

TRANSMISSION CORPORATION OF TELANGANA LIMITED



NOTICE INVITING TENDER ON E-PROCUREMENT PLATFORM

SPECIFICATION NO: **e-seomcknr-02/2024-25(S03/24-25)**

NAME OF THE WORK

Protection of Z+9 type tower Gabion mattress at Loc No 5 of 220KV Ramadugu LILO at Rudraram,
Ramadugu Mandal in Karimnagar district.

**SUPERINTENDING ENGINEER
OMC CIRCLE, KARIMNAGAR
132 KVSS Karimnagar premises, Jagitial Road,
P.O. KARIMNAGAR - 505001
Mobile: 9440811075**

Web site : www.tender.telangana.gov.in

1.	Department Name	:	TSTRANSCO
2.	Circle/Division	:	SUPERINTENDING ENGINEER OMC: KARIMNAGAR
3.	Specification No.	:	e – seomcknr - 02/2024-25(S03/24-25)
4.	Name of the Project.	:	Protection of Z+9 type tower Gabion mattress at Loc No 6 of 220KV Ramadugu LILO at Rudraram, Ramadugu Mandal in Karimnagar district.
5.	Package No.	:	NA
6.	Estimated Contract Value	:	Rs.5,60,286/-
7.	Period of Contract	:	2 months
8.	Form of Contract	:	LS
9.	Bid Type	:	Open Competitive Bidding
10.	Bid Category	:	Works
11.	Bid Validity	:	90 days from scheduled bid submission closing date
12.	EMD / Bid Security	:	Exempted (Scheduled Caste)
13.	EMD/Bid Security Payable to	:	-----
14.	Transaction Fee	:	0.03% on ECV (Estimate Contract value) (including 18% Goods and Service Tax on transaction fees). Refer e-procurement web-site
15.	Transaction Fee Payable to	:	Payable on line to M/s Vupadhi Techno Services Pvt. Ltd., Hyderabad.
16.	Schedule download starting Date	:	16/04/2024 at 19:00 Hrs
17.	Schedule download Closing Date	:	02/05/2024 at 12:00 Hrs
18.	Bid Submission Closing Date	:	02/05/2024 at 15:00 Hrs
19.	Bid Submission	:	Online
20.	Price Bid Opening Date	:	02/05/2024 at 15:01 Hrs
21.	Place of Bid Opening	:	O/o Superintending Engineer/OMC Circle/Karimnagar.
22.	Officer Inviting Bids	:	Superintending Engineer/OMC Circle/Karimnagar
23.	Address	:	132 KV SS Karimnagar premises, Jagtial Road, P.O. KARIMNAGAR - 505001
24.	Contact Details/Telephone/Fax	:	Mobile: 9490154095
25.	Eligibility Criteria	:	(i) Bidder should belong to Scheduled Caste/cooperative societies as per the T.O.O (CE-Civil) MS. No. 511, Dt: 03.01.2020. ii) Registration with TSTRANSCO/TSNPDCL/TSSPDCL for electrical/Civil works. (iii) Turnover of the bidder for the year 2021-22 or 2022-23 shall not be less than the ECV. ii) The contractor shall have experience in similar nature of works as the said tender and their proofs of experiences may be furnished.
26.	General Terms & Conditions	:	Refer general terms and conditions of contract of and Technical Specification. Note: Bidders are requested to go through all the clauses and contents of specification thoroughly and quote the bid. Ignorance of clauses will not be entertained by the purchaser at later date.

Sd/-
Superintending Engineer,
OMC, Karimnagar

GENERAL TERMS & CONDITIONS

Name of the work:-

Protection of Z+9 type tower Gabion mattress at Loc No 6 of 220KV Ramadugu LILO at Rudraram, Ramadugu Mandal in Karimnagar district.

1. ELIGIBILITY:

- a) Bidder should belong to Scheduled Caste/cooperative societies as per the T.O.O (CE-Civil) MS. No. 511, Dt: 03.01.2020.
- b) Registration with TSTRANSCO /TSNPDCL/TSSPDCL for electrical/civil works.
- c) Turnover of the bidder for the year 2021-22 or 2022-23 shall not be less than the ECV.

2. FIRM PRICE: Price quoted shall be firm for the contract period. Price variations are applicable only for substation structures and earth flats.

3. PRICE VARIATION: Price variation is applicable only for the cement, reinforcement steel & structural steel and for the remaining items the prices are firm.

PRICE VARIATION CLAUSE for Reinforcement Steel , Structural steel & Cement:

Price Variation is applicable in respect of the items Cement, Reinforcement steel & Structural steel as per the T.O.O.CE(Civil) Ms.No.24 Dt: 25.04.2008, T.O.O (CE-Civil) MS No.84,Dt:12.06.2012 and T.O.O (CE-Civil) MS No.260,Dt:28.11.2012.

- The price adjustment shall be applicable within original contract period or period extended on grounds of the departmental delays and valid reasons and shall not be applicable to the extension granted on account of the contractor's fault.
- Price adjustment shall be applicable for actual components of items of works actually carried out during the period of the bill. The price variation formulae is $PV = (\text{Final Rate} - \text{Basic Rate}) \times \text{Quantity}$.
- The adjustment scheme will be applied in all cases where the variation between the estimated rates and board of Chief Engineers approved rates (increase or decrease) is more than 5% for the month.
- For the time extension due to departmental fault, both +ve and -ve price variations are applicable. For the time extension due to Contractor's fault, only -ve variation is applicable.
- After approval of monthly steel & cement price adjustments by the concerned authority after scrutiny by SAO/AO of the zone, the consolidated monthly or bimonthly or quarterly supplemental slip (as supplemental slip to original agreement) has to be submitted to the LOI issuing authority along with all relevant approved price adjustments for authorization for payment.
- The basic rate of reinforcement steel and Cement taken in the estimate are of February-2024.

4. VALIDITY OF BIDS: The rates quoted shall be valid for 90 days from the date of opening of tender.

5. EARNEST MONEY DEPOSIT:

(i). Exempted (tender invited from cooperative societies and individuals belonging to Scheduled Caste).

(ii) However, EMD will be recovered from running bills after expenditure of 25% of the concerned works.

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OMC, Karimnagar.

6. DOCUMENTS TO BE FURNISHED:

The Bidder shall enclose with the tender the copies of

- a. Caste certificate issued from Government of Telangana/ Society registration certificate by the concerned.
 - b. Registration with TSTRANSCO /TSNPDCCL/TSSPDCL for electrical & civil works.
 - c. CA certificate for turnover for the year 2021-22 or 2022-23
 - d. Certificates of Experience in similar nature of works.
7. **SECURITY DEPOSIT:** Contractor has to pay within 15 days from the date of issue of the LOI, equal to 5% of the total value of the contract as security deposit. The security deposit shall be paid in shape of Demand Draft drawn in favour of the Superintending Engineer/OMC Circle / TSTRANSCO / Karimnagar payable at State Bank of India, Main branch, Karimnagar or online payment to SBI A/C No. 52106235959, IFSC code SBIN0020134. No interest will be paid on security deposit. The security deposit will be released after completion of guarantee period upon certification by the concerned field Engineer on satisfactory performance of the works.
8. **ADDITIONAL SECURITY DEPOSIT:** If the rate quoted by the bidder is less than 10% of ECV, additional security deposit (ASD) shall be paid for an amount equal to the less percentage below 10%. E.g, if the bidder quotes 15% below the ECV, then he has to pay ASD equivalent to 5% of the ECV. The Additional Security Deposit shall be paid in the form of DD in favour of the Superintending Engineer / OMC / TSTRANSCO / Karimnagar payable at SBI, Main Branch, Karimnagar or online payment to SBI A/C No. 52106235959, IFSC code SBIN0020134. The Additional Security Deposit will be released after completion of the work upon certification by the concerned field engineer.

9. REJECTION OF BID:

The bid is liable for rejection

- i) If proof of payment of EMD is not enclosed.
- ii) If the documents mentioned at point 6 are not enclosed.
- iii) The tender quoted more than 5% will be rejected.

10. EVALUATION CRITERIA:

- a. Where there is a discrepancy between the unit price and total price, the unit price will prevail and the total price will be corrected accordingly.
- b. Where there is a discrepancy between words and figures, the amount in words will prevail.
- c. Evaluation will be done based on the total price with applicable GST.
- d. Bidder who offers the lowest price on the estimate will be accepted.

11. NEGOTIATIONS: Only L1 bidder will be called for negotiations.

Contractor

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OMC, Karimnagar.

12. PURCHASE ORDER/AGREEMENT:

- a. Successful bidder will be issued with contract award order after due payment of security deposit as mentioned at clause-6 and the successful bidder will then be called the service provider.
- b. The service provider shall acknowledge the purchase order/agreement.

13. PAYMENT TERMS:

- i) 95% payment will be made based on the bills of the contractor after certification of work done by the officers in charge of the work and following all the rules in vogue.
- ii) Balance 5% of payment will be made after completion of guarantee period upon certification by the concerned field engineer on satisfactory performance of the works.

14. If the contractor has received any excess payment by mistake or if any amounts from the TSTRANSCO due to any other reason, when it is not possible to recover such amounts under the Contract recovering the same from any other amounts and Bank Guarantee given by the contractor due to or with the TSTRANSCO.

15. The work should be completed within 60days from the date of handing over of site. The work should be carried out as per the schedule enclosed.

16. QUALITY:

Equipment/Materials supplied by you shall be of good quality. The Executive Engineer / Civil / Karimnagar shall ensure the quality of the material before use.

17. TELANGANA GREEN FUND:

0.01% of the total value of the contract will be deducted and will be remitted to the concerned department.

18. PENALTY FOR DELAY IN SERVICE:

The time for and the dates for delivery mentioned in the contract will be deemed to be the essence of the contract. Subject to force majeure clause, if the Service Provider fails to deliver the services within the period(s) specified in the contract, the TSTRANSCO will, without prejudice to its other remedies under the contract, deduct from the contract price, as liquidated damages, a sum equivalent to 0.5% per week on the undelivered portion subject to a maximum of 5% of the total value of the contract. Once the maximum is reached the TSTRANSCO may consider termination of the contract.

For penalty, the number of days would be rounded off to the nearest week and penalty will be calculated accordingly. The penalty specified above will be levied and would be adjusted against subsequent pending bills.

In case the contractor fails to execute the works as per the programme, TSTRANSCO reserves its right to get the balance works executed by other agencies at the risk and cost of the successful bidder, this is addition to the right of the TSTRANSCO to recover any damage from the contractor and also blacklisting.

Contractor

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Superintending Engineer,
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19. EXTENSION OF THE COMPLETION DATE: When a work cannot be completed within the completion period indicated for reasons beyond the control of the contractor i.e., due to Force Majeure Conditions mentioned below or due to the reasons attributable to TSTRANSCO, the Contractor shall represent for the same and extension of time without levying penalty shall be granted only on the issue of an undertaking by the contractor that they will not put forth at a later date any claims, for extra payments towards increased overheads, material/equipment/works costs etc., during the extended period. It is the sole discretion of the TSTRANSCO to grant extension of completion period. However, price variation is applicable as per the price variation clause of the purchase order.

20. DEVIATION CLAUSE:“The quantities indicated in the schedules are only provisional and are likely to change at the time of awarding contract or during execution. When quantities of any item are likely to exceed beyond 25% over and above the scheduled quantity or any new items/supplemental items arises, the contractor shall bring the fact to the notice of the Superintending Engineer/OMC/Karimnagar, three weeks in advance and take orders for going ahead with the work.

All such items of works shall, however, be executed only on the written directions of the concerned Divisional Engineer. The contractor shall execute all increased/supplemental/new items that are found essential, incidental and inevitable during execution of the contract at the rates to be worked out as below:

a) For the items covered in schedule:

For quantities increased over and above the scheduled quantities: The rates awarded in the contract are applicable for any increase in quantities of works.

b) For Supplemental / New Items:

- i) For the items where the rate can be deduced from the estimate or TSTRANSCO / DISCOMS / Common SSR, the rate applicable will be the estimated / SSR rate plus or minus (+/-) tender percentage accepted by the bidder for Schedule-B. The schedule of rates adopted for supplemental items/new items shall be from the current SSR applicable during the execution period.
- ii) For the items where the rates of new items cannot be deduced from the estimate / SSR, the rate payable will be arrived based on the prevailing market rates duly enquiring / collecting quotations and observing the reasonableness of the rates by the purchaser.”

21. GOODS AND SERVICES TAX (GST):

- a. GST No. of TSTRANSCO is 36 AAFCT0166J1Z9 and shall be quoted on their invoice.
- b. The GST Registration number of Supplier shall to be quoted on each invoice.
- c. Tax invoice shall contain SGST and CGST breakup (or IGST) along with HSN Code.

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Superintending Engineer,
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- d. Suppliers who have opted for composition scheme in GST shall not charge GST in their invoice. Supplier shall submit the Bill of supply without charging GST stating on the top of their Bill of Supply that “Composition taxable person, not eligible to collect tax on supplies”.
 - e. The input tax credit claimed by registered taxable person should commensurate reduction in the price of goods and services supplied to TSTRANSCO.
 - f. GST TDS @ 2% will be recovered and remitted to Government (if applicable).
 - g. E-mail address shall be mentioned on the invoice to send TDS certificate.
 - h. e-Invoice shall be furnished whose aggregate turnover exceeds Rs.5.00 crores in a financial year.
 - i. In case turnover is less than Rs.5.00 crores, a declaration shall be furnished by the supplier / vendor regarding their turnover.
 - j. A copy of GST payment challan and proof of filing GST return by the supplier / vendor shall be furnished.
22. **TECHNICAL REQUIREMENTS:** The works shall be carried out in accordance with the standard practices and relevant clauses of the specification. The tools and plants required for renovation works shall be arranged by you.
23. Applicable labour cess @1% will be deducted from the bills.
24. **STATUTORY VARIATION:** Any variation in taxes up or down will be to the account of TSTRANSCO.
25. **GUARANTEE:** The contractor should stand guarantee for the workmanship for a period of 12 months from the date of completion of work i.e from the date of check measurement.
26. If any accident occurs to the contractor or to his labour during the course of work or outside, the Contractor only will be held responsible and for any compensation to be paid, the contractor has to pay. The TSTRANSCO is not responsible and if the contractor does not pay such Compensation as settled by the courts or labour departments, the TSTRANSCO will recover such amount from any of the bills of the contracts held with TSTRANSCO.
27. The contractor should provide all statutory requirement and facilities to the workers engaged at his own cost.
28. The work under execution shall be done under the supervision of Contractor’s supervisor, as per the instructions of TSTRANSCO Engineer in charge.
29. The contractor should arrange accommodation and boarding to the workers engaged by him for the work, at his own cost nearer to the work spot.

Contractor

Sd/
Superintending Engineer,
OMC, Karimnagar

30. For any reason if the work is delayed, stopped, interrupted or trying to postpone the work without any reasonable cause to the satisfaction of TSTRANSCO Engineers, the loss sustained by the TSTRANSCO due to above inconvenience shall be paid by the contractor.
31. Every care should be taken by the Contractor for his labour while doing the work so as to not to damage the TSTRANSCO equipment, properties, T&P, etc. In case of any damage, the contractor is responsible and shall pay the damages sustained.
32. The contractor shall comply with all state and central laws, statutory rules, regulations etc., such as payment of wages act, minimum wages act, workmen compensation act, employees liabilities act, industrial disputes act etc., and EPF scheme and other acts as directed by Government during the tenure of contract period.
33. What so ever may be reason, no extra payment will be made by TSTRANSCO other than the agreed rates at a later date.
34. Medical facilities for the labour engaged by the contractor should be arranged at his own cost.
35. The contractor's personnel should follow all the rules in vogue at site.
36. In case, the work carried out is not satisfactory to the Engineer of TSTRANSCO, the Superintending Engineer / OMC / TSTRANSCO / Karimnagar reserves the right to terminate the contract with 7 days notice and get the balance work done by other agencies and recover the cost if any from the amounts of the bidder available with TSTRANSCO.
37. No part of the contract shall be sublet without written permission of Superintending Engineer / OMC / TSTRANSCO / Karimnagar nor shall be transferred power of attorney / authorizing others to receive payments on contractor's behalf.
38. TSTRANSCO has right to cancel the work at any stage without assigning any reason.

39. Termination for Default:

TSTRANSCO, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Service Provider, may terminate this Contract in whole or in part:

- i. If the Service Provider fails to commence the AMC within the period(s) specified in the Contract, or within any extension thereof granted by the TSTRANSCO.

Contractor

Sd/
Superintending Engineer,
OMC, Karimnagar

- ii. If the Service Provider fails to perform any other obligation(s) under the Contract.
- iii. If the Service Provider, in the judgment of the TSTRANSCO has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- iv. If the service provider is proved to have resorted to abnormal prices such as quoting excess prices to the spares not covered under AMC etc.

In the event TSTRANSCO terminates the Contract in whole or in part, TSTRANSCO may arrange alternate services upon such terms and in such manner, as it deems appropriate, Materials or services similar to those undelivered, and the Service Provider will be liable to the TSTRANSCO for any excess costs for such similar or Services. However, the Service Provider will continue to perform the Contract to the extent not terminated.

40. Termination for Insolvency:

TSTRANSCO may at any time terminate the Contract by giving written notice to the Service Provider if the Service Provider becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Service Provider, provided that such termination will not prejudice or not affect any right of action or remedy, which has accrued or will accrue thereafter to the TSTRANSCO.

41. No part of the contract shall be sublet without written permission of Superintending Engineer / OMC / TSTRANSCO / Karimnagar nor shall be transferred power of attorney / authorizing others to receive payments on contractor's behalf.

42. FORCE MAJEURE:

- a. The contractor will not be liable for penalty for delay in work or termination for default if and to the extent that its delay is the result of an event of Force Majeure.
- b. For purpose of this clause, "Force Majeure" means an event beyond the control of the supplier and not involving the contractor's fault or negligence and not foreseeable. Such events may include, but are not restricted to, wars or revolutions, fires, floods, epidemics, quarantine restrictions, lockdowns and freight embargoes.

Contractor

Sd/
Superintending Engineer,
OMC, Karimnagar

- c. If a Force Majeure situation arises, within 15 days from the date of eventuality, the contractor shall notify TSTRANSCO in writing of such condition and the cause thereof. Unless otherwise directed by the TSTRANSCO in writing, the contractor shall continue to perform their obligations under the contract as far as it is reasonably practice, and will seek all reasonable alternative means for performance not prevented by the Force Majeure event.

43. **JURISDICTION:** All and any disputes or differences arising out of or touching this contract will be decided by the Courts situated at Karimnagar in Telangana State.

44. **GENERAL:**

- i) Bidder shall sign on all the pages of the specification as a token of acceptance of all the terms and conditions of the specification.
- ii) Bidders shall furnish the declaration in the prescribed format (enclosed) regarding relationship with Transco employees. If false information is furnished in the declaration regarding “Relationship with Transco employees”, it will render the contract liable for termination as well as recovery of damages.
- iii) In case of ambiguity, discrepancy with respect to tender conditions and situations which are not covered in tender specification, SE/OMC/Karimnagar is the final authority for taking decision and no correspondence will be entertained in this matter and the decision taken cannot be questioned.
- iv) The Superintending Engineer/OMC/Karimnagar reserves the right to reject any or all the tenders without assigning any reason.
- v) The Superintending Engineer/OMC/Karimnagar reserves the right to cancel the tender process at any stage if required and bidders shall not have right to ask for reasons.

45. Any further information regarding tender, specification and schedule can be had from the Office of Superintending Engineer / OMC / TSTRANSCO / Karimnagar.

Contact person: ADE (Tech): **9490154095**

Sd/
Superintending Engineer
OMC, Karimnagar.

To
The Notice Board.

Copy submitted to
The Chief Engineer / Karimnagar Zone / TSTRANSCO / Karimnagar

Specification No. : e02/24-25 (S03/2024-25) of SE/OMC/Karimnagar

Scope of Supply / Work : Protection of Z+9 type tower Gabion mattress at Loc No 5 of 220KV Ramadugu LILO at Rudraram, Ramadugu Mandal in Karimnagar district.

Schedule of Service Quantities and Prices (PR No.1200006862)

(All Financial Figures in Rs.)

ERP Item No./ Sub-Item No.	Schd No.	Service Code	Service Description	HSN Code	Qty.	Unit	Rate/Unit	Per	Total Base Value	GST (%)	Total GST	Corpus Fund	Total Tax Portion	Total Amount
1			gabion mattress at loc.no.6 220kv ramadg											
1 /1		SM01004	Earthwork excavation in all types of soils (upto stone matrix) which can be excavated in combination of mechanically and manually with pick axe and crow bars and do not require blasting in all conditions such as dry, wet, slushy etc., covering initial lead and lift etc., and backfilling the foundations (after laying foundations) with excavated earth including watering, compacting as per standard specification and disposing of surplus earth within site (up to 1KM lead) complete as per directions of Engineer in charge at site for finished item of work.	995429	26	M3	184.09	1	4,786.34	18%	861.54	4.79	866.33	5,652.67
1 /2		SM00009	Filling around the foundation / inside the rivetment walls if required where ever necessary with suitable borrowed earth other than clayey soils for filling as per the standard specifications of APDSS in uniform horizontal layers (0.15) including cost and conveyance of all materials, watering and ramming, tools & tackles, all labour charges, all leads & lifts etc, complete for finished item of work as per the directions of the Engineer-in-charge.	995429	440	M3	351.27	1	154,558.80	18%	27,820.58	154.56	27,975.14	182,533.94
1 /3		LNC0000	PROVIDING AND CONSTRUCTION OF A	995429	87	M3	3,367.01	1	292,929.87	18%	52,727.38	292.93	53,020.31	345,950.18



ERP Item No./ Sub-Item No.	Schd No.	Service Code	Service Description	HSN Code	Qty.	Unit	Rate/Unit	Per	Total Base Value	GST (%)	Total GST	Corpus Fund	Total Tax Portion	Total Amount
		016	<p>GABIAN STRUCTURE FOR RETAINING EARTH WITH SEGMENTS OF WIRE CRATES OF SIZE 7 M X 3 M X 0.6 M EACH DIVIDED INTO 1.5 M COMPARTMENTS BY CROSS NETTING, MADE FROM 4 MM GALVANISED STEEL WIRE @ 32 KG PER 10 SQM HAVING MINIMUM TENSILE STRENGTH OF 300 MPA CONFORMING TO IS:280 AND GALVANIZING COATING CONFORMING TO IS:4826, WOVEN INTO MESH WITH DOUBLE TWIST, MESH SIZE NOT EXCEEDING 100 X 100 MM, FILLED WITH BOULDERS WITH LEAST DIMENSION OF 200 MM, ALL LOOSE ENDS TO BE TIED WITH 4 MM GALVANISED STEEL WIRE AS PER TECH SPECIFICATIONS 2503.3 MORTH</p> <p>(Providing and constructing gabian structures for erosion control, riverainning works and protection works with making Gabion structure withchanically woven Double Twisted Hexagonal shaped wire mesh Gabianxes as per IS 16014:2012 MORTH Clause 2500, of required size,mesh typex12 (D=100mm with tolerance of +_2%), Zinc+10% Al alloy +PVC coated,sh wire diameter 2.7/3.7mm (ID/OD), mechanically edged/selvedged withrtitions at every 1 m interval and shall have minimum 10 numbers ofenings per meter of mesh perpendicular to twist , tying with lacingre of diameter 2.2/.2 mm (ID/OD), supplied @3% by weight of Gabionxes filled with boulders with least dimension of 200mm, as per theawing, including supply of geotextile all complete as per therections of the engineer incharge for finished item of the work.)</p>											



ERP Item No./ Sub-Item No.	Schd No.	Service Code	Service Description	HSN Code	Qty.	Unit	Rate/Unit	Per	Total Base Value	GST (%)	Total GST	Corpus Fund	Total Tax Portion	Total Amount
1 /4		SSC0000 151	Seigniorage charges including SMET	995429	22160. 52	RS	1.00	1	22,160.52	18%	3,988.89	N/A	3,988.89	26,149.41

NOTE: CGST and SGST amounts shall be shown in separate columns in the vendor invoices

Total 474,435.53

560,286.20

Amount in words : Five Lakh Sixty Thousand Two Hundred Eighty Six Rupees Twenty Paise



TECHNICAL SPECIFICATION OF WORKS

1.0 SCOPE:

This Specification provides for the execution of civil works for the “Construction of Gabion wall for protection of Location No.164(A+3 tower), 220KV Durshed-Sircilla line in OMC Circle, Karimnagar”. The work involves items related to office rooms, bathroom renovation,

False ceiling, sanitary works etc. The contractor shall execute the works to the extent required to complete the work as a whole.

2.0 WORKS INVOLVED:

- 2.1. Dismantling of Existing Brick Masonry
- 2.2. Providing High Yield Strength Deformed (HYSD) & RCC M-20
- 2.3. Brick Masonry
- 2.4. RCC Flanks
- 2.5. Painting
- 2.6. Electrification and
- 2.7. Sanitary works

3.0 CLEARING UP THE SITE :

During the work, the contractor shall keep the work site and storage area used by him free from accumulation of wastematerials or rubbish and before completing the works the contractor shall, at his own cost, remove or dispose in a manner satisfactory to the Engineer in charge.

All temporary structures, waste and debris shall be cleaned, all holes in the ground shall be filled in and the land restored to its original state as far as is practicable and the entire premises should be in a neat and tidy condition of cleanliness as the Engineer in charge may direct. Any damage done to the permanent or temporary works of TSTRANSCO by the contractor shall be made good at contractor's expenses.

4.0 SITE STORES:

The successful bidder shall establish a temporary stores at his cost at the substation site for storing cement, equipment etc. This store should be dismantled and site cleared after the work is completed by him.

5.0 SITE CONDITIONS:

The bidder is expected to familiarize with the site conditions and facilities available before quoting.

6.0 TECHNICAL SPECIFICATION FOR COMMON BUILDING MATERIALS:

The aggregates such as sand metal shall be obtained from the source as indicated in lead statements.

- 6.1. **INDIAN STANDARDS:**The aggregates both fine and coarse shall comply with the requirements of I.S.456 for concrete and I.S.383 for sand for use in rendering, plastering and mortar except as hereinafter stated and shall be delivered to and maintained at the site, clean, washed and free from dirt.
- 6.2. **SAMPLES:**Samples shall be submitted to the Engineer and all aggregates used in the work shall be atleast equal to the approved samples.
- 6.3. **FINE AGGREGATE:**The fine aggregate for concrete, shall consist of naturally occurring and graded in accordance with the requirements of IS.383 for grading Zone-2 or grading Zone-3 except that no particle shall exceed 3/16 inch. It shall be free from excessive sharpness. Fine aggregate cement mortar and lime mortar and rendering plastering shall comply with IS 383.
- 6.4. **COARSE AGGREGATE:**Coarse aggregate shall be graded to produce sound concrete and for reinforced concrete shall be such that at least 5% by weight will pass a mesh of a size 1/4 per inch less than the minimum lateral distance between the reinforcing bars or 1/4 inch less than the minimum cover, whichever is smaller.
- 6.5. **WATER FOR CONCRETE:**Clean fresh water shall be used for mixing concrete grout and mortar and curing. The water used for mixing and curing shall be free from deleterious matter and acids and alkaline substances in a solution or suspension. Potable water shall generally be used for mixing and curing concrete.
- 6.6. **WATER FOR DRINKING:**All potable water shall be free from deleterious matter and shall be equal to or better than the minimum standard acceptable to the local and state authorities. Filtration and chlorination by approved means shall be installed as necessary to obtain the required standard. Storage and distribution of potable water shall be such as to prevent contamination.
- 6.7. **CEMENT:** Ordinary Portland cement of Grade 43/53 manufactured as per IS 8112 of 1989 shall only be used.Storage, certification, delivery and testing of the cement shall conform to IS:269, IS:8112 or the latest issue. IS certification mark is obligatory.

Cement procured from major cement manufacturing plants such as M/s Raasi, M/s Vishnu, M/s Andhra cement co., ACC, CCI, M/s L&T and Coramandel, Priyadarshini, Madras Cements etc will only be accepted for which prior approval shall be obtained from the employer. Copies of invoices and test certificates from the cement manufacturers shall be submitted by the contractor to the Engineer and his clearance obtained before actual use. Such clearance will be provided within a maximum period of one week.

- 6.8. **REINFORCEMENT:** Steel required for reinforcement will be procured by the contractor. The contractor shall work out the requirement immediately after taking over the site and receipt of working drawings and take the approval of the site Engineer and arrange for procurement.
- 7.0 **MATERIAL & QUALITY:** All the materials used in the works shall be of the best quality of their respective kinds and specified herein. They shall be obtained from sources and suppliers approved by the Engineer in charge and shall comply strictly with the tests, specified hereinafter or, where tests are not specified in this specification they should conform to the requirements of the latest issue of the relevant Indian Standards hereinafter abbreviated to as (I.S.) or other approved National Standards authorized by the Engineer.
- 8.0 **INSPECTION AND TESTING:** All the materials used in the works shall be subject to inspection and tests if required by the Engineer in charge. Unless otherwise stated, the cost of all tests required by this specification shall be deemed to be included in the rates and prices named by the contractor in the bill of quantities. Any material which is prepared or manufactured without notice having been given in writing to the Engineer in charge may be rejected if the Engineer in charge considered that his inspection was necessary during the progress of manufacture of such material.
- 9.0 **APPROVAL:** No material shall be used in the works unless they have first been approved by the Engineer in charge.
- 10.0 **TECHNICAL SPECIFICATION FOR CEMENT CONCRETE:**
- 10.1. **CODE OF PRACTICE:** Except where otherwise specified, described or directed all concrete and reinforced concrete work shall be carried out in accordance with Indian Standard 456 Code of practice for plain and reinforced concrete.
- 10.2. **GAUGING CONCRETE:** Aggregate shall be measured in proper gauge boxes. When measuring the fine aggregate due allowance shall be made for the moisture content and the bulk adjusted to suit the mix. The methods adopted for gauging the concrete materials shall have the approval of the Engineer.
- 10.3. **CONCRETE PROPORTIONS:** The concrete shall be of nominal mix as specified in the drawings or in the bill of quantities.

- 10.4. **CONSISTENCY:**The quantity of water used shall be sufficient to produce a dense concrete of adequate workability for its purpose, which will surround and properly grip all the reinforcement.
- 10.5. **CRUSHING STRENGTH:**The crushing strength of the concrete should be as specified in IS.456 for the proposed mixes.
- 10.6. **GAUGING WATER:**The General arrangements for the supply of water for mixing concrete shall be to the satisfaction of the Engineer who will determine the quantity of water to be employed in the mix according to the degree of moisture in the aggregate. The quantity of water thus determined shall be accurately measured for each separate mixing in a suitable container.
- 10.7. **MIXING CONCRETE:**Concrete shall be thoroughly mixed to a uniform consistency in the mixing machines of approved types. Mixing shall continue until the cement is thoroughly distributed throughout the mass, and shall last at least two minutes or for 80 turns of the mixer after the whole of the water has been added. Any concrete showing signs of initial setting before being deposited shall not be used in the works and shall be removed from the site. The concrete shall be discharged from the mixer on to a level watertight platform or floor or into a water tight receptacle. Normally hand mixing of concrete will not be allowed but where the total quantity of concrete is considerably small, the mixing may be done by hand subject to the approval and entirely at the discretion and satisfaction of the Engineer.
- 10.8. **QUALIFIED ENGINEER:**The contractor shall employ qualified Engineer with a qualification of not less than a degree in Engineering who shall be responsible for all concreting carried out for the works. He shall be available at site at all times when concreting is being carried out.
- 10.9. **CONCRETE IN UNSUITABLE WEATHER:**In the event of rain, storms or other severe weather conditions arising, concreting shall be stopped and appropriate temporary stop ends, vee groves etc., placed as may be necessary. To meet such circumstances, the contractor shall always have in readiness on the site approved framed sheeting tarpaulins etc., for the protection of newly placed concrete. Should any concrete be damaged due to rain, streams or other weather conditions, the Engineer may order the cutting out /replacement of the damaged concrete at the expenses of the contractor.
- 10.10. **FORM WORK:**This clause is applicable for form work/ centering etc for all the civil works under the specification.
- 10.10.1. The form work shall conform to clause 10 of I.S.456 latest. The contractor entirely responsible for the sufficiency and efficiency of the form work, which term includes moulds, and also for the

safe removal of the same. Before commencing the work he shall submit for the approval of the Engineer, details of the form work he proposes to use but such approval shall in no way relieve him of any of his responsibilities for the sufficiency and efficiency of the work and that it will be resistant to the strains imposed on it in vibrating the concrete and will retain all the fines in the concrete as may be necessary to provide the desired concrete surface.

- 10.10.2. The form work shall be designed and arranged so that it will not settle under the load and can be stripped and removed without causing any blemish or jar to the concrete.
 - 10.10.3. For beam soffits the contractor shall provide cambers or such other form which will ensure that undersides of beams are truly horizontal or cambered to the extent shown in the drawings.
 - 10.10.4. All forms shall be securely braced and supported to prevent any sagging or bulging during construction. In no circumstances shall wire ties be used. All chamber and radius strips. Liners and cores shall be provided where necessary and shall be due to space and securely fixed. All forms shall be fixed to the proper line and trued up immediately before depositing the concrete. All joints shall be close enough to prevent leakage liquid from the concrete.
 - 10.10.5. Form work for all exposed faces of mass concrete and for all faces of reinforced concrete shall consist of approved material so finished as to produce the concrete surface, finish specified without any loss of fines and without honey-combing or bulges etc., strutting shall be of such design to allow accurate adjustment and easy removal.
 - 10.10.6. Strutting of form work against the sides of the structures which is subject to movement or vibration will not be permitted.
 - 10.10.7. The inside faces of the forms shall be treated with mould oil or other approved preparation in either case, that will not have deteriorating effect either the strength or prevent the oil or other approved preparation coming into contact with the reinforcement.
- 10.11. **REMOVAL OF FORM WORK:**The length of time between concreting and the removal of the formwork is the sole responsibility of the contractor. It shall, however, be competent, to the Engineer to require a minimum length of time. For structure foundation, minimum time limit specified is 24 hours for removing form work from date of placing concrete.

- 10.12. **STOP ENDS:**The position of temporary stop ends for vertical joints shall be as approved by the Engineer. Shuttering to form the stops shall be firmly fixed and secured round the reinforcing bars. Such concrete as passes through the stops shall be hacked off and removed as soon as the concrete has set.
- 10.13. **CONSTRUCTION JOINTS:**Recesses of approved size and type shall be formed in construction joints where required by the Engineer in order to form a key with the following concrete. The cost of all shuttering to construction joints shall be deemed to be included in the rates named in the priced bill of quantities. Before Depositing any concrete resting or abutting on work previously carried out the surfaces and ends of the existing work shall be thoroughly raked to such an extent that no portion of the previous surface remains. Thus roughened surfaces shall be thoroughly cleaned off, brushed and watered immediately before the succeeding operations are commenced. The roughened surfaces shall be coated with cement/sand mortar 1/2 inch thick immediately before the concrete of the next layer is placed (special care shall be taken to put the mortar and fresh concrete thoroughly up against the hardened concrete).
- 10.14. **CLEANLINESS OF FORM WORK:** Before concreting is commenced all formwork shall be scrupulously cleaned and wetted, and the contractor shall adopt all necessary measures to ensure that all debris, dirt, wash water and other refuse is removed. The reinforcement and form work will then be inspected by the Engineer and concreting shall not be commenced until the Engineer gives permission. Such inspection shall not however relieve the contractor any of his responsibility for the correctness of the work in every respect.
- 10.15. **EXECUTION OF CONCRETE WORK:**Section limits: Concreting shall be carried out in Sections, not exceeding the limits specified for particular work.
- 10.16. **CASTING PROGRAMME:** The contractor's casting programme shall be such that such section of work can be satisfactorily completed in one operation after permission has been given to proceed. No claim for overtime working to complete a casting programme will be entertained.
- 10.17. **CONVEYANCE OF CONCRETE:**The concrete shall be conveyed from the mixer to its place in the works as rapidly as possible and in such a manner that there shall be no separation or loss of the ingredients. In no circumstances shall more than half an hour lapse between the time when water is added to the mix and the time when the concrete is finally consolidated in position. The use of concrete distributing chutes at an angle of more than 45degrees from the horizontal will not be permitted without the prior written sanction of the Engineer. In no case shall concrete be dropped from barrows or otherwise from a height of more than one and half

meters. The arrangements to be adopted by the contractor for conveying and depositing concrete shall be subject to the approval of the Engineer.

- 10.18. **DEPOSITING CONCRETE:** Before any concrete is put in, the contractor shall carryout any filling of pockets or trimming the sides where found necessary to suit the level and line of the concrete to be laid as directed by the Engineer at site. Unless otherwise approved, concrete shall be placed in one operation to the full thickness of members.
- 10.19. **CONSOLIDATING CONCRETE:**Concrete normally shall be consolidated by means of sufficient number of mechanical vibrators. Hand ramming and tamping will only be allowed where specified or by the prior permission of the Executive Engineer. Hand ramming and tamping where permitted shall be sufficient and efficient such as to produce uniform consolidation.
- 10.20. The concrete shall be thoroughly worked all around reinforcement and against shutters so that all entrained air is duly expelled and the concrete surface when stripped be found to be good and free of the formation of air pockets, honey combing or other defects.
- 10.21. The concrete shall be worked into position where placed and not allowed to flow, for sloping beams the work of depositing concrete shall start from the lower end and work upwards.
- 10.22. Except where arrangements, approved by the Engineer are made for placing concrete under water, the areas on which concrete is to be deposited shall be made and kept free from standing water during concreting operations and running water crossing or entering such areas shall be brought under control before concreting is commenced.
- 10.23. **FINISH OF CONCRETE SURFACES:**Immediately any wrought or metal faced for work is struck the surface of the concrete will be inspected by the Engineer and after any remedial work directed or permitted by the Engineer has been completed to his satisfaction, the contractor shall remove all form marks and other imperfections in order to give uniform appearance. The cost of this work shall be included in the rates for concrete.
- 10.24. Floor surfaces shall be worked to a smooth even finish to correct levels of falls as indicated in the drawings or as directed.
- 10.25. Where so directed, concrete floor surfaces shall be treated with silicate of soda grade P.84 diluted with four times its volume of water applied to the work with a watering can or spray and afterwards spread evenly with a mop or brush. Twenty four hours later a second application shall be made and, if any surface still appears porous, further applications of the solution shall be given until the work will absorb no more. Any excess of liquid on the surface after the last coat has been absorbed shall be removed

and the surface allowed to dry. When dry it shall be washed with the plain water.

- 10.26. **CURING:**The curing period shall commence immediately after the concrete is finally trowelled or screeded and continued for a period of 21 days. The top and side surfaces of concrete shall be kept moist and be protected from the direct rays of the sun during the period. The contractor shall submit to the Engineer, his proposals for ensuring continuous protection of the concrete during the curing period.
- 10.27. **DEFECTIVE WORK:** Concrete which is defective from any cause what so ever shall, if so directed by the Engineer in charge, be cut out and the work reconstructed at the successful bidder's cost. No concrete thus cut out shall be reused.
- 10.28. The faces of the concrete work shall be sound and solid, free from honey combing.No 'patching' of any concrete facing will be allowed without the express written permission of the Engineer.

Contractor

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