: fine sand without impurities) to bar entry of rodents. Every third collar of RCC pipes (Normally of 2 meters length) and also both ends of RCC Pipes will be embedded in a concrete block of size 40 cms (L) x 40 cms (W) x 25 cms (H) of 1:2:4 cement concrete mix (1:53 grade cement of reputed brand, 2: coarse sand, 3: stone aggregate of nominal size of 20mm) so that the alignment of RCC pipes remain firm and intact and to avoid entry of rodents.

Wherever GI Pipes are used, special care should be taken to ensure that G.I. Pipes are coupled properly with the sockets so as to avoid damage to PLB Pipe and eventually the OF Cable in the event of pressure coming on the joint and G.I. Pipe joint giving its way. Rubber bushes shall be used at either ends of the GI pipes to protect PLB Pipe. Both the ends of G.I Pipe will be embedded in a concrete block of size 40 cms (L) x 40 cms (W) x 25 cms (H) of 1:2:4 cement concrete mix (1:53) grade cement of reputed brand, 2: coarse sand, 3: stone aggregate of nominal size of 20mm) so that the alignment of G.I. Pipes remain firm and intact and to avoid entry of rodents.

In case of protection by concreting at site, the nominal dimension of concreting shall be 250mm x 250mm section. 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 20mm 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.

For carrying out concreting work in trenches, yellow PVC sheets of width not less than 1.0M and of weight not less than 1 kg. per 8 sq. metres shall be spread and nailed on sides of the trench to form trapezoidal section for concreting in the cleaned trench, to avoid seepage of water into the soil. A bed of cement concrete mixture of appropriate width and 75 mm thickness shall be laid on the PVC sheet, before laying PLB pipes. The PLB pipes shall then be laid above this bed of concrete. After laying the PLB pipes, MS weld mesh should be wrapped around and tied and concrete mix is to be poured to form the cross sectional dimensions as instructed by the Engineer-in-charge. The strength of RCC is dependent on proper curing therefore it is imperative that water content of RCC mix does not drain out into the surrounding soil. Portions where cement concreting has been carried out shall be cured with sufficient amount of water for reasonable time to harden the surface.

After curing, refilling of the balance depth of the trench has to be carried out with excavated soil.

The PLB pipes/RCC/GI pipes shall be laid only in trenches accepted by Engineer-in-charge or his representative. The Contractor shall exercise due care to ensure that the PLB pipes are not subjected to any damage strain.

Water present in the trench at the time of laying the PLB Pipes shall be pumped out by the contractor before laying the pipes in the trench to ensure that no mud or water gets into the pipes, thus choking it.

In case of nallahs, which are dry for nine months in a year, the PLB Pipes shall be laid inside the RCC Pipes/ or GI Pipes and concrete laid at a minimum depth of 165 cms., as instructed by the Engineer-in-charge. The mechanical protection shall extend at least 5 meters beyond the bed of nallah on either side.

Notwithstanding anything contained in clauses referred above, the Engineer-in-charge may order, based on special site requirements, that the PLB Pipes may be encased in reinforced cement concrete, as detailed, *ibid*.

While laying the pipes, a gap of 2M is kept at convenient locations approx. 200m apart and at the bends and turns, which will be used as manholes during OF cable pulling. Ends of the PLB pipes at the manholes shall be sealed using PLB end caps after tying the PP rope to the end caps to avoid choking of the pipes. In a similar manner, manholes shall be kept while approaching bridges, road crossings etc., as instructed by the Engineer-in-charge. The location of the manholes will be decided by the Engineer-in-charge.

5. *Laying Protection Pipes on Bridges and Culverts:*

In case trenching and pipe laying is not possible in the beds of the culverts, the pipes shall be laid over the culverts/bridges after getting due permission from the competent authority. 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 laying cables on existing bridges, where duct arrangement does not exist, one of the following methods may be adopted.

Normally in the Bridges/Culverts, where there are no ducts and where the cushion on the top of the Arch is 50 cm to 100 cm or more, G.I. Pipe (Carrying PLB pipe and cable) may be buried on the top of the Arch adjoining the parapet wall, by digging close to the wheel guards. 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. Where the thickness of the Arch is less than 50 cms, the pipe must be buried under the wheel guard masonry and the wheel guard rebuilt.

If neither of the two methods is possible, the G.I. Pipes/GI Troughs/DWC Pipes must be clamped outside the parapet wall with the clamps. If necessary, the pipe may be taken through the parapet wall at the ends where the wall diverges away from the road.

In case where the methods explained in clauses referred above are not possible, the G.I. Pipes/GI Troughs/DWC Pipes can be fixed on the top of the road curb close to the inside face of the parapet wall by means of clamps, using raw plugs and wood screws or small diameter bolts, without damaging the concrete and limiting the external diameter of the bolts to 7.5 mm. The permission for carrying out this work will be obtained from the Road Authorities by the contractor. Methods cited in above clauses should be carried out under close supervision of Road authorities.

The surface to be concreted should be thoroughly cleaned and leveled before concreting. At both ends of the Bridges/Culverts, where the GI Pipes/GI Troughs slope down and get buried, the concreting should be extended to ensure that no portion of the GI Pipes/GI Troughs is exposed as ordered by the Engineer-in-charge to protect the Pipe/Trough from any possible damage externally caused. Where white wash/colour wash is existing on the Bridges/Culverts, the same should also be carried out on the concreted portion to ensure uniformity.

6. *Back Filling and Dressing of the Trench:*

The earth used for filling shall be free from all roots, grass, shrubs, vegetation, trees, saplings and rubbish. Provided that the PLB Pipes have been properly laid in the trench at the specified depth, the back-filling operation shall follow as closely as practicable.

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The back-filling operation shall be performed in such a manner so as to provide firm support under and above the pipes and to avoid bend or deformation of the PLB pipes when the PLB pipes get loaded with the back filled earth.

At locations where the back filled materials contains stones/sharp objects which may cause injury to the PLB pipes and where the excavated or rock fragments are intended to refill the trench in whole or in part, the trench should be initially filled, with a layer of ordinary soil or de-rocked loose earth of not less than 10 cms above the pipes.

Back filling on public, private roads, railway crossings, footpaths in city areas shall be performed immediately after laying the PLB pipes. Back filling at such locations shall be thoroughly rammed, so as to ensure original condition and made safe for traffic. All excess soil/material left out on road/footpath/railway crossing shall be removed by contractor. However, along the highways and cross-country, the dug-up material left out should be kept as heap above the trench while refilling.

In city limits, no part of the trench should be kept open for more than 50 metres length at any time and in all places where excavation has been done, no part of the trench should be kept open over night to prevent any mishap or accident in darkness.

7. MICRO TUNNELING:

GENERAL WORK DESCRIPTION: Laying of PLB pipe of different types and sizes in general, including some or all of the following activities:-

Horizontal boring and laying the PLB pipe through it:

Horizontal boring and PLB pipe laying through it along road and under railway/ road/ canal/ streams crossing in all type of soil at suitable depth including all civil works. Supply of all tested tools and tackles other required equipment and consumables, labour etc. and making all such necessary arrangements are under vendor's scope. Total job has to be completed within time schedule mentioned in work order. The work is specified under two major heads.

- a) Laying along the road.
- b) Road/ Rail/ canal crossing (road crossing means crossing a road of minimum width of 8 mtr.)

Under each head there will be again three different sizes of boring :

- a) Boring of single pipe.
- b) Boring from two pipes to four pipes.
- c) Boring more than four pipes.

The PLB pipe will be pulled through the horizontal bore with insertion of nylon rope provided by the department. Balloon (25mm. dia and 45mm length) test both ways is to be carried out by the bidder including the rope insertion if necessary for each pipe line. Duct integration test is to be carried out for each pipe in case of without rope pipes.

SPECIFICATION FOR PLB PIPE LAYING BY MICRO TUNNELING:

In this system of cable laying following job specification should be maintained: Guided boring / drilling technology is to be used. Mechanical mores are not permitted

- a. Radio or any other detection system should be used for avoiding damage to existing underground utilities i.e. electric supply, water pipe lines, telecom copper cables and optical fiber cables, gas pipe lines, sewerage etc.
- b. The depth of boring should be such as to clear any underground utilities/obstacles. However in no case the depth of boring be less than 2m from the road surface.
- c. In horizontal and vertical boring the system should be capable of going up to 10 mts below the ground level.
- d. In a shift of 8 hrs at least 500 (Five hundred) meter of drilling should be achieved.
- e. As far as possible cable should be laid in drum lengths and cutting of cable should be avoided while laying along road.

Ground penetrating Radar survey and damage to Telephone cable and other underground utility services:

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- i) The contractor should collect all available information regarding underground services and take necessary care to protect them. He should also have sufficient arrangements to identify and protect such underground services.
- ii) The contractor shall carry out ground penetrating Radar survey along the proposed cable route at his own cost to identify the underground services and for setting out the rules as directed by executive officer. The executive officer shall provide the route map to the contractor if available for plotting the existing utilities and setting the route for horizontal drilling. However, for safe drilling the contractor should make requisite inspection and test pits whenever necessary.

LIFTING OF PLB PIPE:

- a) The PLB pipe will be handed over to the contractor at stores. The contractor is to lift the store from the storedepot to the work site.
- b) 3.2 Guarding at work site is to be done by the contractor.
- c) At the time of laying, jack and wheel should be used so that the pipe is not damaged.
- d) The contractor is to make arrangement of water and power at the site of work
- e) Permission for laying is to be taken by contractor from appropriate civic & road authorities.
- f) Digging of test pit and restoration of pits are to be done by the contractor.

Fixing of Route Indicators/Joint Indicators: Pits shall be dug 1 M towards jungle side at every manhole for fixing of Route Indicator. In addition, Route Indicators are also required to be placed where O.F Cable changes directions like road crossing etc. The pits for fixing the indicator shall be dug for a size of 60 cms X 60 cms and 75 cms (Depth). The indicator shall be secured in upright position by ramming with stone and murrum up-to a depth of 60 cms. And concreting in the ratio of 1:2:4(1: cement, 2: coarse sand, 4: stone aggregate 20 mm nominal size) for the remaining portion of 15 cms. Necessary curing shall be carried out for the concreted structure with sufficient amount of water for reasonable time to harden the structure. The route indicator shall be painted with primer before painting with oil paint. The material used should bear ISI mark. The size of each written letter should be at least 3.5 cms. The colour of painting is yellow for Route Indicator and colour of sign writing white for Letters. The numbering scheme for route indicators will be Joint No./Route Indicators No. for that joint. For example: 2/6 indicator means 6th route indicator after 2nd joint.

8. DOCUMENTATION:

The documentation, consisting of the following shall be prepared exchange to exchange for intra SSA OFC links and for each section in case of Inter SSA/National Long Distance routes.

i) Route Index Diagrams – General:

This diagram shall consist of pipe Route Details on Geographical Map drawn to scale with prominent land marks and alignment of pipe with reference to road. This shall be prepared on A-3 sheets of 80 GSM.

ii) Route Index Diagrams – Profile:

These diagrams shall contain: Make and size of the pipe, Offset of pipe from center of the road at every 10 metres, Depth profile of pipe at every 10 meters; Details of protection with type of protection depicted on it, Location of culvert and bridges with their lengths and scheme of laying of PLB Pipe/coil thereon, Important landmarks to facilitate locating the pipe in future and Location of pulling manholes.

These diagrams shall be prepared on A-4 sheets of 80 GSM. On one sheet profile of maximum 400 metres shall be given to ensure clarity.

All the diagrams (i) & (ii) shall bear the signatures of the contractor, the SDE-Site-in-charge as a proof of accuracy of the details. The diagrams shall be bound in A-4 size book with cover. The cover sheets shall be of 110 GSM and laminated. The front cover shall have the details: Name of the SSA/Project Organization, Name of the OFC Link, Name of the Contractor, Date of commencement of work & Date of completion of work

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For each route/section, 6 sets of above mentioned document shall be submitted.

9. SAFETY PRECAUTION:

i) 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. A cover slab of concrete, brick or stone from above should usually be used to protect power Cables, not laid in conduits. 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 nearby 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 contacted to do the needful. If an electric cable is damaged even slightly, it 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.

ii) 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.

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 will 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.

iii) 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.

iv) 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.

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v) 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.

vi) 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.

vii) 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 at 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 back-ground 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 1.25m along the width and 6m along length of the obstruction in non- congested area, 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 1.25m above the ground and close to the excavation. Where any excavation is not clearly visible for a distance of 25m 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 side or edge of all such roads from which the excavation or as near the distance as is practicable but not less than 10m from the junction of an entering or intersecting road in which the excavation exists. All warnings, in these should have a red background and should be clearly visible and legible. All warning lamps 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 applied to jointer's tents as well. Leads, hoses etc. stretched and across the carriageway should be guarded adequately for their own protection and also that of the public.

viii) 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.

ix) 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

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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.

x) 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 as: Gun powder, Nitrate, Mixture, Gelatin, Safety Fuse, Electric Detonator, and Ordinary Detonator.

a) 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 explosives are to be used. For the purpose of obtaining license, a longer length of route should be given in 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 of the concerned area. When the route does not fall in the jurisdiction of a police commissioner, the authority for issuing license is the District Magistrate.

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

b) 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 intervals on rocky terrain or boulders either by air compressor or by manual chipping. The depth of the holes should be 2 to 3 ft. Fill up the holes with small quantity of sand for about 6”. First the electric detonator is to be inserted into the gelatin and the gelatin is to be inserted into the holes keeping the +ve and –ve wirings of electric detonators outside the holes. Again refill the holes with sand. These +ve and –ve insulated wires of detonator are then extended and finally connected to an EXPLoder kept at a distance of not less than 100m. Now the explosive is ready for blasting. But, before connecting wires to exploder for blasting, all necessary precautions for stopping the traffic, use of redflags, exchange of caution signals, etc., should be completed and only then Exploder should be connected and operated.

c) Operation of exploder (IDL schaffler type 350 type exploder) :

The type 350 blasting machine consists of a bearing block with blasting machine system and the explosion proof light – alloy injection moulded housing. The exploder is held with the left hand. The twist handle is applied to the drive pin, clapped with the right hand turned in the clock wise direction in continuous measurements at the highest speed from the initial position until it reached to a stop. At this stage an indication lamp will glow. When the indication lamp glows, “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 detonators 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.

d) Warning:

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

- a. Misfire of gelatin due to leakage for current from detonator.
- b. Over loading because of overburden

Never pull the broken wire pieces from the holes in such cases. Attempt should not be made to re-blast themisfired gelatin. The safest way is to make a fresh hole by its side and put fresh gelatin in that hole and blast it.

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10. Precautions:

The abstract of Explosives Rules 1983 which are relevant to our work is given below:

Restriction of delivery and dispatch of explosives:

- i. No person shall deliver or dispatch any explosives to anyone other than a person who is the holder of a license to possess the explosives or the agent of holder of such a license duly authorized by him in writing on his behalf. OR is entitled under these rules to possess the explosives without a license.
- ii. The explosives so delivered or authorized shall in no case exceed the quantity, which the person to whom they are delivered or authorized to possess with or without a license under these rules.
- iii. No other shall receive explosives 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 licensed premise unless prior approval is obtained from the Chief Controller.
- iv. A person holding license for possession of explosives granted under these rules shall store the explosives only in premises specified in the license.

11. Protection from Lightning During Storing:

Every magazine shall have attached there to one or more efficient lightning conductors designed and erected in accordance with the specification laid down in Indian Standard Specifications No.2309 as amended from time to time. The connections to various parts of earth resistance of the lightning 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.

i) Precautions during thunder-storm:

When a thunder-storm appears 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 magazine or store house and the magazine and store house shall be kept closed and locked until the thunder storm has ceased or the threat of it has passed.

ii) Maintenance 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 Officer.

iii) Explosives not be kept in damaged boxes:

The licensee 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 explosives contained therein cannot be stored or transported, such explosives shall be repacked only after the same are examined by controller of explosives.

iv) Storage 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.

v) 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 that associated with the charging operations shall be carried out within 10 meters of the hole 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.

vi) 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.

vii) 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 locations 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 of 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 has been done by the agent for the misfired boreholes.

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.

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 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. 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 meters 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.

i) 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.

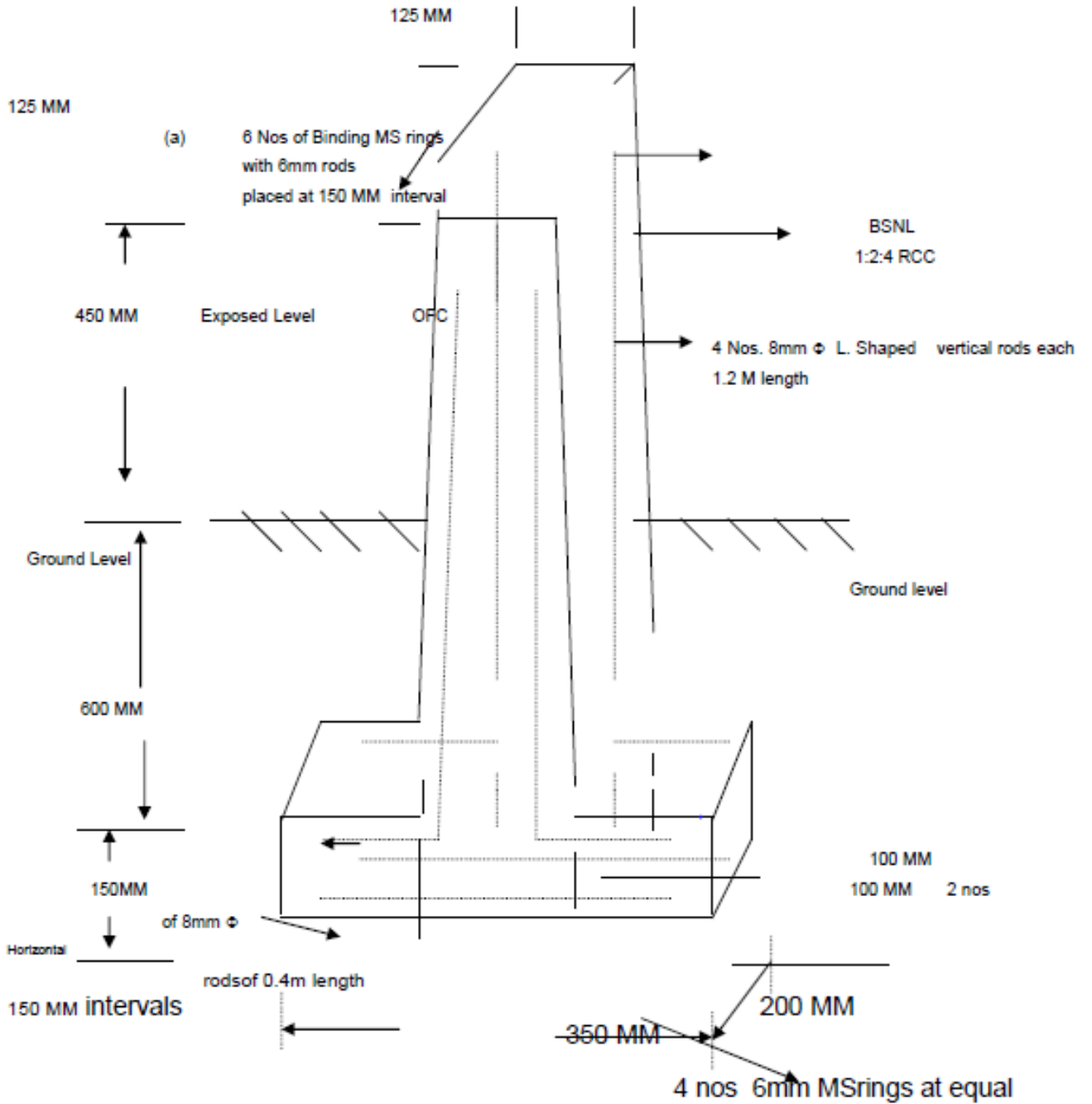
If there is water present or if the borehole is damp, the junction of the fuse and detonator shall be made water tight by means of tough grease or any other suitable material. The detonator shall be inserted into the cartridge so that about one-third of the copper tube is left exposed outside the explosive. 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 authorized representative before resuming the blasting or returning the consignment.

ii) Precaution against stray currents: Where electrically operated equipments is used in locations having conductive ground or continuous metal objects, tests shall be made for stray current to ensure that electrical firing can proceed safely.

R.C.C ROUTE INDICATOR

fig A



Signature of the Bidder with seal

SECTION – X

AGREEMENT

1. The successful tenderer shall have to execute the following agreement

The agreement is 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 AGM (Planning) on behalf of the GMTD Manipur of BSNL (A Govt. of India Enterprises) herein after referred to as the BSNL, of other part.

Whereas the contractor has offered to enter into contract with the said BSNL for the execution of work of trenching & pipe laying and other associated works in the jurisdiction of GMTD, BSNL Imphal 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 whereas 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 herein after mentioned, safely carryout, by means of labours 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 trenching and trenchless pipe laying, cable pulling, cable splicing, joint chamber preparation, fixing, painting and sign writing or route indicators and other associated works as described in tender documents (annexed to the agreement), when the BSNL or General Manager (BSNL) or any other persons authorised by GMTD, Manipur 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, letter of intent, approved rates, annexed here to 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 supply the requisite number of workmen 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.

Signature of the Bidder with seal

4. The contractor hereby declares that nobody connected with or in the employment of the DOT/BSNL 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. This Contract is subject to jurisdiction of Court at Manipur.

In witness where of the parties presents here in to set their respective hands and seals the day 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 by the
AGM (Plg), O/o GMTD, BSNL Manipur BA,
Imphal.

SECTION-XI

LETTER OF AUTHORISATION FOR ATTENDING BID OPENING

Tender No: NE2MNP-19/14(11)/14/2022-PLG MNP/07 Dated: 06-Mar-23

Subject: Authorization for attending bid opening on 01-Apr-23.

In the Tender "4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan", 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

No.1. Maximum of two representatives will be permitted to attend bid opening. In cases where it is restricted to one, first preference will be allowed. Alternate 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.

Signature of the Bidder with seal

SECTION XII

DOCUMENTS TO BE SUBMITTED ALONG WITH TENDER:

Tender No: - NE2MNP-19/14(11)/14/2022-PLG MNP/07 Dated: 06-Mar-23

The following documents shall be submitted by the bidder along with the tender.

Sl. No.	Tender Document and its Annexure/certificate Items.	Say "Yes" or No"
1	Tender Document duly filled and signed in all pages without modification/ addition/ deletion	
2	Whether Proof for payment of Cost of Tender document is enclosed with Tender Schedule	
3	Whether Proof for payment of EMD is enclosed with Tender Schedule / MSE UDYAM Regd. no. for exemption of EMD	
4	GST Registration Certificate	
5	Whether attested copy of EPF, ESI and Service Tax Registration Certificate enclosed(if applicable) and proof for payment of EPF/ESI, etc;	
6	Letter of authorization for Bid opening	
7	Work Experience certificate (Minimum two years).	
8	Solvency certificate from the Banker(Scheduled Bank) of the Tenderer for Rs.5 lakhs, not older than 3 months from the date of issue of NIT	
9	Attested copy of PAN card and Income Tax return for last two years	
10	Whether Declaration for No Near Relative(s) employed in BSNL furnished	
11	E-Payment Mandate form duly filled and signed by the bidder and signed by the banking Authority.	
12	Declaration of Non Blacklist form duly filled and signed by the bidder.	
13	Whether BID form is enclosed	
14	If Partnership concern / Company- whether enclosed attested copy of registered partnership deed / Memorandum of Association , Articles of Association, if any	
15	Attested copy of "Power of Attorney" in case person other than the tenderer has signed the tender documents duly scanned and uploaded	

Note: Financial BID (Rate Schedule is to be submitted in a separate envelope)

Date:

Signature of the Bidder with seal

SECTION-XIII
SCHEDULE OF RATES

Sl. No.	Services	Item No.	Quantity	Unit	Rate Per Unit	Amount
1.	OF Cable Laying work					
	i) Horizontal Directional Drilling (HDD) for laying U/G PLB/HDPE pipes in road crossing to a standard depth of 1.85 m as specified in laying of OFC by HDD method	995424	100	Meter	320.00	32000.00
	ii) Blowing of O.F.Cable and allied works (viz., Replacing couplers and Back filing in case of Manholes, Sealing of PLB ends, refilling sand, Refixing RCC cover and backfilling in case of Joint Chamber/ Manhole). No charges to be paid for opening of Manholes/Joint chambers.	995424	4000	Meter.	22.00	88000.00
	iii) Construction of Joint chamber for OFC joints	995428	3	1 No.	6000.00	18000.00
	iv) Supplying and fixing of termination box	995428	2	Each	4000.00	8000.00
	v) 24/48/96F Optical Fibre splicing at customer end/splitter location	995428	4	1 No.	3000.00	12000.00
	vi) Supplying, fixing and concreting of routes/joint indicator, painting and sign writing of Route/Joint Indicators, as per specification.	995428	3	1 No.	500.00	1500.00
	vii) Documentation etc (1 set)	998595	3	1 No.	400.00	1200.00
Total:						160700.00

Signature of the Bidder with seal

SECTION-XIV
(FINANCIAL BID FORM)

Tender No: - NE2MNP-19/14(11)/14/2022-PLG MNP/07 Dated: 06-Mar-23

To
The General Manager,
BSNL Manipur BA
Imphal -795001

Subject: - Submission of Financial Bid for **4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan**

Dear Sir,

Having examined the tender documents, terms and conditions stipulated therein, specification of work etc., I/ we the undersigned offer to execute the above noted work as per terms & conditions of contract at the rates quoted as under:

BELOW

In figures %

In words.....percent

OR

AT PAR

In figures %

In words.....percent

OR

ABOVE

In figures.....%

In words.....percent

(Price quoted by the bidder shall be exclusive of all applicable taxes and cess)

Signature of Tenderer with date
Name:

Signature of the Bidder with seal

Section XV

Annexure-I

(Format of undertaking/declaration to be given by the existing/past vendors of BSNL NE-2 Circle towards EMD/BID Security Adjustment from pending bills)

To

General Manager, MNP BA,
Imphal

Ref: NIT No. **NE2MNP-19/14(11)/14/2022-PLG MNP/07** Dated: **06-Mar-23**

Name of work: **4Km 48F OF Cable Rehab from Imphal OCB to Opposite GST Bhawan.**

SUB: DECLARATION-CUM-UNDERTAKING FOR EMD/BID SECURITY.

Sir,

I am submitting the following undertaking/declaration towards EMD/Bid Security adjustment from my pending bills at your end.

DECLARATION-CUM-UNDERTAKING FOR EMD/BID SECURITY

1) I/We

.....
.....
do hereby submitting an unqualified and unconditional declaration cum undertaking that, I am a contractor of BSNL, MNP BA NE-2 Circle, (Vendor Code.....)
from..... to of BA
.....

2) That, I have not received payment from BSNL NE-2 Circle amounting Rs..... (Rupees.....) against the submitted bills for different works carried out for BSNL and bills were duly passed for payment and the payment in all respect is overdue for over 90 days as on the date of publication of NIT. (Supporting documents duly attested/certified by the concerned Accounts Officer (BSNL) of the BA/SSA are to be enclosed.)

3) That, I request you to consider an amount of Rs..... (Rupees equivalent to EMD/BID security of NIT No..... which may be retained out of the outstanding towards EMD/BID security without any interest or other liability on BSNL for the same tenure(180 days) and terms and conditions of EMD/BID security for NIT No.....

4) That, if I will be successful in the tender, I will submit Performance Security Guarantee Bond as per tender norms. If I will not submit Performance Security Guarantee Bond, my EMD/BID security amount will be forfeited by BSNL and I will not claim it in future.

Signature of the bidder with

sealName of the Bidder

Signature of the Bidder with seal