



**MISHRA DHATU NIGAM LIMITED  
P.O.KANCHANBAGH, HYDERABAD**

**Part-II (PRICE BID)**

**STRUCTURAL AUDITING OF INDUSTRIAL SHEDS  
& BUILDINGS AT PLANT, CORPORATE OFFICE &  
TOWNSHIP, MIDHANI,  
KANCHANBAGH, HYDERABAD-58.**

**PURCHASE DEPARTMENT****Tender Notice No: MDN/PUR/AP2061062/ADVT/291/16-17****Date:-13-03-2017****To,**

Dear Sir,

**Sub: - STRUCTURAL AUDITING OF INDUSTRIAL SHEDS, BUILDINGS AT PLANT,  
CORPORATE OFFICE & TOWNSHIP, MIDHANI, - req**

1. Please find enclosed herewith a Tender Enquiry for the above, you are requested to furnish your offer in a sealed cover superscripting the envelope with name of work and last date of submission, along with EMD of Rs 22,500/- drawn in favour of MIDHANI. The tenders without EMD amount will be rejected; request for adjustment from pending bills will not be entertained. Estimated Value of work is Rs 9 lakhs.
2. Tender shall be submitted in tender box kept at corporate office on or before 24-03-2017 up to 10.30 hrs.
3. The period of completion of job will be 6 months in staggered manner for testing & submitting report from the date of placement of order. Time is essence of the contract; contractor has to mobilize materials & labour to complete within stipulated time period.
4. The tenderer shall inspect the site of work and understand the scope of work before quoting. No extra amount will be paid on account of misunderstanding either in scope of work, specification, drawings, site conditions etc.
5. All materials required for the work shall be arranged by the contractor unless until specified in Bill of Quantities.
6. The work shall be carried out as per Indian Standard specifications.
7. This is an item rate contract and the quantities are approximate, but payment will be made only on actual work done based on joint measurement.
8. Six R. A Bills and one Final Bill will be paid. The contractor has to furnish all material bills along with each bill (if any).
9. R.A Bill will be paid within 15 days from the date of certification of Engineer-in-charge. However, Final payment will be made within 30 days after satisfactory completion of work and certification by Engineer-in-charge.
10. **Retention Money** : A sum of 5% of gross value of each work order will be deducted from each running bill and final bill. The EMD deposited will be adjusted as Retention Money . The Retention money deducted from the bills will be released after the completion of contract and after certification of Engineer –In- Charge. Also, contractor can submit Bank Guarantee for equivalent amount in the prescribed format issued by

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nationalized or scheduled bank and same shall be valid for Contract period + 3 months claim period.

11. The security and safety rules of MIDHANI to be followed. The contractor shall take care of all labour laws regarding minimum wages, ESI, PF., Group Insurance etc., MIDHANI is no way responsible in this respect. MIDHANI is not liable for any claim in respect of any accidents or otherwise excepting to the extent of work completed as per the contractor.
12. (a) MIDHANI reserves the right to operate partial or delete any item specified in BOQ without any compensation to contractor for the items un-operated or deleted.  
  
(b) If at any time after acceptance of the tender MIDHANI feels that for any reasons whatsoever, if the whole or any part of the contract services is not required to be carried out, notice shall be given in writing of the fact to the contractor and upon receipt of such notice, the contractor shall stop the execution of such services as indicated in the notice forthwith. The contractor shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution of the services in full, but which he did not derive in consequence of the foreclosing of the services / contract. Contractor shall be paid at contract rates for the full amount of the work executed including such additional services as may be rendered necessary by said foreclosing.
13. Any new items (viz. supply of material, labour, skilled works etc) will be paid as per (a) or (b) whichever is less:
  - a) As per MES-SSR 2010 rates with applicable Percentage Index at that time.
  - b) As per market rate analysis.
14. The contractor should not cause any loss or damage to MIDHANI property/or personnel, if any loss or damage is caused the cost of the same will be recovered from the bills by MIDHANI, which will be final.
15. The quantities are subjected to  $\pm 20\%$  variation and the contractor has to carry the work on the same rates, terms and conditions within the variation limits prescribed.
16. If the contractor fails to receive the work order within a week time from the date of intimation to him or if the contractor does not start the work within 3-7 days from the date of handover of site, or if the work is abandoned / stopped without bringing proper notice to Engineer-in-charge, the contract will be terminated and balance work will be carried out at the cost and risk of contractor.
17. Liquidated Damages: - If the work is not completed within stipulated time or against unsatisfactory work. Liquidated damages at 1% per week to maximum of 10% total value will be deducted.
18. Midhani reserves the right to penalize
  - a) If the contractor fails to receive the work order within 3 days of intimation, then a penalty Rs 500 per day will be levied subjected to maximum of Rs 5000.00. Further delay will empower MIDHANI to termination of contract and apply risk purchase.
19. The offer shall be valid for 3 months from the date of opening of tender.
20. Interested parties may attend tender opening on 24-03-2017 at 11:00 hrs.

21. Incomplete or partially filled tenders will be rejected. Also, conditional offers are liable for rejection. MIDHANI reserves the right to accept or reject any or all tenders without assigning any reasons.
22. Site has to be cleaned by the contractor before handing over to MIDHANI after completing the work. The final bill will be processed only after obtaining site cleaning certificate from the Engineer-in-charge.
23. The contractor shall bear all levies, taxes including service tax, duties etc., payable or arising from/ out of by virtue of or in connection with and / or incidental to the contract or operation(s) or any other part thereof to be performed by the contractor and the contractor shall indemnify and keep indemnified MIDHANI from and against the same or any default by the contractor in the payment there of.

Yours faithfully,  
For Mishra Dhatu Nigam Limited

**T.RAGHURAM**  
**Addl. General Manager (I/C Purchase)**

DECLARATIONS: - 1) I have seen the site and understood the full scope of work,  
specified in tender, BOQ etc.  
2) I agree to return all the documents along with this offer.

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SIGNATURE AND SEAL

<b>MISHAR DHATU NIGAM LIMITED</b>						
BOQ for conducting of Structural Audit,MIDHANI buildings/Industrial sheds at Hyderabad						
<b>LOCATION OF WORK: - MIDHANI,KANCHANBAGH,HYDERABAD-58</b>						
<b>Name &amp; Contact Details Of Concerned Person</b>						
<b>Type Of Construction</b>						
<b>Year Of Construction</b>						
<b>No. Of Floors:-(a)RCC structures G+2 ,(b) Industrial steel structures height varies from 8.0 to 25mtr</b>						
<b>Sr No</b>	<b>Description</b>	<b>unit</b>	<b>Quantity</b>	<b>Rate</b>	<b>Amount</b>	
1	Conducting detailed survey of building by visual inspection covering					
	a. External faces, common areas e.g. Terrace, staircase, water tanks etc.	Sqm	11400			
	b. All Floors to assess current state of condition, levels of deterioration, stability/durability etc.					
2	a Rebound Hammer Test: Preparing the surface of RCC structural members such as beams, columns, slabs etc. by chipping surface/finishing/cladding to expose the concrete, smoothening the area using carborandum stone all in terms of relevant IS code and conducting rebound hammer test all as per IS 13311-1992(Part 2) including analysis of the test result & preparation of report with observations and recommendations measures if any.	No	240			
	b UPV ( Ultrasonic Pulse Velocity) Test: Preparing the surface of RCC structural members such as beams, columns slabs etc. by chipping the plastered surface/finishing/cladding to expose the concrete, smoothening the area using carborandum stone all in terms of relevant IS code & conducting rebound hammer test all as per IS 13311-1992(Part 1) including analysis of the test result & preparation of separate report for each building recommendations with observations & measures if any.	No	120			

	c	Carbonation Depth Test: Preparing the surface of RCC structural member such as beams, columns, slabs, water tank walls & slab etc by chipping the Plastered urface/finishing/cladding to expose the concrete, cutting etc as per Relevant code and conducting carbonation test at various depth as Directed by EIC using Phenolphthalein of specified concentration to assess depth of carbonation including analysis of the test result & preparation of separate report for each building with observations and Recommendations for remedial measures if any.	No	120		
	d	Half Cell Potential Test for Corrosion mapping. Preparing the structural members as directed to expose the reinforcement steel, cleaning the area with blower/wire brush and carrying out half-cell potentiometer test for measuring the level of corrosion of reinforcement steel in the RCC member including analysis of the test result & preparation of separate report for each Building with observations and Recommendations for remedial measures if any.	No	60		
3		Consultancy charges for preparation of structural audit report which includes				
	a	The findings from detailed visual inspection as in item 1	No	30		
	b	Non-destructive test results as in tem 2				
	c	classification of severity				
	d	Photos of distressed location				
4		Extra Charges for preparation of Bill of quantities item wise & detailed specification with cost estimate All based on the visual inspection, NDT, assessment as per item 1, 2 and 3.	No	30		
5		Incidental charges for site visits during/after the execution of the repair works based on the structural audit report/detailed BOQ vide item 3&4. The repairs will be taken up by MIDHANI as per their procedure	No	10		
6		To issue a structural fitness certificate	No	5		
		<b>Total Amount</b>	Rs			
		Service Tax (15%)	Rs			
		<b>Total With Taxes</b>	<b>Rs</b>			
		<b>Amount Rupees</b>				

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**Annexure-I****Brief Scope of Structural Audit**

- a. study of Structural drawings / Architectural drawings, as built drawings.
- b. to recognize types of structural defects.
- c. to recognize signs of material deterioration.
- d. to recognize signs of structural distress and deformations.
- e. to identify any alteration and addition in the structure, misuse which may result in over loading.
- f. **Structural System of the building**
  - i. Sub structure: Settlement of columns or foundations, Settlement of walls and floors, Deflection and cracks in Retaining wall, Soil bearing capacity through trail pits or from adjacent soil data
  - ii. Super structure: Materials used and framing system of structure, identification of the critical structural members like floating columns, transfer beams, slender members, rusting of exposed steel and its extent.
  - iii. Mention the status of all building elements like beams, slabs, columns, balconies, canopy, false ceiling, chajja, parapet and railings with respect to parameters deflection, cracks, leakages and spalling of concrete.
  - iv. Likewise, verify the status of water tank, staircase, lift and lift machine room.
- g. **Addition or Alterations in the building (if any)**
  - Identification of change of occupancy
  - Alteration or addition of partition walls
  - Alteration or addition in loadings- stacking
  - Alteration or addition of toilets, water tank
  - Alteration or addition of balcony
- h. **Dampness and leakages**
  - Detect the dampness in walls
  - Indentify the leakages in Terrace, toilets, plumbing lines, drainage lines and overhead tanks.
- i. **Non Destructive and Destructive Testing**

In addition to visual inspection, the real strength and quality of a concrete structure need to be checked with non-destructive tests. A number of non-destructive tests (NDT) for concrete members are available to determine present strength and quality of concrete. Some of these tests are very useful in assessment of damage to RCC Structures subjected to corrosion, chemical attack, fire and due to other reasons. These tests have been put under four categories depending on the purpose of test as under:

***(i) Concrete Strength***

- Rebound Hammer Test: To measure surface hardness of concrete

- Core Sampling and Testing: To measure strength, permeability, density of concrete.

**(ii) Chemical Attack**

- Carbonation Test: To assess depth of carbonation and pH of concrete
- Chloride Test: To assess total water/acid soluble chloride contents
- Sulphate Test: To assess total water/water soluble sulphate contents of concrete

**(iii) Corrosion Potential Assessment**

- Cover Meter: To measure cover of reinforcement, diameter of reinforcement and spacing of reinforcement
- Half Cell Method: To assess probability of corrosion in the embedded steel
- Permeability Test: To assess permeability of concrete due to water and air

**(iv) Core Testing**

This is direct method of assessing strength of concrete. In this method cylindrical core samples are taken from existing structures. The cores are visually inspected and tested in laboratory to check its compressive strength.

**(j) Identification of critical areas in building**

Based on the above inspection, analysis and test results, the report should conclude the critical areas that need immediate repairs and retrofitting. For example: number of columns requiring immediate repair and strengthening, repair of critical slab and beams, water proofing of terrace, toilet blocks, cracks in walls or structural elements etc.

**(k) Preparation of Report and Recommendation**

The consultant shall prepare detailed report of tests, study of structure etc., and give suitable recommendation for retrofitting etc., if required for buildings / industrial sheds examined.