

**Government of West Bengal**  
Office of The . Director General of Police  
Telecommunication, West Bengal

3 Manik Bandyopadhyay Sarani, Tollygunj, Kolkata 700 040

Phone: 033-23770400/1701, Fax: 033-23110651, e-mail: telecomhqrs@gmail.com

Notice Inviting e-Tender No. WBPTel/DG/eNIT- 19 / Wireless Stores/2021-22 Date: 09.02.2021

The . Director General of Police, Telecommunication, West Bengal invites e-Tenders on behalf of Home Department, Government of West Bengal from the bonafide bidders for the different works mention in the table below :-


Sl.	Nature of Job		Quantity ( Nos.)
1	<b>New Installation of Trilon Mast all Hot-Deep Galvanized</b> (including Painting IS 1477 standard ,one coat of red oxide zinc primer and two coats (Asian/Berger paints, colour-deep orange & white ) ,Earthing pit with Lightning arrester ,installation of Two Nos of Static Aerials, Base Foundation, Guy Foundation, Super Structure with necessary Guy Ropes, Strainer, U-Bolt, D-Shackle, etc. and Labour Charges).		
1.01	For 40 ft Trilon Mast	<b>Technical Specification detail enclosed in Annexure IV</b>	Unit wise
1.02	For 50 ft Trilon Mast		Unit wise
1.03	For 60 ft Trilon Mast		Unit wise
1.04	For 75 ft Trilon Mast		Unit wise
2	<b>New Installation of Pipe Mast with all materials all Hot- Deep Galvanized</b> (including Painting IS 1477 standard, one coat of red oxide zinc primer and two coats (Asian/BergerPaints , colour- deep orange & white ) ,Earthing pit with Lightning arrester ,installation of Two Nos of Static Aerials, Base Foundation, Guy Foundation, Complete Pipe with Ladder and necessary Guy Ropes, Strainer, U-Bolt, D- Shackle, etc. and Labour Charges).		
2.01	For 60 ft Pipe Mast	<b>Technical Specification detail enclosed in Annexure IV</b>	Unit wise
3	<b>New installation of SS Tower including Ladder all Hot- Deep Galvanized</b> (with all materials including Base Foundation, Super Structure and Labour Charges including Painting IS 1477 standard, one coat of red oxide zinc primer and two coats (Asian/Berger Paints , colour- deep orange & white ) ,Earthing pit with Lightning arrester, aviation Lamp(Specification: HG two core 1.5 copper wire, Covering PVC Pipe, Lamp - Low Intensity "Model L1-90 conforming to ICAO type A" fixed red LED aviation obstructing light designed initial intensity 15-18 CD Life 2 years warranty) ,installation of Four Nos of Static Aerials also)		
3.01	For 100 ft SS Tower	<b>Technical Specification detail enclosed in Annexure V</b>	Unit wise
3.02	For 120 ft SS Tower		Unit wise
3.03	For 150 ft SS Tower		Unit wise
3.04	For 200 ft SS Tower		Unit wise
3.05	For 250 ft SS Tower		Unit wise
4	<b>New installation of Mono Pole Tower including Ladder , all Hot- Deep Galvanized</b> (with all materials including Base Foundation, Super Structure and Labour Charges including Painting IS 1477 standard ,one coat of red oxide zinc primer and two coats (Asian/Berger Paints , colour- Deep Orange & white, installation of Two Nos of Static Aerials also)		
4.01	For 60 ft Mono Pole Tower	<b>Technical Specification detail enclosed in Annexure VI</b>	Unit wise
5	<b>New installation of Pipe to angle Self Supported Tower (Three Legs) all Hot- Deep Galvanized</b> (with all materials including Base Foundation, Super Structure and Labour Charges including Painting IS 1477 standard, one coat of red oxide zinc primer and two coats (Asian/Berger Paints , colour- Deep Orange & white ) ,Earthing pit with Lightning arrester, installation of Four Nos of Static Aerials also)		
5.01	For 40 ft SS Tower (Three Legs Pipe to angle )	<b>Technical Specification detail enclosed in Annexure VII</b>	Unit wise
5.02	For 60 ft SS Tower(Three Legs Pipe to angle )		Unit wise
5.03	For 75 ft SS Tower(Three Legs Pipe to angle )		Unit wise

## ELIGIBILITY OF BIDDERS:

( Only Manufacturers/ Dealers are eligible for participation in the Tender ) .

1. In the event of e-filling, the intending bidder may download the Tender documents from the Web Page Links "wbtenders.gov.in/nicgep/app" or "policewb.gov.in/wbp/tender.php" directly with the help of Digital Signature Certificate. Earnest Money Rs. 25,000.00 (Rupees Twenty Five Thousand) only have to be remitted through online. No alternative will be accepted. Necessary Earnest Money will have to be deposited by the bidder electronically: online - through his net banking enabled bank account, maintained at any bank. Bidders will get the Beneficiary details from e- tender portal with the help of Digital Signature Certificate and may transfer the EMD from their respective Bank as per the Beneficiary Name & Account No., Amount, Beneficiary Bank name (ICICI Bank) & IFSC Code. Bidders are also advised to submit EMD of their bid, at least 3 working days before the bid submission closing date as it requires time for processing of Payment of EMD. Bidders eligible for exemption of EMD as per Govt. rule may avail the same and , necessary documents regarding the exemption of EMD must be uploaded in the EMD folder of Statuary bid documents.
  2. Financial Bid is to be submitted online (both words & figures) concurrently duly digitally signed in the website "wbtenders.gov.in" as per Date & Time schedule stated in Clause 10.
  3. (a) A tender Bidder, after being accepted by the undersigned authority, shall be liable to supply all the items in question as per the accepted rate, for a period of one year from the date of acceptance, without any hike in the prices, whatever are the circumstantial criteria thereby.  
(b) Conditional/incomplete bid will not be considered.  
(c) Tenderers should specify the address within the City of Kolkata and Phone/Mobile, Fax No./ e-mail I.D. for the purpose of quick communication in the event of urgency.  
(d) Deviation Statement (if any) may also be enclosed.  
(e) There should be an onsite manufacturing guarantee/warranty for the items with a mention of the specific period.  
(f) The participating bidders must have Insurance Coverage for the labours, credentials for such works. In case of any accident or injury or death of labours at the time of work, the Farm / Employer shall be responsible solely. All responsibility for Tower works shall lie with the agency which would follow safety norms as per IS7295 (1974)
  4. The selected contractors shall have to deposit 5% security deposit of the total contract value of the items in favour of the Director General of Police Telecommunication, West Bengal in G P Notes/ Bank Guarantee Bond/F.D.R. of any nationalized bank and to execute an agreement of contract within 3 (three) days from the date of issue of the work order failing which the letter of acceptance, so issued, may be treated as cancelled as well as the earnest money so deposited may be forfeited and the firm may be blacklisted. No interest would be paid on the performance Security Deposit. Payment will be made as and when the fund will be available from the concerned source subject to complete supply of articles.
  5. Orders for the execution of proposed work will be placed with the successful tenderers after the execution of the agreements, and such supply shall have to be made in such installments as may be fixed or spread over the period to be specified in the supply orders to be made in pursuance of the agreements. The successful tenderers will have to execute the work within the specified time schedule and the specified place anywhere in the state of West Bengal that had been assured at the time of selection as the supplier.
  6. Tender Specific authorization Certificate is desirable.
  7. It should be noted that the firm/firms will be selected purely on a "PROVISIONAL BASIS" and the forecast requirement may increase or decrease by any quantity during the period of validity of the tender.
  8. Director General of Police, Telecommunication, West Bengal reserves the right to reject any/or all the tendered rates without assigning any reason and not to place any orders even after selection and is not liable for any cost that might have incurred by any bidder at the stage of bidding .
- In case of extreme emergent situation like devastating natural calamities, the authority reserves the right to placing order unconventionally only to the L/1 bidder and divide the works amongst L/1, L/2 & L/3 bidders, provided the works are bulk in nature and should be finished within a short time for the sake of restoration/re-erection/repair of Tower and restoring VHF Communication immediately necessary for smooth Policing. In that case, L/2 & L/3 bidders shall be bound to do and complete the work successfully @ L/1 rate.**

Director General of Police Telecommunication, West Bengal does not bind herself to accept the lowest rate.

  
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9. Selected contractors will have to work according to the work order placed with them from time to time within the specified period, failing which the firm may be blacklisted with the forfeiture of security deposit. In the event of the non-execution of works or the work performed become substandard, the Director General of Police Telecommunication, West Bengal may (without notice to the contractors) be done from elsewhere. Any loss incurred by reason of the price paid for such article(s) or any other loss or expense incurred by reason of such default on the part of the contractors may be deducted from the bills or any money payable to the contractors or from the security deposit of the concerned contractor(s). If the performance of the work are found unsatisfactory or not as to our desired level even after payment, the supplier has to refund the entire amount paid to him earlier for that particular job.

**10. DATE & TIME SCHEDULE:**

Sl. No.	Particulars	Date & time
1	Date of uploading of N.I.T Documents (Online)	15-02-2021 at 1800 Hours
2	Documents download/Sell Start date (Online)	15-02-2021 at 1800 Hours
3	Date of hoisting of documents at Departmental Website "policewb.gov.in"	16-02-2021 at 1600 Hours
4	Bid submission start date (Online)	15-02-2021 at 1800 Hours
5	Bid submission closing date (Online)	09-03-2021 at 1400 Hours
6	Technical Bid opening (Bid A)	12-03-2021 at 1400 Hours
7	Date of uploading list of technically qualified bidders	To be notified later
8	Date of opening of Financial Proposal (Bid B) (Online)	To be notified later
9	Date of uploading list of bidders along with the approved rates	To be notified later

11. **Bid opening Location:** Office of the. Director General of Police, Telecommunication, West Bengal, 3 Manik Bandyopadhyay Sarani, Tollygung, Kolkata 700 040.

12. Canvassing on the part of tenderers will render his tender to cancellation summarily.

13. For any clarification regarding Specification of the Tender, Tenderers are requested to contact with Deputy Superintendent of Police (Technical) Telecommunication Hqrs., 3 Manik Bandyopadhyay Sarani, Tollygunj, Kolkata 700 040 during office hours.

**NB:** Any inconsistencies in the descriptions may be expeditiously brought to the notice of the Tendering authority.

**INSTRUCTIONS TO BIDDERS**

**GENERAL GUIDANCE FOR e-TENDERING:**

Instructions/ Guidelines for electronic submission of the tenders have been annexed for assisting the contractors to participate in e-Tendering.

**I. REGISTRATION OF THE CONTRACTOR:**

Any contractors willing to take part in the process of e-Tendering will have to be enrolled & registered with the Government e-Procurement System, through logging on to "wbenders.gov.in" (the Web Portal of Public Works Department) the contractor is to click on the link for e-Tendering site as given on the web portal.

**II. DIGITAL SIGNATURE CERTIFICATE (DSC):**

Each Contractor is required to obtain a Class-II OR Class-III Digital Signature Certificate (DSC) for submission of tenders for the approval service of the National Informatics Centre (NIC) on payment of therequisite amount. Details are available at the website stated in Clause-I above DSC is given as a USB e-Token.

  
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.II. The contractor can search & download N.I.T. & Tender Document(s) electronically from the computer once he logs on to the website mentioned in clause-I using the Digital Signature Certificate. This is the only mode of collection of Tender Documents.

**IV. SUBMISSION OF TENDERS:**

Tenders are to be submitted through online to the website stated in Clause-I in two folders at a time for each work, one in Technical Bid & the other is Financial Bid before the prescribed date & time using the Digital Signature Certificate (DSC). The documents are to be uploaded virus scanned copy duly Digital Signed. The documents will get encrypted (transformed into non readable formats).

**V. PENALTY CLAUSES:**

**PENALTY FOR FORMATION OF CARTEL OR FURNISHING OF FRAUDULENT / MISLEADING DOCUMENTS:** If during the tender process or at any state during the validity of the tender period, it is found that a Tenderer has formed a cartel in what so ever form or name to fix up the rates or suppliers to the detriment of the fairness of the tender process, penal measures shall be initiated. Similar penal measures shall also be initiated against those tenders who have submitted false / misleading / fraudulent documents or made incorrect declarations. The penal measure will be forfeiture of Earnest Money, Forfeiture of Performance Bank Guarantee if enlisted as a supplier.

**VI. TECHNICAL PROPOSAL:**

The Technical proposal should contain scanned copies of the following in two covers (folders).

**(a) Statutory Cover containing the following documents:**

(1) NIT (2) EMD (3) AGREEMENT PAPER (AS ANNEXTURE-III)

**(b) Non-statutory Cover containing the following documents:**

THE ABOVE STATED NON-STATUTORY/TECHNICAL DOCUMENTS SHOULD BE ARRANGED IN THE FOLLOWING MANNER:-

Click the check boxes beside the necessary documents in the My Document list and then click the tab "Submit Non Statutory Documents" to send the selected documents to Non-Statutory folder.

Next Click the tab "Click to Encrypt and upload" and then click the "Technical" Folder to upload the Technical Documents.

Sl. No.	Category Name	Sub-Category Description	Detail(s)
A	Certificate(s)	Certificate(s)	GST, Trade License, Income Tax/PAN, Latest P.Tax (Challan).
B	Company Detail(s)	Company Detail	Proprietorship Firm (Trade License) Partnership Firm (Partnership Deed, Trade License), Ltd. Company (Incorporation Certificate, Trade License) Society (Society Registration Copy, Trade License) Power of Attorney.
C	Credential	Credential - 1	Similar nature of work done & completion certificate, which is applicable for eligibility in this tender.

NOTE: BLACK & WHITE SCAN, MULTIPAGE SCAN, DPI MAX 200-300

## I. FINANCIAL PROPOSAL:

- (a) The contractor is to quote the rate online through the computer in the space marked for quoting rate in the BOQ (Bill of Quantities). *The Quoted Rate should not be higher than printed MRP where applicable.*
- (b) If any contractor is exempted from payment of EMD, copy of relevant Government Order needs to be furnished.
- (c) The financial proposal should contain the following documents in one cover (folder) i.e., BOQ (Bill of Quantities).
- (d) Only downloaded copies of the above documents are to be uploaded virus scanned & Digitally Signed by the contractor. If any tenderer fails to produce the original hard copies of the documents like Completion Certificates and any other documents on demand of the Tender Evaluation Committee within a specified time frame or if any deviation is detected in the hard copies from the uploaded soft copies, it may be treated as submission of false documents by the tenderer and action may be referred to the appropriate authority for prosecution as per relevant IT Act.

## OPENING & EVALUATION OF TENDER:

1. Opening of Technical Proposal : A Committee headed by Addl . Director General & inspector General of Police Telecommunication ,West Bengal will open the Technical bid of the Tender.
2. Intending Tenderers may remain present if they so desire.
3. Cover (folder) for Statutory Documents will be opened first and, if found in order, cover (folder) for Non-Statutory Documents will be opened. If there is any deficiency in the Statutory Documents the tender will summarily be rejected.
4. Decrypted (transformed into readable formats) documents of the non- statutory cover will be downloaded & handed over to the Tender Evaluation Committee.
5. Summary list of technically qualified tenderers will be uploaded online.
6. Pursuant to scrutiny & decision of the Tender Evaluation Committee, the summary list of eligible tenderers & the serial number of work for which their proposal will be considered will be uploaded in the web portals.
7. During the evaluation, the committee may be summoned of the Tenderers and seek clarification/information or documents or original hard copy of any of the documents already submitted , if these are not produced within the stipulated time frame, their proposals will be liable for rejection.

## II. REJECTION OF BID:

The Director General of Police Telecommunication, West Bengal reserves the right to reject any/or all the tendered rates without assigning any reason and not to place any orders even after selection and is not liable for any cost that might have incurred by any bidder at the stage of bidding and also reserves the right to divide the contract amongst any number of Tenderers if required so and to place order for more or less than the quantity mentioned in the forecast requirement. The Director General of Police, Telecommunication, West Bengal does not bind himself to accept the lowest rate.

  
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### III. AWARD OF CONTRACT:

The Bidder whose Bid has been accepted will be notified by the Tender Inviting & Accepting Authority through acceptance letter / Letter of Acceptance both online & offline to save time. The notification of award will constitute the formation of the Contract. The Agreement in the prescribed format in admissible stamp duties will incorporate all agreements between the Tender Accepting Authority and the successful bidder/bidders. The time frame for attending the fault and restoration of equipment within the warranty period and penalty clause for the defaulters will be included in the agreement. All the tender documents including N.I.T. & B.O.Q. will be the part of the contract documents. After receipt of Letter of Acceptance, the successful bidder shall have to submit requisite copies of contract documents downloading from the website stated in the N.I.T. along with requisite cost through Demand Draft issued from any nationalized bank in favor of Director General of Police Telecommunication, West Bengal for the concerned work within time limit to be set in the letter of acceptance.

### IV. WARRANTEE PERIOD:

All types of new Towers should be covered with warrantee period as stated below:

- a) Trilon Mast/Pipe Mast = 02(Two) Years
- b) Self Supported Towers (3 Legs) / Mono Pole Towers = 02(Two) Years
- c) Self Supported Towers (4 Legs) = 03(Three) Years.

### V. VALIDITY PERIOD:

The contract period will be up to March 2022.



Addl. Director General of Police  
Telecommunication, West Bengal

### Committee for preparation & uploading of NIT

1. S.P. Telecom WB *24/9/20*
2. Dr. Monojit Mitra, HOD Electronics Dept, IEST Shibpur *Monojit Mitra* *24.9.2020*
3. Smt. Arpita Guha Neogi, Dy.SP-III, Telecom HQ *Arpita Guha Neogi* *24.9.2020*
4. Shri Asoke Kr. Naskar, Dy.SP-IV, Telecom HQ *Asoke Kr. Naskar* *24/9/2020*
5. Inspector (Technical) of the concerned section *Inspector (Tech)* *24.9.20*
6. Officer in-charge of the concerned section *Officer in-charge* *24.9.20*


*Inspector*  
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*Inspector*  
DySP (Tech)

## FORMAT FOR CHECK LIST

Sl.No.	Items	Pl mark ✓		Page No.
		Yes	No	
1	Application submitted in Annexure - I	Yes	No	
2	Annexure - II (Authorization letter of signatory from the Company)	Yes	No	
3	Annexure - III (Copy of the agreement between the manufacturer and the Distributor)	Yes	No	
4	Copy of PAN Card, GST Registration Certificate	Yes	No	
5	Copy of Demand Draft/Pay order as applicable in favour of the Director General of Police Telecommunication, West Bengal - as Earnest Money	Yes	No	
6	Last 3 financial years' returns of Income Tax, i.e., for 2016-17, 2017-18 & 2018-19	Yes	No	

  
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# Annexure - I

## APPLICATION FORMAT

(To be furnished in the Company's official letter pad with full Address and Contact No., etc.)

To: The Director General of Police  
Telecommunication, West Bengal  
3 Manik Bandyopadhyay Sarani  
Tollygunj, Kolkata 700 040

Sub: NIT for Wireless Stores at Office of the Director General of Police,  
Telecommunication, West Bengal, 3 Manik Bandyopadhyay Sarani, Tollygunj, Kolkata 700 040.

Ref:

Sir,

Having examined the pre-qualification & other documents published in the NIT, I/we hereby submit all the necessary information and relevant documents for evaluation:

1. That the application is made by me / us on behalf of .....  
In the capacity of.....duly authorized to submit the offer. The authorization letter from the Company is attached in Annexure II.
2. We accept the terms and conditions as laid down in the NIT mentioned above and declare that we shall abide by it for throughout the tender period.
3. We are offering rate for the following item /items and assured supply to the West Bengal Police Telecommunication, Government of West Bengal as mentioned in Page-1.
4. (a) We propose that the order and bill should be raised in our name. For liaisoning, we have appointed M/s ..... having its office at ..... (Address, Contact No. and e-mail address) as C&F agent /Liaisoner /Contact person/..... Others (strike out whichever is not applicable) as per clause ..... of the NIT  
OR  
(b) We propose that order and bill should be raised in favour of our authorized Distributor. For that purpose, we have appointed M/s ..... having it's office at ..... (Address with contact No. and e-mail Address) as authorized Distributor who will receive order and payment in his name on our behalf.
- (c) The agreement between ourselves and the distributor/C&F/Liaisoner& other documents as prescribed is attached in annexure III.
5. In the event of being selected, supply will be made within the stipulated period excepting the condition which is beyond our control.
6. We understand that:
  - (a) Tender Selection Committee can amend the scope & value of the contract bid under this project.
  - (b) Tender Selection Committee reserves the right to reject any application without assigning any reason.

Date:-

Signature of applicant including title.  
and capacity in which application is made.

Telephone No.:

Mobile No.:

e-Mail Address:

  
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Annexure - II

Authorization letter from Company for authorized signatory.

  
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**Annexure - III**

Copy of agreement signed between tenderer and the distributor etc.

  
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**Annexure - IV**

**Guidelines for Construction Trilon Masts/Pipe Mast.**

SL. No.	Name of the Item	Technical Specification
01	Erection of 40/50 feet Trilon Mast	In addition to the drawing(which was uploaded by the bidders while bidding ) of the Trilon mast /Pipe Mast , following points should be taken into consideration during construction of 40/ 50/60/75 feet Trilon Masts / Pipe Mast ( <b>all Hot- Deep Galvanized Standards of IS 4759,ASTM A123, BS EN ISO 1461</b> ). Welding should not be less than 6 mm size. All materials shall be hot rolled of mild structural steel (Galvanized).All structural steel shall be made by the open hearth or electric furnace process. Structural mild steel shall conform to IS 2062, 1992, ASTM A36 or BS 15.
02	Erection of 60 feet Trilon Mast	<ol style="list-style-type: none"> <li>The design must be ratified by Government empanelled Engineer or Govt. approved agency.</li> <li><b>Foundation:</b> Foundation should be RCC (Reinforced Cement Concrete) M20 grade (1:4:8 ,1 Cement IS 8112 : 4 Coarse sand : 8 graded stone aggregate 40 mm normal size ) of TMT(Thermo Mechanically Treated) steel rods fy 500.The stability of the structure must be ensured in the design of foundation.</li> </ol>
03	Erection of 75 feet Trilon Mast	<ol style="list-style-type: none"> <li>Visible portion of Base foundation of Mast should be at least one feet high above the G.L.</li> <li>Visible portion of angle portion (concrete portion) should be 8 (eight) cm high above G.L.</li> </ol>
04	Erection of 60 feet Pipe Mast	<ol style="list-style-type: none"> <li>Angles should be painted after scraping with emery paper.</li> <li>To avoid water logging in the bottom of mast it should be filled up by lean concrete.</li> <li>Depth for anchoring of Iron Angles by means of Guy Wire should not be , in any case , less than one meter.</li> <li>Earth resistance should be less than 0.5 (point five) Ohm.</li> <li>3 ft length X 16 mm thick Copper Rod for Lightning arrestor with copper strip 6 mm thick running from top of the mast to ground . Earthing Pit :Galvanize Iron Pipe/Rod 5 ft</li> <li>Mast should not be in tilted/torque condition in the basic wind speed should be taken as 180 KMPH .</li> <li>All drawing and Specification offered by the bidders must be of Standard Indian Specification. The structure of all the Trilon Mast should of <b>3(Three) legs with angular frame , L shaped Angel to flat Hot Deep Galvanize:</b> <ol style="list-style-type: none"> <li><b>30X30X6 mm main angel leg &amp; 25x4 mm thickness flat cross member angel for 50 % height of the Tower and</b></li> <li><b>25X25X4 mm main angel leg &amp; 25x4 mm thickness flat cross member angel for rest 50 % height of the Tower .</b></li> </ol> <p>And the <b>Base Plate</b> of the Trilon Mast 400X400X20 mm thickness and leg to leg distance 12 inch &amp; bracing are made of angles also.</p> </li> <li>The structure of <b>Hot deep Galvanize Pipe Mast</b> :- the pipe should be at 100X100X4 mm up to 20 ft from ground ,75X75X4 mm next 20 ft &amp; 65X65X3 mm for top 20 ft , diameter of the pipe is 4 inch /100 mm with 4 mm thickness up to 20 ft , 3 inch / 75 mm diameter and 4mm thickness rest 20 ft &amp; 2.5 inch / 65 mm diameter and 3 mm thickness for top 20 ft <b>with ladder angel 15 inch each is 30 X 30 X 04 mm and 15 inch gap for every stair( 45 N0s for 60 ft) .The joint coupling of the pipe should be 8mm thickness with 4 inch long.</b></li> <li><b>Specification: Guy Rope</b> - 8 mm + 2 mm PVC(Poly Vinyl Chloride) Coating , reputed make, D-Shackle - Galvanized 3 Inch Long x 8 mm Thick, U-Bolt - 30 mm Long x 6 mm Thick, Strainer - 12 Inch Long x 8 mm Thick for both Trilon Mast &amp; Pipe Mast.</li> <li><b>Distance &amp; number of Guy foundation from base of the Tower :</b> <ol style="list-style-type: none"> <li>For40/ 50 ft Trilon Mast Pipe Mast- 15 ft , 09 Nos Guy Ropes</li> <li>For 60 ft Trilon Mast / Pipe Mast -20 ft, 09 Nos Guy Ropes</li> <li>For 75 ft Trilon Mast - 25 ft, 15 Nos Guy Ropes</li> </ol> </li> </ol>

15. For 40/ 50/60/75 feet Trilon Masts / Pipe Mast **Roof Top** Base foundation  
2.5ftX2.5 ft X 3 ft height ; Base Plate 1.5 ft X 1.5 ft X 10mm Thick ,Guy  
foundation 1.5 ft X 1.5 ft X 1.5 ft height

16.For40/ 50/60/75 feet Trilon Masts / Pipe Mast **Ground** Base foundation  
2.5ftX2.5 ft X 5 ft height ; Base Plate 1.5 ft X 1.5 ft X 10mm Thick ,Guy  
foundation 1.5 ft X 1.5 ft X 4.5 ft height

**Annexure - V**  
**Guidelines for Construction of Self Supported Towers (4 Legs**  
**Angular frame Hot Deep Galvanize )**

Sl. No.	Name of the Item	Technical Specification
01	100 ft SS Tower	A) Foundation and Super Structure of Self Supported Tower shall be constructed as per approved drawing and design of foundation and in accordance with IS 456:2000 and other applicable provisions of BIS* (Bureau of Indian standard) code and practices and should be able to with stand 200 km / hour wind speed.
02	120 ft SS Tower	B) Detailed design report containing checks against dead load and 200 km/hour wind load, with drawing must accompany the tender. C) Bidder will give separate bid for foundation and superstructure. D) Tender will be for super structure and Base foundation. E) There will be 2 (two) nos. of bid :(1) Technical Bid (2) Financial Bid.
03	150 ft SS Tower	F) The design must be ratified by Government empanelled Engineer or Govt. approved agency. The details of design for superstructure and foundation are to be mentioned separately <b>with a general direction by the vendor (point wise) for the maintenance of the structure for extension of life period of the Tower.</b>
04	200 ft SS Tower	G) All drawing and Specification offered by the tendered must be of Standard Indian Specification. <b>All materials shall be hot rolled of mild structural steel (Galvanized).All structural steel shall be made by the open hearth or electric furnace process. Structural mild steel shall conform to IS 2062 , 1992, ASTM A36 or BS 15.</b> <b>The main structure of the SS Towers should of 4(Four) legs with L shaped angular frame , X Type Bracing75 % &amp; Y Type rest 25% and thickness of main angles &amp; cross member (all Hot- Deep Galvanized Standards of IS 4759,ASTM A123, BS EN ISO 1461 ) are as follows:</b> <b>i) For100 ft SS Tower Hot Deep Galvanize :</b> a)100X100X8 mm thickness for main leg and 65X65X6 mm thickness for cross member from Base to 25 feet height. b) 90X90X6 mm thickness for main leg and 55X55X6 mm thickness for cross member from 26 ft to 50 feet c) 75X75X6 mm thickness for main leg and 50X50X6 mm thickness for cross member from 51 ft to 75 feet d) 65X65X6 mm thickness for main leg and 45X45X6 mm thickness for cross member from 76 ft to 100 feet.  <b>Foundation bolt : 30 mm X 5 ft Long 16 Nos and each Base Plate is 350X350X25 mm thickness 04 Nos .</b>

  
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**ii) For 120 ft SS Tower Hot Deep Galvanize:**

- a) 130X130X10 mm thickness for main leg and 75X75X8 mm thickness for cross member from Base to 24 feet height.
- b) 110X110X8 mm thickness for main leg and 75X75X8 mm thickness for cross member from 25 ft to 48 feet
- c) 100X100X6 mm thickness for main leg and 65X65X8 mm thickness for cross member from 49 ft to 72 feet
- d) 90X90X6 mm thickness for main leg and 50X50X8 mm thickness for cross member from 73 ft to 96 feet
- e) 75X75X6 mm thickness for main leg and 50X50X8 mm thickness for cross member from 97 ft to 108 feet
- f) 65X65X5 mm thickness for main leg and 45X45X6 mm thickness for cross member from 109 ft to 120 feet

**Foundation bolt :** 30 mm X 5 ft Long 16 Nos and each **Base Plate** is 400X400X25 mm thickness 04 Nos .

**iii) For 150 ft SS Tower Hot Deep Galvanize :**

- a) 150X150X12 mm thickness for main leg and 90X90X8 mm thickness for cross member from Base to 40 feet height.
- b) 130X130X10 mm thickness for main leg and 75X75X8 mm thickness for cross member from 41 ft to 65 feet
- c) 110X110X8 mm thickness for main leg and 75X75X8 mm thickness for cross member from 66 ft to 90 feet
- d) 100X100X6 mm thickness for main leg and 65X65X8 mm thickness for cross member from 91 ft to 115 feet
- e) 90X90X6 mm thickness for main leg and 50X50X8 mm thickness for cross member from 116 ft to 140 feet
- f) 75X75X6 mm thickness for main leg and 45X45X6 mm thickness for cross member from 141 ft to 150 feet

**Foundation bolt :** 30 mm X 5 ft Long 16 Nos and each **Base Plate** is 450X450X25 mm thickness 04 Nos .

**Ladder for 100/120/150 ft SS Tower 55 X 55 X 6 mm** thickness of the side of the ladder angel & 16 mm Rod for stair case and width shall be 400 mm and spacing between rungs shall be 300mm.

**iv) For 200 ft SS Tower Hot Deep Galvanize :**

- a) 175X175X12 mm thickness for main leg and 110X110X10 mm thickness for cross member from Base to 40 feet height.
- b) 150X150X10 mm thickness for main leg and 100X100X10 mm thickness for cross member from 41 ft to 80 feet
- c) 130X130X10 mm thickness for main leg and 90X90X8 mm thickness for cross member from 81 ft to 120 feet
- d) 110X110X8 mm thickness for main leg and 75X75X8 mm thickness for cross member from 121 ft to 160 feet
- e) 100X100X8 mm thickness for main leg and 65X65X8 mm thickness for cross member from 161 ft to 200 feet

**Foundation bolt :** 35 mm X 6 ft Long 16 Nos and each **Base Plate** is 550 X 550 X 40 mm thickness 04 Nos .

**V) For 250 ft SS Tower Hot Deep Galvanize :**

- a) 175X175X12 mm thickness for main leg and 110X110X10 mm thickness for cross member from Base to 40 feet height.
- b) 150X150X10 mm thickness for main leg and 100X100X10 mm thickness for cross member from 41 ft to 80 feet
- c) 130X130X10 mm thickness for main leg and 90X90X8 mm thickness for cross member from 81ft to 120 feet
- d) 110X110X8 mm thickness for main leg and 75X75X8 mm thickness for cross member from 121 ft to 160 feet
- e) 100X100X8 mm thickness for main leg and 65X65X8 mm thickness for cross member from 161ft to 200 feet
- f) 90X90X6 mm thickness for main leg and 55X55X8 mm thickness for cross member from 201 ft to 225 feet
- g) 75X75X6 mm thickness for main leg and 50X50X8 mm thickness for cross member from 225 ft to 240 feet
- h) 65X65X6 mm thickness for main leg and 45X45X6 mm thickness for cross member from 241 ft to 250 feet

**Foundation bolt :** 35 mm X 6 ft Long 16 Nos and each **Base Plate** is 550 X 550 X 40 mm thickness 04 Nos .

**Ladder for 200/ 250 ft SS Tower 55 X 55 X 8 mm** thickness of the side of the ladder angel & 20 mm Rod for stair case and width shall be 400 mm and spacing between rungs shall be 300mm.

- H) There should be compatibility with the underground soil and foundation structure.
- I) The Self Supported Tower (SS) should be capable of accommodating **Rest & Work Platforms and Antenna Brackets**. and **3 ft length Copper Rod Lightning arrestor** with, copper strip running from top of the Tower / Mast ground , 03 (three) / 04 (four) nos. VHF static aerial installation with **Galvanized Bracket/Hanger/Rod** also.
- J) The design produced by the bidder must be approved by the Technical committee and the committee will have the authority to modify, if necessary, which shall be binding on the bidder.
- K) All rolled sections, bolts, nuts, round and steel and for fabrication and erection of towers must be standard Indian Specification & Welding should not be less than 6 mm size .  
Materials (Steel, Cement, Bricks, Bars etc) required for the construction of the tower will be arranged by the selected bidder. Foundation should be RCC (Reinforced Cement Concrete) with M20 grade concrete and reinforcement of TMT (Thermo Mechanically Treated) steel rods fy 500. RCC (1:4:8 ; 1 Cement IS 8112 : 4 Coarse sand : 8 graded stone aggregate 40 mm normal size )The stability of the structure must be ensured in the design of foundation.
- L) Bracket, Clamps etc. will be supplied by the selected tendered in c/w installation of the 03 / 04 Nos of aerials also .
- M) Earthing :-3 ft length X 16 mm thick copper Rod for Lightning arrestor .The Tower body shall be connected to ground ,following the standard practice of earthing with copper plate of size 600 X 600 X 5 mm and copper strip (25 X 3 mm). The copper strip should be connected to the ground from top of the Tower.
- N) Installation of aviation lamp on tower will be borne by the bidder. Bracket, Clamps, Aviation Lamp, 2 (two) core High Gauge Wire with PVC (Poly Vinyl Chloride) Pipe etc. will be supplied by the selected bidder with 01 year warrantee .
- O) The work should be completed within 45 days from the date of issue of work order. The Authority of West Bengal Police Telecommunication reserves the right for extension of the time against written prayer with sufficient and tenable reason to be submitted at least 10 days prior to the expiry of completion of work otherwise penalty will be imposed @ 1% (One percent) from the date for the each day of delay occurred .

**Guidelines for Construction of HOT DEEP GALVANIZE MONO POLE TOWER.**

SL. No.	Name of the Item	Technical Specification
01	60 feet Mono Pole Tower	<p>In addition to the accepted drawing (which was uploaded ) of the Mono Pole Tower the following points should be taken into consideration during construction of 60 feet Mono pole Tower ( all Hot- Deep Galvanized Standards of IS 4759,ASTM A123, BS EN ISO 1461). All materials shall be hot rolled of mild structural steel (Galvanized).All structural steel shall be made by the open hearth or electric furnace process. Structural mild steel shall conform to IS 2062 , 1992, ASTM A36 or BS 15.</p> <ol style="list-style-type: none"> <li>1) The design must be ratified by Government empanelled Engineer or Govt. approved agency.</li> <li>2) <b>Foundation:</b> Foundation should be RCC (Reinforced cement concrete) with M20 grade concrete and reinforcement of <b>TMT (Thermo mechanically treated) steel rods fy 500/ 550D</b> . RCC (1:4:8 ,1 Cement IS 8112 : 4 Coarse sand : 8 graded stone aggregate 40 mm normal size )The stability of the structure must be ensured in the design of foundation.</li> <li>3) Visible portion of Base foundation of Tower should be at least one feet high above the Ground Level.</li> <li>4) To avoid water logging in the bottom of Tower it should be filled up by lean concrete.</li> <li>5) Earth resistance should be less than 0.5 (point five) Ohm.</li> <li>6) 5 ft length Lightening arrestor with insulation, copper strip of size 25mm X 3mm with PVC(Poly Vinyl Chloride) insulation running from top of the mast to ground.</li> <li>7) Tower should not be in tilted/torque condition in the basic wind speed should be taken as 180KMPH.</li> <li>8) All drawing and Specification offered by the bidders must be of Standard Indian Specification. The structure of all item of Mono Pole Tower should be <b>Hot Deep Galvanize &amp; Welding</b> should not be less than 6 mm size ..</li> <li>9) <b>Technical Specification:</b> <ol style="list-style-type: none"> <li>i) The pole will be fabricated MS pipe from bottom section are 193.7mm OD(outside diameter) pipe ' C ' class type up to 6mtr with 350mm x 350mm x 20mm thick base plate. Base plate welded with pipe by stiffeners joint then 165.1mm OD(outside diameter) pipe 'B' class type up to 6 mtr then after 139.7mm OD (outside diameter) pipe 'A' type 6mtr complete height 60ft. <b>with cap at the top of the tower for protection of rain water.</b></li> <li>ii) .The pole members are jointed together by 275mm dia x 16mm thick , 245mm dia x 16mm thick, &amp; 219mm dia x16mm thick welded by flange of suitable size with nut bolt &amp; spring washer.</li> <li>iii) Ladder made of 16mm dia plain round rod to welded on the pipe U shape.</li> <li>iv) Base plate hole 22mm dia x 8nos.</li> <li>v) Flange hole 18mm dia x 6 nos.</li> <li>vi) Foundation bolt 600mm long x 20mm dia x 8 nos.</li> <li>vii) Nut bolt &amp; spring washer 16mm x 55mm long Pipe IS : IS 1239 &amp; 3589 , Plate IS : 2062 , Round plain rod IS : 2062 , Nut bolt 4.6 grade.</li> </ol> </li> </ol> <p>NOTE : ALL SECTION MADE OF 3 MTR LENGTH &amp; WIND SPEED SHOULD BE TAKEN AS 180 KMPH</p>

  
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**Guidelines for Construction of Self Supported Towers (3 Legs Pipe to angel Hot Deep Galvanize )**

Sl. No	Name of the Item	Technical Specification
01	40 ft SS Tower (03 Legs)	<p>A) Foundation and Super Structure of Self Supported Tower shall be constructed as per approved drawing and design of foundation and in accordance with IS 456:2000 and other applicable provisions of BIS(Bureau of Indian standard) code and practices and should be able to with stand 200 km / Hour wind speed.</p> <p>B) Detailed design report containing checks against dead load and 200 km/hour wind load, with drawing must accompany the tender.</p> <p>C) Bidder will give separate bid for foundation and superstructure.</p> <p>D) Tender will be for super structure and Base foundation.</p>
02	60 ft SS Tower (03 Legs)	<p>E) There will be 2 (two) nos. of bid :(1) Technical Bid (2) Financial Bid.</p> <p>F) The design must be ratified by Government empanelled Engineer or Govt. approved agency. The details of design for superstructure and foundation are to be mentioned separately <b>with a general direction by the vendor (point wise) for the maintenance of the structure for extension of life period of the Tower.</b></p>
03	75 ft SS Tower (03 Legs)	<p>G) All drawing and Specification offered by the tendered must be of Standard Indian Specification. <b>All materials shall be hot rolled of mild structural steel (Galvanized).All structural steel shall be made by the open hearth or electric furnace process. Structural mild steel shall conform to IS 2062 , 1992, ASTM A36 or BS 15.</b></p>
		<p><b>The main structure of the SS Towers should of 3(Three) legs Pipe to angel (L shaped) and thickness of main Pipe &amp; cross member / Bracing are made of angles ( all Hot- Deep Galvanized Standards of IS 4759,ASTM A123, BS EN ISO 1461 ) are as follows:</b></p> <p><b>i) For 40/60 ft SS Tower ( 3 Legs Pipe to angel ) Hot Deep Galvanize :</b></p> <p>a) 50X50X4 mm thickness for main leg Pipe and 30X30X4 mm thickness for cross member angel from Base to 20 feet height.</p> <p>b) 40X40X4 mm thickness for main leg Pipe and 25X25X4 mm thickness for cross member angel from 21ft to 40 feet</p> <p>c) 30X30X3 mm thickness for main leg Pipe and 25X35X3 mm thickness for cross member angel from 41ft to 60 feet</p> <p><b>Foundation bolt : 20 mm X 5 ft Long 12 Nos and each Base Plate is 250X250X16 mm thickness 03 Nos Joint Plate is 6 inch dia 8mm thickness.</b></p> <p><b>ii) For 75 ft SS Tower ( 3 Legs Pipe to angel ) Hot Deep Galvanize :</b></p> <p>a) 65X65X4 mm thickness for main leg Pipe and 40X40X4 mm thickness for cross member angel from Base to 20 feet height.</p> <p>b) 50X50X4 mm thickness for main leg Pipe and 30X30X4 mm thickness for cross member angel from 21 to 40 feet height.</p> <p>c) 40X40X4 mm thickness for main leg Pipe and 25X25X4 mm thickness for cross member angel from 41ft to 60 feet</p> <p>d) 30X30X3 mm thickness for main leg Pipe and 25X35X3 mm thickness for cross member angel from 61ft to 75 feet</p> <p><b>Foundation bolt : 20 mm X 5 ft Long 12 Nos and each Base Plate is 30X30X16 mm thickness 03 Nos Joint Plate is 6 inch dia 8mm thickness .</b></p>

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W) There should be compatibility with the underground soil and foundation structure.

X) The Self Supported Tower (SS) should be and **3 ft length X 16 mm thick Copper Rod Lightning arrestor** with, copper strip(25 X 3 mm). running from top of the Tower / Mast ground , 03 (three) / 04 (four) nos. VHF static aerial installation with **Galvanized Bracket/Hanger/Rod** also.

J) The design produced by the bidder must be approved by the Technical committee and the committee will have the authority to modify, if necessary, which shall be binding on the bidder.

K) All rolled sections, bolts, nuts, round and steel and for fabrication and erection of towers must be standard Indian Specification & Welding should not be less than 6 mm size . Materials (Steel, Cement, Bricks, Bars etc) required for the construction of the tower will be arranged by the selected bidder. Foundation should be RCC(Reinforced cement concrete) with M20 grade concrete and reinforcement of TMT(Thermo mechanically treated) steel rods fy 500 /550D. RCC (1:4:8 ,1 Cement IS 8112 : 4 Coarse sand : 8 graded stone aggregate 40 mm normal size )The stability of the structure must be ensured in the design of foundation.

L) Bracket, Clamps etc. will be supplied by the selected tendered in c/w installation of the 03 / 04 Nos of aerials also.

Y) Earthing :-3 ft length X 16 mm thick copper Rod for Lightning arrestor .The Tower body shall be connected to ground ,following the standard practice of earthing with copper plate of size 600 X 600 X 5 mm and copper strip (25 X 3 mm). The copper strip should be connected to the ground from top of the Tower.

The work should be completed within 45 days from the date of issue of work order. The Authority of West Bengal Police Telecommunication reserves the right for extension of the time against written prayer with sufficient and tenable reason to be submitted at least 10 days prior to the expiry of completion of work otherwise penalty will be imposed @ 1% (One percent) from the date for the each day of delay occurred

**Remarks : Assurance for quality of material is required in the Warranty period for Trilon Mast/Pipe Mast = 02(Two ) Years , Self Supported Towers (3 Legs ) / Mono Pole Towers= 02(Two ) Years and Self Supported Towers (4 Legs) = 03(Three) Years . During the above mentioned period, if the specific model is found damaged / found faulty, selected bidder / manufacturer will repair the same without any further cost .**

  
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