



**INDIAN INSTITUTE OF TECHNOLOGY MADRAS**

ENGINEERING UNIT

CHENNAI – 600 036

**Tender No: 49/ 2013 – 14 / Civil**

**ENVELOPE - II**

**TECHNICAL BID**

**Name of Work:** Design, Supply, Installation, Testing and Commissioning water treatment plant including providing and laying of supply mains from Lake to main pump house at IIT Madras.

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EXECUTIVE ENGINEER (CIVIL), Indian Institute of Technology Madras, Chennai - 600 036 invites sealed lumpsum tenders, in three envelope system ( Application for eligibility, technical and financial bid) for the following work from the contractors who satisfy the Eligibility Criteria given below.

**1. PARTICULARS OF WORK**

1. Name of work: Design, Supply, Installation, Testing and Commissioning water treatment plant including providing and laying of supply mains from Lake to main pump house at IIT Madras.
2. Approximate Estimate Cost put to Tender (for reference only) : Rs. 250 Lakhs.
3. Earnest Money Deposit (EMD) : Rs5,00,000/-
4. Cost of Tender Document (Non-refundable) : Rs1575/-\* (including VAT)
5. Time period for completion : 3 months
6. Validity of the tender : 90days from the date of opening of the tender
7. Date of Prebid Meeting & Venue : 18-03-2014 at 11.00 AM  
IC&SR Building,  
IIT Madras,  
Chennai – 600036.
8. Last Date for Submission of the bids : 01-04-2014 @ 3.00 PM
9. Date of Opening of the Eligibility document : 01-04-2014 @ 3.10 PM
10. Date of opening of the Financial bid will be intimated later to eligible Contractors.
11. Place of submission of tenders: : Office of the Executive Engineer (Civil),  
Engineering unit, Administrative Building 3rd Floor,  
IIT Madras, Chennai – 600 036.

## **2. SCOPE OF WORK**

Design, Supply, Installation, Testing and Commissioning of water treatment plant including providing and laying of supply mains from Lake to main pump house at IIT Madras.

The scope of the system includes the following. Any item not stated explicitly but is required for the Smooth operation of the scheme will be deemed to have been included in the offer.

1. Design and construct a intake well structure duly anchored to the lake bed to house the intake pipe and screen at the middle of the lake.
2. Supplying and laying of pipe line from the intake structure to the suction well of the pumps sets at the lake shore duly anchored to the lake bed.
3. Construction of pump room + suction well of suitable capacity on the lake shore.
4. Supply erection, testing and commissioning of 3 number pumps sets of suitable capacity including the motor control centre for the pumps, cabling from the MC centre to the motor, suction + delivery pipes, foot valves and suitable priming arrangement with tank and filling pumps.
5. Supplying and laying of suitable diameter pipe line from the pump room to the sump near the main gate of IIT Madras. along the route to be decided in consultation with IITM.
6. Supply, installation, testing and commissioning of pressure sand filter along with the required feed pumps, backwater pumps, motor control centre for the pumps, housing for the pumps sets etc as required.

The tender will be considered as lump sum for the above scope with 1600m pipe line from the pump room near the lake to the sump near the main gate. Price adjustment for the variation in length will be done at the rate to be quoted by the contractor. Any excess quantity will be paid Escher at the quoted rate and for reduction in length the recovery will be made at the quoted rate.

**Exclusions:** 1. Bringing in power supply to the pump house and the filtration plants.

## **3. DESIGN PARAMETERS**

1. Capacity of the system – 8 lakh lit/day
2. Intake location – At the middle of the lake where the invert level is (-) 1.6.
3. Level upto which water can be drawn from the lake – 0.00
4. Intake structure – suitable capacity
5. Diameter of pipe line from the intake point to the suction well of the pump sets – Suitable to the pumps capacity and flow rate.
6. Pump location – Near the lake. The pumps will be located in the pump room over the suction well.
7. No of pumps – 3 nos.
8. Type of pumps – centrifugal with arrangement for priming.
9. Type of pipe line from the pump room to the sump near the main gate of IITM – DI pipe
10. Diameter of the pipe line – Suitable for the pumping rate of pumps.
11. Capacity of suction well – Suitable for the pumping rate and the flow rate from the lake.
12. Material of construction - RCC.

13. Size of the pump room - Suitable to accommodate 3 pumps of the required capacity.
14. Type of filtration unit – pressure sand filter.
15. Capacity of filtration unit – 4 lakhs lit/day.
16. No of filtration unit – 2 nos.
17. Operating time - 12 hours.
18. Location – open ground with room for the pumps.
19. No of feed pumps – 2 nos.
20. Capacity of feed pumps – suitable for the capacity and duration of operations.
21. No of backwater pumps – 2 nos.
22. Capacity of backwater pumps - Suitable for the filter capacity.
23. Electrical systems – Motor control units for the pumps at the lake as well as for the filtration system.
24. CPWD standard specifications with up to date correction slip and relevant Indian Standards shall be followed for design and execution of the work.
25. All RCC works shall be M35 grade concrete.

#### **4. DOCUMENTS TO BE ENCLOSED**

4.1 Envelope 2 shall contain the following documents;

- 1) Duly signed Technical bid document as published in the IIT Madras web site.
- 2) Design Basis Report.
- 3) Design calculations of the proposed system.
- 4) Detailed Architectural, structural and service drawings.
- 5) Detailed specifications for the various items and components of the work.
- 6) Detailed measurement sheets and schedule of quantities for the various items and components of the work.
- 7) List of materials / make / brand proposed to be used.

#### **5. ADDITIONAL CONDITIONS**

5.1. The schedule of quantities referred to above is only limited for the purpose of assessing the quantum of work involved by the tenderers. Before submitting their tenders, the tenderers shall, therefore, tenderer have to satisfy themselves that the quantities given in the tender documents for the various items and components of the work are correct.

5.2. The contractor shall execute the work as per the drawings and specifications as given in the tender documents, and shall have no claim for any payment on account of deviations and variations in quantity of any item(s) or component(s) of the work, unless they are authorised deviations from the parameters, drawings and specifications contained in the tender documents.

5.3. The rates of deviated items shall be determined on the lines of clause 12.2 of Conditions of Contract.

Certified that the technical bid as published in the IIT Madras web site contains 5 pages.

Executive Engineer (Civil)  
Engineering Unit.  
Administrative Building,  
3rd Floor, Engineering Unit,  
IIT Madras, Chennai – 600 036.

Signature of the Contractor