# INDIAN INSTITUTE OF ASTROPHYSICS 2<sup>nd</sup> BLOCK, KORAMANGALA, SARJAPUR ROAD, BANGALORE – 560034.

### **TENDER DOCUMENT**

Name of the Work: CONSTRUCTION OF TELESCOPE PIER AND THE ENCLOSURE FOR 1.3 m TELESCOPE AT V.B.O., INDIAN INSTITUTE OF ASTROPHYSICS, KAVALUR.

Tender Notice No:01 / IIA/CIVIL/1.3 MTR/2010-11

INDIAN INSTITUTE OF ASTROPHYSICS

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#### INDIAN INSTITUTE OF ASTROPHYSICS

#### 2nd BLOCK, KORAMANGALA, SARJAPUR ROAD, BANGALORE-560 034

#### PUBLIC TENDER NOTICE NO: 01 / IIA/CIVIL/1.3 MTR/2010-11

#### **DATED:24-05-2010** (TWO BID SYSTEM)

The Indian Institute of Astrophysics invites sealed item rate tenders on behalf of The Director in "Two part" in the prescribed form from reputed registered Contractors in state PWD, CPWD, MES, Scientific Institutions and Private Body Competent contractors who have executed works of similar nature.

Sl.	Name of the work	Estimated	Time for	EMD	Cost of
No		cost in Rs.	completion	Rs.	tender doc
					Rs.
	Construction of				
1.	Telescope pier and the enclosure for 1.3 m telescope at V.B.O., Indian Institute of Astrophysics, Kavalur.	35 Lakhs	6 Months	1,00,000.00	1000.00

The Tender Document can be viewed and downloaded from our website *www.iiap.res.in/tenders.htm*. Interested tenderers may at their option down load the same from our website (as "NO" hard copies of Tender document is/are provided from this office) and submit their offers along with EMD (refundable) & Tender fee (non-refundable) prescribed therein, only in the form of Demand Draft drawn in favour of Director, Indian Institute of Astrophysics. However, your offers (both Technical & Commercial/price bids) should be separately sealed and superscribed by mentioning the tender notice no., and date with Date of opening. Both the Bids shall be submitted in a sealed envelope addressed in favour of The Director, Indian Institute of Astrophysics, Koramangala Bangalore – 560 034.

The offers should be submitted in two sealed covers one superscribed "Technical Bid" and other "Price Bid". Both covers shall be put in another sealed cover superscribing the envelope with "Tender for, Construction of Telescope pier and the enclosure for 1.3 m telescope at V.B.O., Indian Institute of Astrophysics, Kavalur, Notice No. and due date". The last date of submission of bid is 17-06-2010 on or before 3:00 pm. The Technical bid will be opened at 3.30 pm. on the same day in the presence of attending tenderers or their authorized representatives.

After opening of Technical bid, the capability and suitability of the bidders shall be evaluated and Price bid of the qualified bidders shall only be opened in the presence of the attending bidders. The date of opening of Price bid will be informed to the qualified bidders. The unopened price bids and EMD of the non qualified bidders will be returned.

#### Following are the Qualifying Criteria:

1) Should have completed at least one work costing not less than Rs.35 lakhs during pervious 3 years for Government / Semi Government/Reputed corporate clients.

Or

Three similar works each costing not less than Rs 10 lakhs including Civil & Electrical, during pervious three years for Government / Semi Government/Reputed corporate clients.

The intending Bidders shall furnish the relevant experience certificates duly signed by the competent Authority not less than the rank of Executive Engineer.

2) The tenderers should submit latest three years Audited Balance Sheet duly certified by the Chartered Accountant. And also the latest TDS Certificate indicating the Income Tax deducted by the client for the execution of similar works.

The Director, IIA reserves the right to accept or reject any or all tenders without assigning any reason thereof.

Administrative Officer For Director

#### 3. INSTRUCTIONS TO THE TENDERERS

- 1. The tenderers should submit the entire documents (Technical bid and Price Bid) with all the pages of document duly signed and stamped.
- 2. The Offers should be submitted in two sealed covers one superscribed "Technical Bid" and other "Price Bid". Both covers shall be put in another sealed cover superscribing the envelope with "Tender for Construction of Telescope pier and the enclosure for 1.3 m telescope at V.B.O., Indian Institute of Astrophysics, Kavalur. Notice No. and due date".
- 3. If any clarification is required should be obtained before filling Tender Document. The tenderer shall read the document carefully and visit the site, if necessary, for understanding the site conditions, availability of materials, labour, water, electricity etc., before quoting the rates.
- 4. If any discrepancy is there between figures and words for quoted rates, the lower of the two will be considered for the purpose of evaluation.
- 5. The tenderers who do not fulfill all or any of the tender conditions or if the tender is Incomplete in any respect, will be summarily rejected.
- 6. The Institute is not bound to accept the lowest tender.
- 7. Even though the Tenderers meet the above criteria, they are subject to be disqualified if they have (The Institute reserves the right to verify the particulars furnished by the tenderers.)
  - Made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirement, Conditional bid / proposal: and / or
  - Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.
- 8. Any effort by the contractor to influence the client in the bid evaluation, bid comparison or contract award decision results in rejection of the contractors bid.
- 9. Incomplete Technical Bids are liable for rejection. Commercial/price bids will be Considered for opening only for the Qualified Technical Bidders, which are recommended by the Technical evaluation committees being constituted for the purpose.
- 10. Late & / delayed offer will not be considered at all.
- 11. IIA is not responsible for any delay / loss of documents in transit. whatsoever the reason may be.

- 12. No bids will be considered if prescribed Tender Fee and EMD is not found with Technical bids (Part I).
- 13. All overwriting and corrections shall be duly attested.
- 14. Corrigendums / modifications / corrections, if any, will be published in the website only. All the tenderers shall visit the Institute Website before submission of bids for updated informations of the tender. All such documents shall be read carefully and quote the rates accordingly. Those documents shall be singed & stamped and attach with the tender at the time of submission which will become a part of tender document.
- 15. The Director, Indian Institute of Astrophysics reserves the right to accept or reject the tenders in full or part without assigning any reason thereof.
- 16. Performance certificates of the completed works issued by the clients to be enclosed in the technical bid.
- 17. The committee constituted by the Director may inspect the previously completed or the ongoing works of the bidders to asses their technical suitability for the tendered work.
- 18. All the pages of the tender document to be signed by the contractor and submit them in the respective sealed covers.

#### INDIAN INSTITUTE OF ASTROPHYSICS 2<sup>nd</sup> BLOCK, KORAMANGALA, SARJAPUR ROAD, BANGALORE – 560034.

## TECHNICAL BID

Name of the Work: CONSTRUCTION OF TELESCOPE PIER AND THE ENCLOSURE FOR 1.3 m TELESCOPE AT V.B.O ,INDIAN INSTITUTE OF ASTROPHYSICS, KAVALUR.

Tender Notice No:01 / IIA/CIVIL/1.3 MTR/2010-11

The Firm:		
Address:		
Phone No:		
Last Date for S	Submission: <b>17-06-2010 up t</b>	o 3:00 PM.

## FORMAT FOR SUBMISSION OF TECHNICAL & ORGANISATIONAL DETAILS.

NAME OF T	HE FIRM :						
1. OFFICE SE	1. OFFICE SET UP OF THE FIRM						
1.1	Office Address :						
1.2	Year of Establishment: Proprietary /partnership firm If partnership, pl provide coppower of attorney	y of					
1.3	Contact Person with Designation	Shri Ph No Fax No E-mail.					
1.4	Details of registration if any:						
1.5	Organizational setup of the fit Total staff strength both Tech and Administration with their qualification and experience	nical					

#### 1.5.1 Details of the staff as per the following format.

Sl. No	Profession/discipline	Name	Age	Qualification	Experience	Field of
					(total years)	experience
	Civil					

#### 2 <u>TENDERER'S EXPERIENCE</u>

Details of Works carried out and on hand during last five years with details such as name of work, year of completion, client name and address, cost of work, time period of construction, nature of work, etc., (It shall enclose a certificate from the owner that the service rendered by the firm has been satisfactory)

Sl. No	Name & description of work	Value work date.	of and	Period of construction and date.	Client persons to whom reference may be made.

#### 3. TOOLS AND EQUIPMENT LIST

The tenderer shall indicate herein below the equipment the firm has in possession and the equipment the firm proposes to bring to the site, in case the work is awarded to him.

Sl. No	Type and Description of the equipment.	Numbers the bidder has in possession	Numbers the firm proposes to bring on to site

Tenderers hereby confirms that the quantity and type of tools the firm will employ for construction will not be less than those listed above and agree to bring more equipment if so warranted in the opinion of the Engineer-in-charge.

4.	FINA	NCIAL	
	Bank	Name:	
		Branch:	
		Account No.:	
	Avera	ge Annual Turnover for last 5	Years:
6.	INSURAI	NCE	
	Accid	ent Insurance Insured with:	
		Policy No.:	
7.	Detail	s of Arbitration cases	:
8.	intima	ther detail you would like to tee in support of your technical pointment	bid :
9.	PAN,	VAT, Service Tax regn. No.	
a:			
_		he authorized eal of the firm	
	ote: Attach ufficient)	separate sheet for furnishing in	nformation in case the space in the format is

### INDIAN INSTITUTE OF ASTROPHYSICS 2nd BLOCK, KORAMANGALA, SARJAPUR ROAD BANGALORE – 560034

## PRICE BID

Name of the Work: CONSTRUCTION OF TELESCOPE PIER AND THE ENCLOSURE FOR 1.3 m TELESCOPE AT V.B.O., INDIAN INSTITUTE OF ASTROPHYSICS, KAVALUR.

#### Tender Notice No:01 / IIA/CIVIL/1.3 MTR/2010-11

Name of The Firm:		
Address:		
Phone No:		
Last Date for	Submission: <b>17-06-2010 up to 3:00 PN</b>	1.

#### TENDER FOR THE "CONSTRUCTION OF TELESCOPE PIER AND THE ENCLOSURE FOR 1.3 m TELESCOPE AT V.B.O, INDIAN INSTITUTE OF ASTROPHYSICS, KAVALUR".

#### **Conditions of contract.**

Sealed item rate tenders are invited by Indian institute of Astrophysics for the above mentioned work

Estimated cost : Rs.35 Lakhs (Rupees Thirty five lakhs

Only)

Time of completion : SIX Months.

Period of commencement : 7 days from the date of receipt of work

order

Percentage of retention money: : Total 7%

> shall be released as under (i)(50% on completion of works and along the final bill (ii) Balance 50% less recovery, if any towards the cost of defects rectified by employer due to lack of response of the contractor on completion of defects liability period and on certification by the Engineer –

in-Charge.

Defects liability period : 12 Months.

Amount of liquidated damage : 1%(one percent) per week subjected to the

maximum of 10% of the value of contract.

Escalation : In view of the short duration of the

contract, no escalation will be paid to the contractor on account of changes in the market prices of any items of work or

changes in the cost of living indices etc.

#### 1. Scope of Work

Civil works for the ground floor of the Enclosure building as per the drawings noted below.

1) R.C.C. pier as per the drawings noted below

Drawing. No. 33603-50006: Pier Layout

Drawing. No 33603-500031: Pier

Drawing. No. 33601-500033 Sh 1 to 3: Pier – RCC Details

2) Ground Floor – Control Room

Drawing. No. 33601-40005 Sh 1 & 2: Ground Floor – Architectural Views

Drawing. No 33603-400032: Ground Floor - Columns

Drawing. No. 33601-400034: Ground Floor – Beams at 0.5 m

Drawing. No. 33601-400035: Ground Floor – Beams at 3.5 m

Drawing. No. 33601-400036: Ground Floor – Lift Pit/Columns

Drawing No. 33613-400037: Insert Plates

Scope of work includes the following works:

Mobilization of Men, Material & Machinery

Site Clearance

Excavation

PCC Bed

Centering & Shuttering

Reinforcement

Concreting (PCC & RCC)

Backfilling

Masonry work

Plinth protection

Doors & Windows

Plastering & Finishing

Flooring

Water proofing for roof, Painting

#### 2. Site

Postal Address Vainu Bappu Observatory

Kavalur, Alangayam – 635704

Tamilnadu

Phone: 04174 203014-15,16

Nearest Railway Station Vaniyambadi (Bangalore – Chennai route)

Road Distance about 180 Km from Bangalore

30 km from Vaniyambadi

Altitude 800 MSLAmbient temperature  $10^0 \text{ to } 40^0 \text{ C}$ 

Climate mild tropical but generally dry

Latitude  $12^{0}35$ 'N Longitude  $78^{0}37$ 'E

Before tendering, the bidders are advised to inspect the site of the work with prior intimation of the O/c VBO and its environments and be well acquainted with the actual working and other prevalent conditions, availability of materials and labour, condition of road, availability of road for transport of materials, mode of carriage, lead involved for carriage of construction materials, availability of water, electricity etc., to meet general and technical conditions of contract.

#### 3. Technical Specifications

All the works shall be done strictly as per drawings and specifications. No deviation shall be permitted except under written orders of the Engineer-in-charge.

Drawing and specifications and all other documents, which form part of the agreement to be entered into should be carefully studied. IIA shall not accept any claims at a future date for any eventuality arising during the execution of work.

All works should be executed as per relevant IS specifications that are current at the time of execution of work.

PCC should be of M15 Grade. RCC should be of M40 & M30 as per IS:456-2000. Reinforcement should be of HYSD bars of Fe 415 Grade steel as per IS:1786.

The clear cover for the main reinforcement shall be as per IS:456-2000. (Slabs – 20mm, Columns – 40mm, Beams – 35mm, Footings – 50mm)

Curing shall be done for a minimum period of 28 days.

Back filling soil to be well compacted to achieve sp.gravity of 180kN/cum.

The bidder is expected to have good experience in the work detailed under this tender and be sure of:

- a. Completing the work as per schedule given.
- b. Provide adequate labour and other resources to do the work with requisite equality, speed and efficiency.
- c. Provide adequate supervision for works by qualified persons.
- d. Provide adequate plant and machinery.

The bidder shall have to satisfy the Authorized Signatory of his ability to provide the above through out the progress of the work.

The work shall be carried out as per the specifications of the items mentioned in the bill of quantities. The work procedure shall be as per the standard guidelines prescribed by the CPWD and Indian Standard Code of Practice.

#### 4. Schedule of Completion

Period of Completion: The work must be completed within a period of **6 months** from the date of issue of Order. Time is the essence of contract. The construction schedule for the works must be planned and should be executed in proper sequence.

Bidder shall submit a schedule of execution of works listing date of commencement and completion for all major activities starting from mobilization of material, machinery and labour, site clearance to the completion of all works.

#### 5. Inspection

Supplier shall satisfy the purchaser or his designated representative, Engineer-incharge, for the execution of works to the specifications and the drawings.

All the materials covered in the work shall be subjected to inspection and testing by Engineer-in-charge. The Engineer-in-charge will have over all authority during execution of work and will exercise control on quality of material, management of site and execution of works as per specifications and drawings.

No sub standard work will be accepted and in fructuous work shall be accepted and paid. All cement and steel will be of tested quality as per relevant standards. For steel, contractor should produce the test certificate from the producers. Samples of cement, steel and other materials brought to site will be required to be tested in standard laboratories.

In the course of concreting works standard cubes will be cast out of concrete at the rate of minimum of 6 cubes per day work and will be subjected to test for 7 and 28 days strength in the standard institutions under the supervision of IIA representative. In the event of not conforming to the required strength as a result of test on cubes, the work thus carried out will be automatically demolished and redone at the cost of the contractor. The cost of tests will be borne by the contractor.

All other tests required as per specifications mentioned in general conditions of contract will be carried out on the advice of Engineer-in-charge.

#### 6. Payment

Payment to the contractor for work done by him shall be paid based on measurements duly certified by Engineer-in-charge. The final bill should be invariably accompanying the No claim – No due certificate from the contractor and Certificate of handing over and taking over of the completed work from the contractor and the Engineer-in-charge.

Maintenance period is reckoned for a period of 6 months from the date the works are handed over by the contractor.

All payments of bills will be made to contractor through crossed cheque marked "A/c payee only".

No extra cost shall be payable to the contractor on account of escalation of price in respect of raw materials or labour charges whatsoever, during the execution of contract.

No compensation for idle period either for labour or equipments shall be payable by IIA on any account.

#### 7. Rates

Rates quoted in the schedule shall be inclusive of all freights, taxes such as excise, sales tax, General sales tax, Octroi, Royalties, works contract tax etc., and also transport of materials, plants, machineries, labour accommodation, sanitation etc., and all sundries so as to execute the contract as per rules and regulation of local bodies, state government and the Government of India.

#### 8. Changes

The Authorized Signatory shall have the power to make any alteration in or substitutions for original specifications, drawings, design and instructions that may appear to him to be necessary during the progress of the work and such alteration, omission, additions and substitutions shall not invalidate the contract.

#### 9. Material and Supply

The contractor at his own expense shall supply all stores and materials as specified and required for the work of the contract. The contractor at his own expense shall provide all necessary tools, plant and equipment required for the execution of the work.

The contractor, shall not without the prior written approval of the Authorized Signatory assign or transfer the contract or any part there of or any share or interest therein to any other person.

The contractor has to produce the sample materials (minimum three types of samples) for approval of material. The approval materials shall be supplied at site for construction. Any variation from the approved material will be rejected. The one sample material of all the approved items shall be kept at site for verification as and when required.

#### 10. Validity

The tender shall remain valid for three months from the date of opening of tenders for acceptance, within which period the bidder cannot withdraw his offer. The period may extend further if required by mutual agreement from time to time.

#### 11. Liquidated Damages

In the event of failure to complete the work within the specified period, the contractor is liable to pay LD at the rate of 1% per week of delay subjected to a maximum of 10% of the value of contract work. In the unlikely event of any delay from IIA, suitable extension of delivery period will be granted.

#### 12. Earnest Money

Every tender shall be accompanied by a demand draft or bank guarantee for the value of Earnest Money Deposit drawn on any nationalized bank in favour of Director, Indian Institute of Astrophysics payable at Bengaluru.

This earnest money will be refunded to the unsuccessful bidder after the award of work is finalized. In the case of successful bidder, the earnest money will be retained as part of the security deposit and will be refunded only after completion of the work and on expiry of the maintenance period which will be reckoned as six months, from the date of officially handing over of the work by the contractor.

The earnest money is liable to be forfeited in case the Authorized Signatory feels that the tender is not bonafied or the bidder modifies or revokes the tender during the period the tenders are kept open. The decision of the Authorized Signatory as to whether a tender is a bonafied or not shall be final, conclusive and binding on the bidder.

The earnest money deposit paid by the bidder at the time of tendering shall be forfeited by IIA without prejudice to any other right or remedy available to the IIA under this tender under the following cases:

- a. If the bidder withdraws his offer after submission of his tender and before acceptance / rejection of his tender by IIA
- b. If the bidder after the communication of acceptance of his tender fails to start the work within a reasonable time in accordance with the instructions of the Engineer-in-charge.
- c. If the bidder fails to execute the agreement within a reasonable time.

#### 13. Security Deposit

The person / persons whose tender may be accepted (hereinafter) called the contractor shall have to pay a total security deposit of 7% (seven percent) of the value of the contract which shall be payable by the contractor(s) as under:

An amount equal in 2% (two percent) of the value of the contract before signing of the agreement. The amount of earnest money submitted by the contractor shall be adjusted against this portion of the security deposit. Balance shall be paid by him after acceptance of his tender and before signing the agreement.

An amount equal to 5% (five percent) of the value of the contract shall be recovered from each running bill at the rate of 5% (five percent) of the value of work done and billed.

The contractor may be required to pay full amount of security deposit at the time of signing the agreement if so desired by the Authorized Signatory and advised to the contractor to this effect in writing before signing the agreement.

IIA will consider acceptance of Bank Guarantee towards the Security Deposit. The bank guarantee shall be for the full value of the security deposit (7% of the total value of the contract) and shall be valid for a minimum period of eighteen months from the date of signing the contract by the contractor. The Bank Guarantee shall be in the approved form and shall be issued by any Scheduled Bank /nationalised

All compensation and liquidated damages or other sums of money payable by the contractor under the terms of this contract may be deducted by IIA from the Security Deposit or any sum, which may be due to or may become due to the contractor, or from any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions as aforesaid, the contractor shall within 10 days make good in cash or guarantee bonds executed in favour of IIA or Fixed Deposit receipts tendered by the any Scheduled Banks (in the case of guarantee offered by scheduled banks the amount shall be within the financial limits prescribed by the Reserve Bank of India) or by Government Securities (if deposited for more than 12 months) endorsed in favour of IIA. The amount of Security Deposit will remain with the IIA till the work is satisfactorily completed and maintained. IIA will not be liable to pay any interest on amount of Security Deposit thus held.

#### 14. Disputes

Any dispute and difference of any kind whatsoever arising out of the contract will be subjected to exclusive jurisdiction of court at Bengaluru.

#### 15. Rates and Quantities

Bidder must quote self-supporting composite rate for every item. Quantities shown in schedule are only approximate and are liable for variation. IIA reserves the right to increase or decrease the quantities in any / all items in any proportion and no

claims shall be entertained for escalation in rate for any / all items on the grounds of increase or decrease in the schedule of quantities given in schedule.

Bidder shall obtain clear-cut clarification if in doubt about any specification or item or any details not understood before tendering. In case any clarification is sought at a later date by bidder, decision given by Authorized Signatory on the subject shall be final, binding and conclusive.

Unit rate / composite rate(s) should be quoted in figures as well as in words against each item or for all items as shown in the schedule of work and rates. These rates shall be for the finished work at site.

Any error in description, quantity or rates in schedule or any omission there from shall not vitiate the contractor or release the contractor from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract. Any error in quantity and or amount in schedule shall be adjusted in accordance with the following rules.

In case the rates in words and figures differ, the rates, which correspond to the amount worked out by the bidder, shall be taken as correct. In case the amount of an item is not worked out by the bidder and the rate written either in figures or in words differs, then the lower of the two rates will be taken as correct.

In the event of error occurring in the amount of column of schedules as a result of wrong extension of unit rate and quantity, the unit rate quoted by bidder shall be regarded, as firm and the extension shall be amended on the basis of the rate quoted by the bidder.

All errors in totaling in the amount column and in carrying forward totals shall be corrected. Any omission to include in the total or to carry forward the prime cost sums and / or provisional sums shall be corrected.

The totals of various items of schedule if any as amended above shall be carried over to the general summary and the bidder sum amended accordingly. The tendered sum so altered shall for the purpose of the tender be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the bidder.

In quoting rates, the bidders are advised to take into account all factors including any fluctuations in the market rates, insurance against all risks etc. No claims will be entertained on this account after acceptance of the tender or during the currency of the contract.

Conditional and tenders containing freak rates and amounts, tenders that are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions laid down by Authorized Signatory are liable to be rejected.

The IIA reserves the right to reject any or all tenders received or accept any tender or part thereof without assigning any reason whatsoever. In case of acceptance of part of the tender, the time for completion may also be reduced to the extent considered appropriate by the Authorized Signatory.

The scope of the work and explanatory notes given below are neither complete nor exhaustive but are added to assist the contractor to understand the scope of the work.

The site is located at VBO KAVALUR. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to nature of the site, the means of access to the site. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed, in general shall themselves obtain all necessary information

The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools and plants, water, electricity, facilities for workers, safety norms and all other services required for executing the work

Timely completion of work and quality of workmanship are of prime importance and the work shall be completed within the stipulated period. Cement consumption must match with standard theoretical calculations. Recovery to be effected in the event of not fulfilling the cement consumption.

I/ We have read the tender notice, specifications, schedule, drawings, general rules and all other contents of the tender conditions, and Understand that IIA is not bound to accept the lowest or any tender that may receive.

I/ we hereby tender for the execution for the director for the work specified above within the time specified above, at the rates specified in the attached schedule of quantities and in all respects with these specifications, design, drawings and instructions.

I/we agree that should I/we fail to commence the work specified in the above memorandum an amount equal to amount of earnest money mentioned in the form of invitation of tender shall be absolutely forfeited by the Director, IIA.

Dated:	Signature of the Contractor
	With stamp

#### **General conditions of contract.**

#### Item rate tender for works.

- □ The institute reserves the right to alter the scope /or reduce quantum of work/delete some of the items of the works before issue of work order and the contractor shall not have any claim what so ever on this account. The rate quoted by the tenderer will remain firm even after variation in quantity of work
- □ Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall be taken as correct.
- ☐ If the amount of an item is not worked out by the contractor or it does not correspond with the rate written either in figures or words, then the rate quoted by the contractor in the words shall be taken as correct.
- □ When the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly the rate quoted by the contractor will be taken as correct and not the amount.
- □ The contractor shall take all precautionary measures to prevent entry of dust, dirt and noise pollution to the adjacent buildings and keep the premises neat and tidy, remove surplus materials and rubbish and shall not cause inconvenience to the staff of IIA. If the contractor or his working people or servants shall break, deface, injure or destroy any part of a building in which they may be working or any buildings, road, kerbs, fence, enclosure, water pipes cables, drains, electric and telephone posts or wire, trees grass or garden. The cost of any such damage and risks arising out of this shall be entirely borne by the contractor.
- A bill shall be submitted by the contractor each month on or before the date fixed by the IIA. All the measurements of the work may be recorded jointly by IIA and the contractor or their respective representatives. The measurements will be taken at site, as per latest IS code of practice for measurements. All measurements shall be taken with steel tapes only.

- □ The IIA shall have full powers to the removal from the premises of all materials and bad workmanship, which in its opinion are not in accordance with the specifications.
- □ The IIA 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 misconduct himself.
- □ For working on Sundays, holidays and late hours prior permission will be accorded by the Engineer-in charge on the application made by the contractor.
- All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in charge who shall be entitled to direct at what point or points and in what manner they are to be commenced and from time to time carried on.
- □ The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc as institute's property and such materials shall be disposed off to the best advantage of the institute.
- The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and in strict accordance with the specifications of the CPWD / DOS / Bureau of Indian Standards. In case of any class of work for which there is no such specifications the contractor shall carry out the work in all respects in accordance with the instructions in writing of IIA.
- The IIA shall have powers to make any alterations in, omissions from, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to IIA necessary or advisable during the progress of the work and the contractor shall carry out the work in accordance. The rates for such additional, altered or substituted items of work shall be worked out in accordance with the standard procedure followed in CPWD / DOS.

- If at any time after the commencement of the work, the Director, IIA shall for any reason whatsoever not require the whole thereof as specified in the tender to be carried out, the institute shall give notice in writing of the fact to the contractor who shall have no claim to payment of compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full, but which he did not derive 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.
- The contractor shall obtain a valid license under the contract labour (R&A) act 1970 and the contract labour (Regulation & Abolition) central rules, 1971 before the commencement of the work and continue to have a valid license until the completion of the work. No labour below the age of eighteen years shall be employed on the work. The contractor shall pay to labour employed by him either directly or through sub contractors, wages not less than fair wages as defined in the provision of the contract labour (R&A) act 1970 and the contract labour (R&A) central rules 1971 wherever applicable.
- □ The contractor shall at his own expense arrange for the safety provision as per safety code framed from time to time and shall at his own expense provide for all facilities in connection therewith.
- The contractor shall comply with all the provisions of the payment of wages act 1936, minimum wages act 1948, Employees liability act 1938, workmen's compensation act 1923, Industrial disputes act 1961 and the contractors labour (R&A) act 1970 or the modifications thereof or any other laws relating thereto and the rules made there under from time to time. The regulations aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract. Security deposit will not be refunded till clearance certificate from labour officer is obtained by contractor.
- □ The contractor shall make his /their own arrangements for water required for the works and nothing extra will be paid for the same, as the water available from the institute source may not be sufficient to meet the construction.
- □ The contractor shall have all the tools and plants necessary to carry out the work such as concrete mixer, vibrator and hoist. The contractor shall employ one graduate engineer during the execution of the work

- □ Certified plumbers should be employed by the contractor on the plumbing and sanitary work.
- □ The standard sectional weights referred to as standard tables in para 5.3.3 in CPWD specifications for works 1977 vol. 1 to be considered for conversion of length of various sizes of M.S bars and tor steel bars in to weight.

Size (diameter MM) Weight Kg/M

6	0.222
8	0.395
10	0.617
12	0.888
16	1.579
18	1.999
20	2.467
22	2.985
25	3.855
28	4.836
32	6.316

- □ The entire work is to be completed within the period stipulated i.e. Six months from the 15<sup>th</sup> day of issue of letter of intent/work order. The period includes monsoon period also. Time shall be the essence of the contract. After the work awarded, the contractors shall furnish detailed time schedules for the approval of the IIA, which after approval shall form part of the contract and are to be strictly adhered to.
- The maintenance period for the work shall be twelve months and any defects noticed during the period shall have to be rectified by contractor at his cost, failing which the action taken for maintenance IIA shall be final over which the contractor will not have any claim.
- □ The contractor shall extend all co-operation to the contractors executing works such as electrical, air conditioning etc who might be working at the site and shall permit to use scaffolding etc already put up by him.

- □ The IIA will have the right to get any item of the work included in this tender or not executed through other agencies. Schedule of probable quantities in respect of the work and specifications are enclosed. The schedules of probable quantities are liable to alterations by emission, deduction or additions at the discretion of the IIA.
- □ The rates quoted by the tenderer in the schedule shall be inclusive of all taxes and levies payable under respective statues, inclusive of all sales taxes, sales tax on components/ materials/ consumables and also sales tax on works contract in pursuant to constitution (forty sixth amendment) act 1982, control duty and /or any other duty levied by the government or other public bodies. The rates shall be firm and shall not be subject to exchange variations, labour conditions or any condition.
- □ Sales tax will be deducted from the amount payable to the contractor as per the relevant sales tax act, applicable for the contracted work as amended from time to time, at the rates specified from time to time.
- □ Samples of all materials to be incorporated in the works shall be submitted to the IIA for necessary approval without claiming any extra cost. Materials not confirming strictly to the samples are liable to be rejected.
- □ The employment of any sub-contractors will be subjected to the approval of the IIA. If at any time during the progress of the work the IIA determines that any sub-contractor is incompetent or undesirable the contractor shall take steps immediately to cancel such sub-contractor. The contractor shall be entirely responsible for all the work included in the contract whether executed by him or through his sub-contractors. In particular it may be noted that the contractor shall obtain steel /Aluminium doors and windows from a reputed manufacturer and before placing order for these, the contractor shall obtain the concurrence of the department for the agency from whom he proposes to obtain steel / Aluminium doors and windows.
- □ The contractor shall prepare a CPM / PERT /BAR chart/ Detailed estimate programme within a weeks time of issue of work order.
- □ All materials and articles brought by the contractor to the work site shall have to be declared at the security gate. Similarly no materials shall be taken out from the departmental premises without proper gate pass which will be issued by the IIA.
- □ Unless otherwise provided in the schedule of quantities the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account.

- Sample of various materials required for testing shall be provided free of charge by the contractor. Testing charges, if any unless otherwise provided, shall be borne by the department. All other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by contractor himself. In case of concrete and reinforced concrete work, the contractor shall be required to make arrangement for carrying out compression strength tests at his own cost including preparation of cubes curing etc complete.
- □ For the purpose of recording measurements and preparing running account bills, the abbreviated nomenclature shall be accepted along with the item number.
- □ The contractor shall along the tender submit a schedule of machinery to be used on the work in support of his assurance to adhere to the time schedule specified in the proforma given.
- □ I /We declare that the work will be carried out as per the specifications in tender document and as per the specifications said above. The items of work not covered in the specifications said above will be carried out as per the specifications in the relevant CPWD specifications, and if not covered in CPWD specifications the work will be carried out as in the relevant IS specifications, and if not covered in the any of the above, the work will be carried out as directed in writing by the Engineer- in charge.
- □ I/We declare that the rates quoted by me/us are on the basis of the above.

Dated:	Signature of the contractor
	With stamp

# SCHEDULE OF QUANTITIES CIVIL

## NAME OF WORK: CONSTRUCTION OF TELESCOPE PIER AND THE ENCLOSURE FOR 1.3 M TELESCOPE AT V.B.O ,INDIAN INSTITUTE OF ASTROPHYSICS, KAVALUR.

#### **Schedule of Quantities**

Given below is the schedule of quantities for the pier and ground floor works.

Sl. No.	Description of Item	Quantity	Unit Rate Rs.	Amount Rs.
1-a	Earthwork Excavation in foundation trenches in all soils including dressing of sides ramming of bottom, disposing the surplus excavated materials within a distance of 50 m complete	200 G		
	a. Ordinary Soil / Loose bouldersb. Ordinary Rock / Boulders	280 Cum. 40 Cum.		
1-b	Backfilling using available excavated earth (excluding rock & deleterious material, salt peter earth etc.,) in plinths and in sides of foundation in layers not exceeding 150 mm in depth, consolidating each deposited layer by ramming & watering to achieve 95% proper density.	100 Cum.		
1-c	Sand filling: Providing & filling clean coarse sand under floor, foundation trenches & similar locations, laid to required depth, compacted by flooding with water, finished to proper levels, complete.	10 Cum.		
2	Plain Cement Concrete: Providing, laying and leveling of PCC of grade M15 (nominal mix 1:2:4) using 20 mm nominal size graded hard granite stone aggregate obtained from approved quarry including compaction, finishing top surface to level, curing but excluding cost of formwork, etc., Foundation and Plinth	25 Cum.		
3	Formwork and Centering:			
	Providing rigid and water tight centering and shuttering using best quality wooden planks/plywood sheets/ steel centering sheets including strutting, propping, bracing, staging, etc., complete for all R.C.C items fixed in position as required to			

	obtain plain exposed form finish, including labour for careful removal of formwork etc., up to 14m level in horizontal /vertical/ slanting surfaces Foundation  RCC columns, beams, slabs etc.,	100 Sq.m 900 Sq.m	
4	Reinforcing Steel: Providing & placing in position Thermo Mechanically Treated (TMT) of Grade Fe 415 bars in all reinforced concrete works including straightening, cutting, bending, binding with 18 gauge annealed steel wire etc.,	22 MT (including 12MT for pier)	
5	Reinforced Cement Concrete(M40-Pier):  Providing & laying in position machine batched, machine mixed & machine vibrated design mix of cement concrete of grade M40 at all heights & depths for all RCC elements, using graded hard granite stone aggregates of maximum 20mm nominal size obtained from approved quarry including fine aggregates conforming to IS:383 and cement all as per approved design mix proportions conforming to IS:1062 with minimum cement content for durability including supplying & providing cover blocks etc., which shall followed as per IS:456-2000 including mixing, transportation, placing, vibrating, compaction, finishing to required levels, curing etc., complete as per drawing excluding centring, shuttering & reinforcement.	165 cum	
6	Reinforced Cement Concrete (M30-Building): Providing & laying in position machine batched, machine mixed & machine vibrated design mix of cement concrete of grade M30 at all heights & depths for all RCC elements, using graded hard granite stone aggregates of maximum 20mm nominal size obtained from approved quarry including fine aggregates conforming to IS:383 and cement all as per approved design mix proportions conforming to IS:1062 with minimum cement content for durability including supplying & providing cover blocks etc., which shall be followed as per IS:456-2000 including mixing,		

	transportation, placing, vibrating, compaction, finishing to required levels, curing etc., complete as per drawing excluding centring, shuttering & reinforcement.	65 cum	
7	Brick masonry for walls: Providing and constructing brick masonry in 1:6 cement mortar using approved well burnt bricks of I class (minimum average compressive strength not less than 3.5 N/sq.mm) (as per IS 1077-1986) including raking out joints 10mm deep, scaffolding, curing, etc., complete in super structure of floor II level.	40 cum	
8	FLOORING (0.5 m level): Providing and laying of 100 mm thick Indian Patent stone flooring with cement concrete 1:2:4 using graded granite stone aggregate obtained from approved quarry laid to level or slope in bays not exceeding 3 Sqm per panel including providing 3 mm thick Aluminium dividing strips to the full depth of the flooring and finished smooth, curing etc.,	10 cum	
9	Cement Tile Flooring (3.5 m Level): Supply and providing of cement tiles flooring using approved quality machine pressed cement tiles conforming to IS: 1237 of size 250x250 mm and thickness 22 mm made in cement mortar 1:2, laid over a bed of 20 mm thick cement mortar (1:6), joined and pointed with cement slurry, finishing to the required level and slopes, curing, polishing etc.	50 sq. m	
10	Aluminium Glazed Door (D3):  Providing and fixing anodized aluminium double leaf door of size 1m x 2.1 m consisting of section 47.62 x 44.5, 47.62 x 44.45 as vertical and top horizontal members. (No 4504 & 4506) 95.25x44.45x3.18mm thick section as bottom member (Zindal No.4510). Bottom of 3' of the door will be provided with 8 mm plywood faced on both sides of approved colour 1 mm thick laminate/ Exterior grade 12 mm thick Novapan both sides laminated OR equivalent make and balance with 5 to 5.5mm thick plain glass of		

	Triveni make OR available locally including providing screw less aluminium beading. The door will be provide with, one dead lock, two handles per shutters, provision of fixtures and fasteners, rubber beading for the sides.	3 nos	
11	Rolling Shutter Door (D1): Supplying and fixing standard steel rolling shutter of size 2m x 2.1m made out of mild steel strip slats or laths of deep convex corrugations made from tested steel sheets conforming to IS 277 specifications for galvanized steel sheets 63mm to 75mm wide, 1.25mm thick, machine rolled and straightened with an effective bridge depth not less than 15mm including interlocking the laths through out the length, mounting on specially designed pipe shaft including all accessories such as top cover of required size, side guides and 'L' reinforced angle iron fixed outside brackets, suspension shafts, top rolling springs made out of strong and best tested continental spring, hood covers, bottom rails, locking arrangements, painting with one coat of factory finish red oxide zinc chromate primer of approved make etc.,	1 no	
12	MS Sliding Door (D2): Supplying and fixing standard steel double leaf sliding door of size 2m x 2.1 m made out of mild steel made from tested steel sheets conforming to IS 277 specifications including bottom rails, locking arrangements, painting with one coat of factory finish red oxide zinc chromate primer of approved make etc.,	1 no	
13	Aluminum Glazed Window (W): Providing and fixing anodized aluminium window of size 1.2m x 1.2 m consisting of double glazing to the windows with 88.7 mm x 38.1mm x 2.0 mm thick anodized hollow aluminium pipe sections frame work of Zindal co. make. The sliding shutters should be made out of 38.1mm x 25mm x 1.2 mm thick anodized hollow aluminium pipes suitably spaced and provided with 5 to 5.5 mm thick plain glass of Triveni make available locally including providing screw less aluminium bearing.	9 nos	

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14	Interior Plastering Plastering 12 mm thick with Cement mortar 1:3, finished smooth with lime neeru, including scaffolding, curing etc., complete for Internal Surfaces of walls, beams, ribs, sills, jambs, ceiling etc., up to II floor level.	800 Sq.m		
15	Exterior Plastering Plastering 15 mm thick with Cement mortar 1:3, finished rough including scaffolding, curing etc., complete for External Surfaces of walls, beams, ribs, sills, jambs etc., up to II floor level.	200 Sq.m		
16	Water Proofing over RCC Roof: Providing and laying water proofing treatment over RCC roof in three courses as specified below, after thoroughly cleaning the surface of the roof slab with wire brush, cleaning of dust and foreign matters, raking and cleaning of construction joints if any etc., complete to make the surface suitable for receiving water proofing treatment.			
	I Course: A coat of cement slurry at the rate of 4.4 kg/sqm mixed with acrylic water proofing compound (as per manufacturer's specification) is spread uniformly over the RCC roof area and ensuring the slurry penetrates into the RCC slab below and fills all micro cracks and all other porous areas. Over this a layer of 15mm thick cement mortar 1:5 mixed with acrylic water proofing compound shall be laid to place the II course.			
	II Course: A single layer of brick on edge with 15mm wide gaps filled with CM 1:5 mixed with acrylic water compound is laid (i.e. bricks placed vertically on its 75 x 115 mm side or 75 x 230mm side as the case may be, to suit the required thickness of course), when the bottom layer (I course) is still green and laid to slope of 1 in 60 as per roof drainage scheme using approved well			
	burnt bricks (water absorption not more than 20%) with minimum thickness of 65mm at outer edge including the top and bottom plastering (I & III course) to get required gradient, laying the bricks with not less than 15mm gap all around, which shall be properly filled completely and compacted			

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	with CM 1:5 mixed with acrylic water proofing compound as per manufacturer's specification using full bricks or bricks cut to required size to lay the course with single layer with gradient said above for adequate drainage.		
	III Course: 20mm thick cement mortar 1:4 mixed with acrylic water proofing compound with a layer chicken mesh 12mmx 260mm and marked with 300mm x 300mm false squares including curing etc., for not less than 7 days, The 20mm thick layer shall be carried out in two layers of 10mm thick with inter layer of chicken mesh of 12mm x 260mm laid in between the two layers of cement mortar.	90 Sq.m	
16	<b>Plinth Protection:</b> Providing & laying cement concrete PCC 1:3:6 using 20mm nominal aggregate in plinth protection (150 mm thick x 1.0 m wide) in panels not exceeding 3 sqm per panel using graded hard granite stone aggregate including providing necessary formwork, making 10mm wide grooves in panels for depth of 1/3 rd of thickness of plinth protection or 40mm which ever is more and filling the grooves with approved hot poured sealing compound conform into Grade A or B of IS 1834, consolidation, curing & treatment for the top width broom finish etc.,	10 cum	
17	Painting internal plastered surfaces with two or more coats of super acrylic emulsion paint of approved brand and colour (Berger and Asian or equivalent) to give an even shade with required finish over a coat of water thinnable cement primer including cleaning the surfaces, filling the crevices with approved filler, scaffolding, curing etc., complete.	800 Sq.m	
18	Painting external plastered surfaces with two or more coats of Titanium oxide paint of approved brand and colour having protection against fungal growth, flaking, fading, alkali and UV degradation and to give an even shade with required finish including cleaning the surfaces, filling the crevices with approved filler, scaffolding, curing etc., complete.	200 Sq.m	

17	Roof Drain:			
	Providing and fixing 100mm dia (O.D.) un-			
	plasticized PVC pipe water spouts conforming to			
	IS 4985 – 1988 inclusive of specials (tee)			
	confirming to IS 7834-(part- IV) - 1987 of			
	working pressure 6kg/sqm. The outlet end shall be			
	provided with PVC Tee and the inlet end shall be			
	flush with inner face of fascias/ parapets, fixing in			
	cement mortar 1:3 etc., complete all as per	15m		
	specifications.			
		·	Total	

Dated: ----- Signature of the contractor With stamp

### **CIVIL DRAWINGS**

























