

MILITARY ENGINEER SERVICES
COMMANDER WORKS ENGINEERS No.2,
MES OFFICE COMPLEX,MUDFORT, SECUNDERABAD - 500 003

PROVN OF RD FROM ARJUN CHOWK TO OR ACCN AT ARTY CENTRE HYD AND
MD ACCN P-175 TO 12 IB LINES UNDER GE GOLCONDA.

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Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

Telephone :040-29558251(CWE)
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E -Tender

Commander Works EngineerNo.2
Military Engineer Services,
MES Office Complex,Mudfort,
Secunderabad - 500 003

No: 81239 /15/E8

15 Oct 2024

ALL ELIGIBLE BIDDERS

**PROVN OF RD FROM ARJUN CHOWK TO OR ACCN AT ARTY CENTRE HYD AND
MD ACCN P-175 TO 12 IB LINES UNDER GE GOLCONDA.**

Dear Sir,

1. Tender documents along with BOQ in respect of above work are uploaded on the site www.defproc.gov.in. The tender is on single stage two cover e-tendering system.

2. **Contents of Cover I & Cover II**

"Cover 1" shall contain application with complete supporting documents/ affidavit required for satisfying the eligibility criteria as specified in NIT including proof for cost of tender and EMD (**as applicable**), excluding the Quotation/ price bid (BOQ)". "Cover 2" shall contain "Bill of Quantity (BOQ) duly quoted by the bidders and Tender Documents". The bids of established eligible contractors only shall be opened in the process on the date specified for opening of commercial/ priced bids i.e. cover 2.

3. The last date of receipt of **online application (Cover-1)** along with scanned copies of documents mentioned in Notice Inviting Tender shall be as per the critical dates given in tender documents. DD towards cost of tender should reach the office of CWE No 2 Secunderabad **within 5 days from date of bid submission end date**, failing which their price bid (Cover 2) shall not be opened.

4. The complete priced tender (BOQ) shall be uploaded by tenderers on the MES portal www.defproc.gov.in on or before the due date of price bid (Cover-2) as given in critical dates of tender documents. The bid of successful bidder will be opened on date and time as given in critical dates, in the office of CWE No 2 Secunderabad in the presence of such tenderers who have uploaded their priced tender and who wish to be present.

5. Information/ documents (forming part of the contract) mentioned herein below are not enclosed with the tender documents. These are available for perusal in the office of CWE No 2 Secunderabad:-

(a) IAFW-2249(1989 Print) including errata/ amendments thereto and Schedule of Minimum Fair Wages.

(b) SSR- Part I (2009) and SSR-Part II (2020) Print including amendments/ errata thereto.

(Note: Documents listed in Para 5 (a) above can be seen in any of the MES office during working hours on any working day. The tenderers are deemed to have made themselves acquainted and fully conversant with contents of the above mentioned documents before submission of tender and no claims whatsoever on this account shall be entertained. Against documents at SI No.5 (a), "undertaking pages" are attached).

6. Whether documents mentioned in Para 5 above are actually seen or not, if you submit a valid tender, you are deemed to have taken into account the contents thereof.

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for Accepting Officer

7. **Conditional tender is not acceptable to the Government.**

(a) The tenderer is not permitted to make any condition or alteration or insertion in the tender documents other than the amendments issued by the Department. The applicability of amendment issued by the Department remains hold good irrespective of the amendment carried out by the tenderer in their offer.

(b) Any condition/ stipulation/ insertion etc without showing it in the tenderer's tender forwarding letter will not be accounted during scrutiny and the effect shall be ceased in case the tender is accepted.

(c) You are requested to ensure that all errata/ amendments/ issued prior to the due date are accounted in your offer.

8. Instructions for filling and submission of tenders are also enclosed herewith for strict compliance. This letter and the instructions shall form part of the contract and shall be uploaded duly signed along with the tender documents.

9. No tender/bid will be received in physical form and any tender/bid received in such manner will be treated as non bonfide tender/bid.

10. You may forward your points on tender document and/ or depute your technical representative for discussion on tender/ drawings and to clarify doubts, if any, on or before bid submission start date, you are requested not to write piece meal points and forward your points duly consolidated before due date viz bid submission start date.

11. Unenlisted contractors are required to submit the scanned copies (in pdf file) of documents required as per eligibility criteria mentioned in instructions for filling the tender document and Appendix 'A' to NIT and tender fee on e-procurement portal and submit the physical documents in the office of **Headquarters, Commander Works Engineer No.2, MES Office Complex,Mudfort,Secunderabad-500003** within time limit specified in NIT. Inadequacy/deficiency of documents shall make the bid liable for rejection resulting in disqualification for opening of finance bid.

12. (a) Contractor shall ensure delivery of hard copy of EMD (**as applicable**), tender cost and other relevant documents as per NIT, in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these requirements, the finance bid will not be opened.

(b) The successful bidder, whether enlisted in MES or not, shall be required to submit "Performance Security" as specified in Amendment No. 47 and connected amended Conditions for IAFW-2249 (General Conditions of Contracts).

13. Enlisted contractor of MES shall submit the scanned copies (pdf file) of enlistment letter, tender fee and such other documents as mentioned in Appx 'A' to NIT on e-procurement portal and submit physical documents in the office of **Headquarters, Commander Works Engineer No.2, MES Office Complex,Mudfort,Secunderabad - 500003** before date & time fixed for this purpose .

14. **Opening of Bid online system.** Cover-I shall be opened first on stipulated date of opening by the opening officers. Bidders may see opening of Cover-I online. Cover-II (Finance bid) shall not be opened on that day. Eligibility bid documents received in Cover-I, will be evaluated as per eligibility criteria given in tender document. Result of evaluation will be published online. If Bidder is not satisfied with the decision of his disqualification/ rejection, he may appeal to next higher engineering authority i.e. **Chief Engineer Chennai Zone, Chennai** within **07 days** of publication of result on website and Cover-II of balanced qualified bids shall not be opened earlier than 7 days from the disqualification/ rejection of bid/ bids in Cover-I.Date& time of opening of Cover-II (Finance Bid) of qualified tenderers of Cover-I shall be published on website. Cover-II shall be opened on this published date & time by the opening officers. Bidders may see opening of Cover-II online.

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for Accepting Officer

15. The contractor must ensure that the tender/bid on the proper form is uploaded in time as the Accepting Officer will take no cognizance of any quotations/ offer received in any other electronic or physical form like email/fax/by hand/through post tenderer/bidder even if they are received in time.

16. In view of delays due to system failure or other communication related failures, it is suggested that the tender/bid be uploaded if necessary, sufficiently in advance of the last due date and time fixed.

17. ANY TENDERER, WHICH PROPOSES ALTERATIONS TO ANY OF THE CONDITION, SPECIFICATIONS LAID DOWN IN THE TENDER DOCUMENTS OR ANY NEW CONDITION, WHATSOEVER, IS LIABLE TO BE REJECTED.

18. This letter shall form part of the tender documents.

Yours faithfully,

Encls.: (As above)

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER**1. EARNEST MONEY DEPOSIT (EMD)**

Contractor(s) who are not enlisted with MES/who are enlisted, but have not executed the Standing Security Bond shall submit Earnest Money Deposit as detailed in Notice of Tender in one of the following forms, along with their tender/bid:-

(a) Deposit at Call Receipt from a Scheduled Bank in favour of GE Golconda Hyderabad.

(b) Receipted Treasury Challan, the amount being credited to the Revenue Deposit of GE Golconda Hyderabad.

It is advisable that Earnest Money is deposited in the form of deposit call receipt from an approved Schedule Bank for easy refund. In case the tenderer/bidder wants to lodge 'EARNEST MONEY DEPOSIT' in any other form allowed by MES, a confirmation about its acceptability will be obtained from the Accepting Officer well in advance of the bid submission end date and time. Earnest Money Deposit shall be submitted in the name of concerned GE.

NOTES: Earnest Money Deposit (EMD) in the form of cheque/Bank Guarantee etc will not be accepted. NON-SUBMISSION OF EARNEST MONEY DEPOSIT (EMD) (scanned copy along with Technical Bid & hard copy before the date & time fixed for opening of BOQ) WILL RENDER THE BID DISQUALIFIED FOR OPENING OF COVER II (FINANCE BID).

2. **SECURITY DEPOSIT.** Refer Amendment Nos. 41 and 47 to IAFW-2249 (General Conditions of Contracts).

3. GENERAL INSTRUCTION FOR COMPLIANCE

3.1 The bids received only in the electronic form will be considered. All bids shall be submitted on www.defproc.gov.in portal. Documents should be scanned and forwarded in 'pdf' form and 'xls' form as indicated.

3.2 Bid shall be uploaded on www.defproc.gov.in portal on or before the bid closing date mentioned in the tender. No tender/ bid in any other electronic or physical form like email / fax /by hand /through post will be considered.

3.3 Bids should be DIGITALLY signed using valid DSC. All pages of tender documents, corrections/alteration shall be signed/ initialled by the lowest bidder after acceptance.

3.4 Drawings, if issued in physical form, must be returned duly initialled by the tenderer/bidder in separate envelope indicating his name and address.

3.5 The tender shall be signed, dated and witnessed at all places provided for in the documents after acceptance. All corrections shall be initialled. The Contractor shall initial every page of tender and shall sign all drawings forming part of the tender. Any tender /bid, which proposes alterations to any of conditions whatsoever, is liable to be rejected.

3.6 In the technical bid, a scanned copy of Power of Attorney in favour of the person uploading the bid using his/ her DSC shall be uploaded. In case the Digital Signatory himself is the sole proprietor, an affidavit on stamp paper of appropriate value to this effect stating that he has authority to bind the firm in all matters pertaining to contract including the Arbitration Clause, shall be attached in 'pdf' form. In case of partnership concern or limited company, Digital Signatory of the bid/ tender shall ensure that he is competent to bind the Contractor (through partnership deed, general power of attorney or Memorandum and Articles of Association of the Company) in all the matters pertaining to the contracts with Union of India including arbitration clause. A scanned copy of the documents confirming of such authority shall be attached with the tender/bid in 'pdf' form, if not submitted earlier. The person uploading the bid on behalf of another partner(s) or on behalf of a firm or company using his DSC shall upload with the tender/bid a scanned copy (in 'pdf' form) of Power of Attorney duly executed in his favour by such other or all of the partner(s) or in accordance with constitution of the company in case of company, stating that he has authority to bind such other person of the firm or the Company, as the case may be, in all matters pertaining to the contract including the Arbitration Clause.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER (Contd/-)

3.7 Even in case of Firms or Companies which have already given Power of Attorney to an individual authorizing him to sign tender in pursuance of which bids are being uploading by such person as a routine, fresh Power of Attorney duly executed in his favour stating specifically that the said person has authority to bind such partners of the firm, or the company as the case may be, including the condition relating to Arbitration Clause, should be uploaded in 'pdf' form with the tender/bid; unless such authority has already been given to him by the Firm or the Company. It shall be ensured that power of attorney shall be executed in accordance with the constitution of the company as laid down in its Memorandum & Article of Association.

3.8 Hard copies of all above documents should be sent by the contractor to the Tender issuing authority i.e. **Commander Works Engineer No 2 Secunderabad** well in advance to be received before the date & time fixed for the same.

3.9 Bid (cover 1 & 2) shall be uploaded online well in time.

3.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty and also conditions 24 & 25 of IAFW-2249 (General conditions of contract).

3.11 Tenderers/ bidders who uploaded their priced tenders/bids and are desirous of being present at the time of opening of the tenders/bids, may do so at the appointed time.

3.12 Bidder shall quote their rates in latest BOQ uploaded by the department. Bidders are advised to verify the latest BOQ, on the commencement of bid submission date. Uploading of old/ replaced BOQ will be considered as a willful negligence by the bidder and his quotation will be considered non-bonafide.

3.13 The tenderer will not make, of his own, any alteration in tender documents uploaded by the department. It is expressly brought to the notice of the tenderer that if he makes any alteration in tender documents and does not specifically bring out such alteration to the notice of the Accepting Officer through a letter along with his tender, and his tender is accepted by the Accepting Officer, the alteration(s) made by the tenderer shall be deemed to become null and void and the original provisions in the tender documents as originally made by the department or amended subsequently through amendments to tender documents issued by the department, shall hold good and the contractor will not have any claim on this account.

3.14 The tenderer/ bidder shall quote his rate on the BOQ file only. No alteration to the format will be accepted, else the bid will be disqualified and summarily rejected.

3.15 In case the tenderer/ bidder have to revise/ modify the rates quoted in the BOQ (excel sheet) he can do so only in the BOQ, through website www.defproc.gov.in site only before the bid closing time and date.

4. PERFORMANCE SECURITY

4.1 Within 28 days of receipt of the letter of Acceptance, the successful contractor (whether enlisted with MES or Un-enlisted) shall deliver to the Accepting Officer a Performance Security in any of the forms given below for an amount equal to **3%** of the contract sum:-

- (a) A Bank Guarantee in the prescribed form.
- (b) **Government Securities-** FDR or any other Government Instruments.

4.2 If the performance security is provided by the successful contractor in the form of a Bank Guarantee, it shall be issued by **Nationalized/ Scheduled Indian Bank** but its confirmation shall be done only **from the Head Office of the Bank**.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER (Contd/-)

4.3 Failure of the successful contractor to comply with the requirements of sub-clause 4.1 shall constitute sufficient grounds for cancellation of the award of work and amount equal to the Earnest Money stipulated in the Notice Inviting Tender, shall be notified to the tenderer for depositing the amount through MRO. **Issue of tender to such tenderers shall remain suspended** till the aforesaid amount equal to the Earnest Money is deposited in Government Treasury.

4.4 **Refund of performance security.** The performance Security Deposited shall be refunded to the contractor after the expiration of the defects liability period (vide Condition 46) by the GE provided always the contractor shall first have been paid the final bill and have rendered a No-Demand Certificate (IAFW-451).

5. All compensation or other sums of money payable by the contractor to the Government under the terms of this contract or under any other contract with Government may be deducted from, or paid by the sale of a sufficient part of the Performance Security or from the interest arising there from or from any sums which may be due or become due to the contractor by the Government on any account whatsoever and in the event of his Performance Security being reduced by reason of any such deduction, or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or securities, endorsed as aforesaid, any sum or sums which may have been deducted from or realized by the sale of his Performance Security or any part thereof. **Government shall not be responsible for any loss of securities or any depreciation in the value of securities while in their charge nor for loss of interest thereon.**

6. In the event of contract being cancelled under Conditions 52, 53 & 54 of General Conditions of Contract, the Performance Security shall be forfeited in full and shall be credited into Consolidated Fund of Govt of India.

7. **BANK GUARANTEE BOND AGAINST PERFORMANCE SECURITY**

7.1 Condition 19.1 of IAFW-2249 and condition 14A.1 of IAFW-1815-Z provides for submission of Performance Security by the successful contractor in the form of Bank Guarantee Bonds or Govt Securities, FDR or any other form of deposit.

7.2 The Performance Security shall be in favour of Accepting Officer and shall be in any one of the forms mentioned above. Work Order No. 1 shall be placed only after submission of **Performance Security of adequate value by the contractor**. In case a fixed deposit receipt of any Bank is furnished by the contractor to the Government **as part of the Performance Guarantee** and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the Government to make good the deficit.

7.3 If the Performance Security is provided by the successful contractor in the form of a Bank Guarantee, it shall be **issued by Nationalized/ Scheduled Indian Bank** but its confirmation shall be **done only from the Head office of the Bank**.

7.4 Form for Bank Guarantee Bond against Performance Security Deposit shall be same as Appendix 2.1 of MES Manual on Contracts 2020.

7.5 The **period of validity of the Bank Guarantee Bond** against **Performance Security** shall be initially valid upto the stipulated date of expiry of Defects Liability Period **plus minimum 60 days beyond that**. In case final bill is not paid during this period, the contractor shall **get the validity of Performance Guarantee** extended to cover such enlarged time required for payment of final bill.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER (Contd/-)

7.6 The original Bank Guarantee Bond against **Performance Security** along with necessary certified copies shall be sent to the PCDA/ CDA by the Accepting Officer for verification and then returning the original to the Accepting Officer and the certified true copies to the CWE/GE(I), GE/AGE(I) & AAO. **The original BGB shall be kept in the custody of the Accepting Officer.**

7.7 The **Accepting Officer** shall evolve a procedure to ensure that timely action is initiated to have the validity date of the Bond extended by the Contractor, or to have it encashed before the same expires. For this purpose a suitable register shall be maintained by the Accepting Officer. The register shall also be maintained by the Contract Section with details of Performance Securities and dates of validity of these instruments and the **same shall be an auditable document**. Performance Security shall be in possession of the official who is head of the Contract Section of the Office of concerned Accepting Officer.

7.8 In case at a later stage, on account of delay in completion of work or due to any other reason, it is considered that the validity date stipulated in the Bank Guarantee against Performance Security should be extended, then the contractor shall be directed by the Accepting Officer of the contract to have the validity extended before the date of validity expires. If the contractor fails to do so, the Bank Guarantee shall be encashed before expiry. The encashment notice shall be similar to the format given in Appendix 18.5 of MES Manual on contract 2020 with "in lieu retention money" in Para 1, line 2 replaced by "against Performance Security". Accepting Officer shall ensure to **issue notice to the concerned contractor** to get the validity of Performance Security instrument extended suitably **two months before the expiry of the validity**. In case **extension is not received four weeks before the expiry of validity of financial instrument**, necessary **encashment notice shall be served by Accepting Officer**.

7.9 In case the BGB is not encashed by the concerned Bank, the matter shall be referred to the Central Office of RBI in Delhi and Mumbai at the following address or any latest address which can be found from internet:-

| (A) | (B) |
|--|--|
| Jt Chief Officer Deptt of Banking and Operations Reserve Bank of India Parliament Street, New Delhi-110011 | Reserve Bank of India Central Office Department of Banking Operations & Development Centre-1 World Trade Centre Cuffe Parade, Colaba Mumbai-400005 |

7.10 Bank Guarantee Bond in lieu of Performance Security is due for discharge on expiry of Defects Liability period provided always that the contractor has been paid the final bill and contractor has rendered the No Demand Certificate (IAFW-451). Immediately after expiry of defects liability period, GE concerned shall check and ascertain the position of final bill.

7.11 In case final bill has been paid, contractor shall be asked to submit the No Demand Certificate (IAFW-451), if not already submitted by him. After submission of No Demand Certificate (IAFW-451), GE will intimate this fact to the Accepting Officer within a week who shall release the Bond duly discharged to the Contractor. Accepting Officers will ensure that no delay occurs in releasing the Bank Guarantee Bond.

7.12 In case final bill has not been paid, the status thereof shall be ascertained by Accepting Officer and efforts will be made to get it cleared within one month of expiry of Defects Liability period. After clearance and payment of final bill contractor shall be asked to submit the No Demand Certificate (IAFW-451), if not already submitted by him. After submission of No Demand Certificate (IAFW-451) to GE and on receipt of the same, Accepting Officer shall release the Bond duly discharged to the contractor without any delay.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER (Contd/-)

7.13 If any recovery is outstanding against the contractor, release of Bank Guarantee will be subject to compliance of the procedure for effecting recovery/ withholding the due amount as stipulated in Condition 67 of IAFW-2249 as amended of GCC (IAFW-2249) or Condition 34 (as amended) of GCC (IAFW-1815Z), as applicable.

8. REVOCATION/REVISION OF OFFER UPWARD/ OFFERING VOLUNTARY REDUCTION, AFTER OPENING OF FINANCIAL BIDS BY LOWEST BIDDER

In the event of lowest tenderer/ bidder revoking his offer or revising his rates upward/ offering voluntary reduction, after closing of bid submission date & time, his offer will be treated as revoked and the amount equal to the Earnest Money stipulated in the Notice of tender shall be notified to the tenderer/ bidder for depositing the amount through MRO. Bids of such Contractors/ bidders in other tenders also, shall not be opened till the aforesaid amount equal to the earnest money is deposited by him in Govt Treasury. In addition, bids of such tenderer/bidder and his related firm shall not be opened in second call or subsequent calls. Reduction offered by the tender/ bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

9. AMENDMENT TO TENDER DOCUMENTS

9.1 Department may issue amendments/ errata in form of **CORRIGENDUM** to tender/ revised BOQ to the tender documents. The tenderer/ bidder is requested to read the tender documents in conjunction with all the errata/ amendments/ corrigendum, if any, issued by the department.

9.2 In case the BOQ is revised by the department and the bidder has failed to quote in revised BOQ (i.e. he has quoted in previous BOQ), **such bid shall be treated as willful negligence by the bidder** and his quotation shall be considered **non- bonafide**. In such cases the lowest tender shall be determined by the lowest amount amongst the valid/ bonafide bids only.

10. Tenderer is deemed to be in possession of copy of MES schedule of Rates (Part I & II) including errata and amendments there to and an updated TD booklet mentioned in list of drawings. In case the same is required by tenderer it can be obtained from this HQ on any working day with due cost as admissible.

11. These instructions shall form part of the tender documents.

**APPENDIX 'A' to INSTRUCTIONS ON
FILLING AND SUBMISSION OF TENDER**

BID SECURING DECLARATION

I/We hereby understand and accept that if I/We withdraw or modify my/our bids during the period of validity, or if I/We are awarded the contracts and on being called upon to submit the Performance Security/ Security Deposit, fail to submit the Performance Security/ Security Deposit before the deadline defined in the request for bid documents/ Notice Inviting Tender, I/We shall be debarred from exemption of submitting Bid Security Deposit for a period of 06 (six) months, from the date I/We are declared disqualified from exemption from submission of Security Deposit, for all tenders issued by MES during this period.

Note:- Scanned copy shall be submitted along with Technical Bid & hard copy within 05 days of the date of bid submission end date. On failure to submit the Bid Securing Declaration, the financial bids will still be opened. However, the benefit of reduction in Performance Security Deposit from 5% to 3% on being lowest bidder will not be extended.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

MILITARY ENGINEER SERVICES
NOTICE INVITING TENDER (NIT)

1. A tender is invited for the work as mentioned in appendix 'A' to this NOTICE INVITING TENDER (NIT).
2. The work is estimated to cost indicated in aforesaid appendix 'A.' This estimate, however, is not a guarantee and is merely given as a rough guide and if the work cost more or less, a tender/bidder will have no claim on that account. The tender shall be based on as mentioned in aforesaid appendix 'A'.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with the phasing, if any, indicated in the tender from the date of handing over of site, which will be on or about two weeks after the date of acceptance of tender.
4. Normally contractors whose names are on the MES approved list for the area in which the work lies, and within whose financial class, the estimated amount would fall may tender/bid but in case of term contracts, contractors of categories SS to E may tender/bid. Not more than one tender/bid shall be submitted/uploaded by one contractor or one firm of contractors. Under no circumstances will a father and his son (s) or other close relations who have business dealing with one another be allowed to tender/bid for the same contract as separate competitors. A breach of this condition will render bids of both the parties liable for rejection.
5. **Commander Works Engineer No.2, MES Office Complex,Mudfort,Secunderabad-500003** will be the Accepting Officer here in after referred to as such for purpose of the contract.
6. The Technical Bid and Financial Bid (Cover-I and Cover-II) shall be uploaded by the tenderer/ bidder on or before the date & time as fixed under **critical dates**. A scanned copy of DD with enlistment details/ documents etc shall be uploaded as packet 1/cover-1 ('T' bid) of the tenderer/ bidder on e-tendering portal. DD is refundable in case T bid (Cover -1) is not accepted resulting in non-opening of 'Q' bid (Cover- 2). The applicant contractor shall bear the cost of bank charges for procuring and encashing the DD and shall not have any claim from Government whatsoever on this account.
 - 6.1 Tender form and conditions of contract and other necessary documents shall be available on www.defproc.gov.in site for download and shall form part of contract agreement in case the tender/bid is accepted.
 - 6.2 Copies of the drawings and other document pertaining to the work (signed for the purpose of identification by the Accepting Officer or his accredited representative), sample of materials and stores to be supplied by the contractor will also be available for inspection by the tenderer/bidder at the office of Accepting Officer and concerned GE/ GE(I)/ AGE(I) during working hours.
 - 6.3 The GE/ GE(I)/ AGE(I) will return the Earnest Money (wherever applicable) to all unsuccessful tenderers/bidders by endorsing an authority on the deposit-at-call receipt for its refund, on production by the tenderer, bidder a certificate of the Accepting Officer that a bonafide tender/bid was received and all documents were returned.
 - 6.4 The GE/ GE(I)/ AGE(I) will either return the Earnest Money (if applicable) to the successful tenderers/bidders by endorsing an authority on the deposit-at-call Receipt for its refund on receipt of an appropriate amount of Performance Security Deposit as per provisions made through Amendment No. 47 to IAFW-2249 General Conditions of Contracts.

Signature of Contractor

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for Accepting Officer

MILITARY ENGINEER SERVICES
NOTICE INVITING TENDER (NIT) (Contd/)

7. The tenderers/bidders are advised to visit the site of work by making prior appointment with GE/ GE(I)/ AGE(I) who is also the executing agency of the work (see appendix 'A'). The tenderers/ bidders shall be deemed to have full knowledge of all relevant documents, samples, site etc, whether they have inspected them or not.
8. Any tender/bid which proposes any alteration to any of the conditions laid down or which proposes any other condition or prescription whatsoever, is liable to be rejected.
9. The uploading of bid implies that bidder has read this notice and the Conditions of Contract and has made himself aware of the scope and specification of work to be done and of the conditions and rates at which stores, tools and plants etc will be issued to him and local conditions and other factors having bearing on the execution of the work.
10. Tenderers/ bidder must be in possession of a copy of the MES standard schedule of Rates (Part-I and Part-II) and IAFW-2249 including errata/ amendments thereto.
11. Invitation for e-tender does not constitute any guarantee for validation of 'T' bid and subsequent opening of finance bid of any applicant/bidder, even of enlisted contractors of appropriate class, merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the 'T' bid and not open finance bid of any applicant/ bidder. 'T' bid validation shall be decided by the Accepting Officer based on, inter alia, capability of the firm as per criteria given in appx 'A' to this NIT. The applicant contractor/ bidder will be informed regarding non-validation of his 'T' bid assigning reasons thereof through the defproc website. The applicant contractor/bidder if he so desires may **appeal to the next higher engineer authority** viz HQ, Chief Engineer Chennai Zone on email id- ceczchn2-mes@gov.in with copy to the Accepting Officer on email before the scheduled date of opening of Finance Bid. The decision of the Next Higher Engineer Authority (NHEA) shall be final and binding. The contractor/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
12. The Accepting Officer reserves the right to accept a tender submitted by a public undertaking, giving a price preference over other Tender(s)/bids which may be lower, as are admissible under the Government Policy. No claim for compensation or otherwise shall be admissible from such tenderer/bidder whose tender/bid is rejected on account of said policy.
13. Accepting Officer does not bind him self to accept the lowest or any tender/bid or to give any reason for not doing so.
14. Tenderers must be very careful to deliver/upload a bonafide tender/bid complete with all documents forming part of the tender/bid. A bonafide tender must satisfy each and every condition laid down in this notice.
15. "Court of the place" from where tender has been issued shall alone have Jurisdiction to decide any dispute out of or in respect of this tender.
16. This **Notice Inviting Tender (NIT)** including appendix 'A' shall form part of the tender documents.
17. Within 28 days of receipt of the letter of Acceptance, the successful contractor (whether enlisted with MES or Un-enlisted) shall deliver to the Accepting Officer a Performance Security in any of the forms given below for an amount equal to 3% of the contract sum:-
- (a) A Bank Guarantee in the prescribed form.
 - (b) **Government Securities-** FDR or any other Government Instruments.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)

| | | |
|----|----------------------------------|---|
| 1. | Name of work | <u>PROVN OF RD FROM ARJUN CHOWK TO OR ACCN AT ARTY CENTRE HYD AND MD ACCN P-175 TO 12 IB LINES UNDER GE GOLCONDA.</u> |
| 2. | Estimated cost | Rs. 10.00 Lakhs (At Par Marketrate) |
| 3. | Period of completion | 03 (Three) Months |
| 4. | Cost of tender document | Rs. 500/- in the form of DD/Bankers cheque from any schedule Bank in favour of GE Golconda, Hyderabad and payable at Hyderabad |
| 5. | Website / portal address | <u>www.defproc.gov.in</u> |
| 6. | Type of contract | The tender shall be based on item rate and specifications (IAFW-1779 A) and General Conditions of Contracts including its errata/ amendments (IAFW-2249) with Schedule 'A' BOQ (list of item of work) to be quoted by bidders. |
| 7. | Information & detail | |
| | (a) Bid submission start date | As published on Web Site |
| | (b) Last date of bid submission | |
| | (c) Date of bid opening | |
| 8. | Eligibility Criteria | |
| | (A) For MES enlisted contractors | All contractors enlisted with MES in Class 'E' and above and category 'a(v)' (old enlistments with 'a(i)' having bldg& roads) of Manual on Contract, 2020 shall be considered qualified provided they do not carry adverse remarks in WLR of competent engineer authority. |
| | (B) For other contractors | <p>(a) The firms not enlisted with MES shall meet the enlistment criteria of 'C' class MES contractors & category 'a(i)' i.e. with regard to having satisfactorily completed requisite value works, Annual tur01 Decer, Solvency, working capital, immovable property/fixed assets, T&P, Engineering establishment, no recovery outstanding in any Govt Department, Police verification/Passport etc . Enlistment criteria may be seen in Para 1.4& 1.5 of section 1 of part I of MES Manual on Contracts 2020 as available in all MES formations as well as MES website (www.mes.gov.in).</p> <p>(b) These firms shall also submit copy of police verification from police authority of the area where the registered office of the firm is located/ Notarized copy of valid passport of proprietor /each partner/each Director.</p> <p>(c) They should not carry adverse remarks in WLR/or any other similar report of any authority.</p> |
| | (C) For All Contractors | Contractor will not be allowed to execute the work by subletting or through power of attorney holder on his behalf to a third party/ another firm except sons/ daughter of proprietor / partner / Director and firm's own employees, Project Manager. This shall be subject to certain conditions which will be prescribed in the Notice of Tender forming part of the tender documents. |

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

APPENDIX 'A' TO NOTICE INVITING TENDER (NIT) (Contd...)

| | | |
|-----|--------------------------------------|--|
| 9. | Tender issuing and Accepting Officer | COMMANDER WORKS ENGINEER No.2, SECUNDERABAD Email : n2secun3-mes@gov.in |
| 10. | Executing agency | GE Golconda, Hyderabad |
| 11. | Amount of Earnest Money | Rs. 20,000.00 in favour of GE Golconda, Hyderabad |

NOTES :-

1. In case after opening of Cover 1, the number of MES enlisted contractors of eligible class as well as un-enlisted contractors, if any, fulfilling the other eligibility criteria given in NIT are less than 07(Seven), applications in respect of contractors one class or two classes (in case of remote and difficult areas to be decided as per list circulated by CE command/ADG) below the eligible class shall also be considered subject to fulfilment of other eligibility criteria given in the NIT. Therefore MES contractors one class below (two classes below in case of remote and difficult areas) may also bid for this tender. Such contractors (one/two classes below the eligible class) shall not be considered in case their present residual work in hand is more than FIVE TIMES their present tendering limit. However in case such contractors fulfill the criteria of upgradation to the stipulated eligible class based on past experience of completed work (Individual work experience and/or average annual tur01 Decer, as applicable) and financial soundness (solvency/ financial soundness and working capital), the ceiling of present residual work will not apply and they will be considered for issue of tender. Such bidders shall upload in their Cover-1 bid details related to residual work in hand like details of works in hand showing names of work, names of Accepting Officers, Contract amounts, dates of commencement and completion (stipulated) and progress as on bid submission date. Such contractor if claim to fulfill the criteria of upgradation shall also upload the requisite information/documents in support of upgradation. These details shall be verified by the Tender Issuing Authority from concerned formations in case bids of such contractors are considered for evaluation.

2. In case after opening of Cover 1, the number of MES enlisted contractors of eligible class as well as un-enlisted contractors, if any, fulfilling the other eligibility criteria given in NIT, are 7 (Seven) or more, applications of only those one class below the eligible class bidders shall be considered, who have previously completed similar works satisfactorily and are meeting the criteria of upgradation in respect of past experience of completed works (individual work experience and/or average annual tur01 Decer as applicable) and financial soundness (solvency/financial soundness and working capital) as per details given in Manual on Contracts. Therefore such contractors shall upload the requisite information/documents in the Cover-1.

3. Unenlisted contractor shall be considered provided he meets the criteria. Foreign firms shall not be eligible for this tender. However Indian Firms having foreign national / Indian nationals staying abroad / Indian national having taken foreign citizenship, as director(s) shall be considered subject to security clearance from the concerned authorities.

4. **Contractors enlisted with MES** will upload following documents in Cover 1 for checking eligibility :-

- Application for tender on Firm's letterhead.
- Enlistment letter issued by the Registering Authority duly renewed for the cyclic period in vogue.
- Scanned copy of DD /Bankers Cheque toward cost of tender and EMD instrument in case SSD bond is not signed at the time of registration.
- Any other document required as described in this Appendix.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

APPENDIX 'A' TO NOTICE INVITING TENDER (NIT) (Contd...)

5. **Contractors not enlisted with MES** will be required to upload following documents in Cover 1 for checking eligibility:-

- (a) Application for tender on Firm's letterhead.
- (b) Scanned copy of DD/ Bankers cheque toward cost of tender and Earnest Money Deposit (EMD) instrument.
- (c) Copy of Police Verification Report/Police Clearance Certificate/ Character Certificate from the Police Authority of the area where the registered office of the firm is located/notarized copy of valid passport of Proprietor/each Partner/each Director.
- (d) All documents required for enlistment in MES for the class mentioned in Para 8(b) of NIT as per Para 1.4 and 1.5 of Section 1 of MES Manual on Contracts 2020.
- (e) Details of works being executed in MES, if any.
- (f) Any other document required as described in this Appendix

6. Tenders not accompanied by scanned copies of requisite DD/Bankers Cheque towards cost of tender and earnest money (as applicable) in Cover 1 shall not be considered for validation of 'T' bid and their Financial Bids will not be opened.

7. Contractors should ensure that their original physical DDs and Earnest Money Deposit (EMD) instruments (as applicable) reach the office of Accepting Officer within **05 days** of bid submission end date failing which following action shall be taken.

(a) In case of tenders from an enlisted contractor of MES, where scanned copies of requisite DD/ Bankers Cheque towards cost of tender have been uploaded in Cover 1 but physical copies are not received within the stipulated period, their financial bids (Cover 2) will be opened. However non-submission of physical copies of cost of tender shall be considered as willful negligence of the tenderer with ulterior motives and such tenderer shall be banned from bidding for a period of six months commencing from the date of opening of Financial Bid (Cover 2).

(b) In case of tenders from unenlisted contractor, where scanned copies of requisite DD/Bankers Cheque towards cost of tender have been uploaded in Cover 1 but physical copies are not received within the stipulated period, their financial bids (Cover 2) will not be opened. Name of such contractors along with complete address shall be circulated for not opening of their bids for a period of six months commencing from the date of opening of Financial bid (Cover 2).

(c) In case of tenders from enlisted and unenlisted contractors, where scanned copies of instruments for Earnest Money Deposit (as applicable) have been uploaded in Cover 1 but the same are not received in physical form within stipulated period, such tenders shall not qualify for opening of financial bid (Cover 2).

8. After opening of Cover 1 and during its technical evaluation, in case any deficiency is noticed in the documents required to be uploaded by the tenderers as per NIT, a communication in the form of e-mail/SMS/Speed Post etc shall be sent to the contractor to rectify the deficiency within a period of seven days from date of communication failing which their financial bid (Cover 2) shall not be opened and contractor shall not have any claim on the same.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

APPENDIX 'A' TO NOTICE INVITING TENDER (Contd/)

9. Invitation for e-tender does not constitute any guarantee for validation of Technical bid and subsequent opening of financial bid of any applicant/bidder merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the Technical bid and not to open the financial bid of any applicant/bidder. Technical bid validation shall be decided by the Accepting Officer based on eligibility of the firm as per criteria given in this Appendix. Tenderer/bidder will be informed regarding non-validation of his Technical bid assigning reasons therefore through tender evaluation report which shall be uploaded on the website. Such tenderer, if desires, may appeal to the next higher Engineer Authority (NHEA) viz **HQCECZ, Chennai** (E-mail: ceczchn2-mes@gov.in) with copy to the Accepting Officer on email before the scheduled date of opening of Cover 2. NHEA shall decide the matter within a period of seven working days from the date of receipt of appeal. The decision of the NHEA shall be final and binding. The tenderer/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.

10. In case an unenlisted contractor is already executing works in MES, he shall not be considered eligible for the subject tender if the total value of such works is more than twice the tendering limit of the MES Class of contractor for which it is eligible. For this purpose, details of the works being executed by such a contractor shall be uploaded in the Cover -1 of the bid and shall be checked/verified by the Accepting Officer.

11. In case the BOQ is revised through the corrigendum and the bidder has failed to quote on revised BOQ (i.e. he has quoted on pre revised BOQ), such bid shall be treated as willful negligence by the bidder and his quotation shall be considered non-bonafide. In such cases the lowest tender shall be determined from amongst the valid/bonafide bids only. Accepting Officer may decide whether to re-tender or consider the lowest bonafide tender for acceptance.

12. Revoking the offer or revising the rates upward or offering voluntary reduction by the lowest tenderer after opening of Cover 2 shall be considered as a wilful default. For this default a penalty of an amount equal to Earnest Money shall be levied. In case of an unenlisted tenderer, Earnest Money deposited by him shall be forfeited. In case of MES enlisted tenderer having deposited the Standing Security Bond, an amount equal to the earnest money stipulated in the NIT, shall be notified to the tenderer for depositing through MRO and consideration of such tenderer in tender evaluation for future works shall remain suspended till the aforementioned amount is deposited in the Government Treasury. No other disciplinary/administrative action shall be taken against such tenderers. In such a situation, the next lowest offer shall not be considered for acceptance. Instead, retendering shall be resorted to in a transparent and fair manner and the defaulting tenderer and his related firm if any, shall not be eligible for this tender in second call or subsequent calls.

13. Tender to related firms shall not be issued simultaneously. Firms shall be termed as related if Proprietor/one or more Partners/Directors are common. Decision of Accepting Officer on issue/deny the tender to any one of the related firms shall be final and binding.

Case File: **81239/15/E8**

Date: 15 Oct 2024

Headquarters

Commander Works Engineer No.2
Military Engineer Services,
MES Office Complex, Mudfort,
Secunderabad - 500 003

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

{In lieu of IAFW-1779-A (Revised-1955)}

To be used in conjunction with General Conditions of Contracts IAFW – 2249

MILITARY ENGINEER SERVICES

Tele : 040-29558251(CWE)
: 040-29558254(DCWE(C))
Email : n2secun3-mes@gov.in

No: 81239/15/E8

Headquarters

Commander Works Engineer No.2
Military Engineer Services,
MES Office Complex, Mudfort,
Secunderabad - 500 003

15 Oct 2024

TENDER AND ITEM RATE CONTRACT FOR “PROVN OF RD FROM ARJUN CHOWK TO OR ACCN AT ARTY CENTRE HYD AND MD ACCN P-175 TO 12 IB LINES UNDER GE GOLCONDA”

All eligible bidders are here authorised to tender/ bid for the above work. The technical and price bid (cover 1 & 2) to be uploaded on the e-procurement site www.defproc.gov.in and Bids (cover 1& 2) will be immediately opened on date & time as fixed here-in- before as per NIT.

Any correspondence concerning to this tender, should be addressed to **Commander Works Engineer No.2, MES Office Complex, Mudfort, Secunderabad– 500003** duly quoting the reference and marked the TENDER ID on outside and same be forwarded by post/hand or Mail on : n2secun3-mes@gov.in

THE PRESIDENT OF INDIA DOES NOT BIND HIMSELF TO ACCEPT THE LOWEST OR ANY TENDER.

Signature of the Officer
issuing the document
Appointment:

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

SCHEDULE 'A' NOTES**NOTES**

1. **SCOPE OF WORK.** This contract covers all items of works described in Schedule 'A'.
2. For Schedule of items refer BOQ sheet in Excel format.
3. The quantities shown in schedule (BOQ sheet) in column 3 (marked as 4) of Sch 'A' are approximate and are inserted as a guide only. They do not constitute any guarantee of the ultimate quantities which will be ordered on the contractor. They shall not however be varied beyond the limit laid down in condition 7 of IAFW- 2249 (General conditions of contract).
4. The contractor shall enter the unit rate in column 5 (marked as 13) of BOQ. The unit rates in figure shall be only entered.
5. Unless otherwise specifically stated in the description of the items, the unit rates quoted in Column 5 (marked as 13) shall be deemed to include for all labour and materials complete required for executing the respective items of works.
6. The description of items shall be read in conjunction with Special Conditions, Specifications, drawings, including notes thereon and the specifications and preambles contained in MES Standard schedule of Rates 2009 Part-I (Specifications) including amendment No 1 to 3 together with MES Standard Schedule of Rates 2020 Part-II (Rates) as applicable under relevant section.
7. **PERIOD OF COMPLETION.** The entire work covered under this contract shall be completed within a period of **09 (Nine) months** from the commencement of the work.
8. **GENERAL.** The rates quoted by the contractor in respect of the works covered under this contract shall be deemed to include for any minor details of works which are obviously and fairly intended and which may not have been specifically referred to in the tender documents but which are essential for the execution and completion of the work in a workman like manner and sound construction.
9. In case of any difference of opinion between the GE and the contractor to whether or not a certain item of work constitutes "Minor Details" of construction and cost of which is deemed to have been included in the rates quoted by the contractor the decision of the Accepting Officer in this regard shall be final, conclusive and binding.
10. The description of Schedule 'A' items in BOQ sheet (Excel format) are brief. These shall be read in conjunction with particular specifications, special conditions, method of measurements, preambles contained in MES schedule and General conditions of contracts IAFW- 2249.
11. The tenderer's quotation shall be deemed to include all taxes, GST / statutory levies/ duties, such as Octroi, Sales Tax, Service Tax, Excise, Labour welfare tax, Sales Tax on works contracts, value added Tax (VAT), entry tax etc, as levied by the State Government payable under respective statutes as applicable from time to time. Any other conditions stipulated by the tenderer regarding Sales Tax on works contracts or any other taxes/duties will not be considered and such tender shall be liable for rejection.
12. The following abbreviations have been used in the Schedule 'A':-
 - (a) Rm : Running Metre
 - (b) Sqm : Square Metre
 - (c) Cum : Cubic Metre
 - (d) Kg : Kilo Gram
 - (e) Cm : CentiMetre
 - (f) Qtl : Quintal
13. All the materials to be incorporated in the work shall be tested as per the latest and relevant ISCodes if not otherwise specified elsewhere in tender documents. The cost of the same shall be deemed to be included in the unit rates quoted.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

SCHEDULE 'A' NOTES (Contd...)

14 Site for execution of work shall be available as soon as the work is awarded, in case it is not possible for the department to make the entire site available on the award of the contract the tenderer will have to arrange his working programme accordingly. No claim whatsoever for not giving him the entire site on award of contract and for giving the site gradually will be admissible.

15. The net contract sum will be arrived at after deducting the schedule of credit from the quoted amount of the contractor in the BOQ.

16. **DEFECTS LIABILITY PERIOD.** The defects liability period for the subject work is 12 months from the certified date of completion. In this connection, please refer Amendment No. 49 of IAFW-2249 (General Conditions of Contracts).

17. **REQUIREMENT OF ELECTRICAL LICENSE FOR CARRYING OUT ELECTRICAL WORKS.** As per Engineer-in-Chief, Directorate of Contract Management, New Delhi letter No. 66546/EL/Manual/53/E8 dt 01 Jan 2020, Contractor will either obtain valid Electrical License of required class in his name or engage an agency having valid Electrical License of required class through proper agreement/MOU for execution of all electrical works as well as works under category (c) (including its sub-categories (i) to (vii) and category (d) (v) to the extent Rule-29 under Part III of Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulation, 2010 is applicable forming either in full or part of the scope of work of contract awarded to him. All such works shall be executed by him through such agency only (either yourself or other agency) having valid Electrical License of required class. Such Electrical License shall be obtained from the concerned authorities of State Government/Union Territory where the works are to be executed. Any violation of this condition shall be sufficient reason for taking such disciplinary action as deemed fit by the Registering Authority apart from other recourse/remedy available to the Department under the conditions of contract for such lapse.

17.1 Immediately after placing WO No.1 by GE, contractor has to submit, valid Electrical License documents to Accepting Officer through GE with recommendations of GE for Approval of Accepting Officer.

18 **REQUIREMENT OF ENGINEERS, T&P, MACHINERY AND TRANSPORT.** As per Engineer-in-Chief, Directorate of Contract Management, New Delhi letter No. 66546/ Manual/18/E8 dt 10 Dec 2018, contractor will be required to strictly ensure engagement of Engineers, deployment requisite T&P, Machinery and transport as stipulated in the contracts. Inadequate engagements of Engineers/deployment of T&P, Machinery & transport as per contract conditions shall be considered as serious lapse attracting ban/removal/ downgrading/debarment of Firm/Company.

18.1 Immediately after placing WO No.1 by GE, contractor shall submit, above valid documents to Garrison Engineer (through AGE with recommendation) for Approval of Garrison Engineer.

19. Keeping in view of Engineer-in-Chief New Delhi letter No. 66546/P-2/44/ E8 dt 16 Feb 2021 all bidders shall be exempted from submission of EMD and required to sign the bid securing declaration as mentioned below and has to be uploaded along-with tender/bid.

19.1 "I/We hereby understand and accept that if I/We withdraw or modify my/our bids during the period of validity, or if I/We are awarded the contracts and on being called upon to submit the Performance Security/Security Deposit, fail to submit the Performance Security/ Security Deposit before the deadline defined in the request for bid documents/Notice Inviting Tender, I/We shall be debarred from exemption of submitting Bid Security/Earnest Money Deposit for a period of 06(six) months, from the date I/We are declared disqualified from exemption from submission of Earnest Money Deposit/Security Deposit, for all tenders issued by MES during this period". Hence, wherever EMD provision appears in the tender documents the same shall be amended accordingly.

SCHEDULE OF CREDIT**NOTES:-**

1. The quantities given in Column 4 are approximate and are inserted as guide only. They do not constitute any guarantee of the quantities which will be ordered under this contract. However the materials listed in this schedule shall be measured jointly by contractor and Engineer-in-Charge at the unit shown and recorded in the MB and abstracted separately (as done for provisional items under Schedule 'A') at the assessed credit rates given in this Schedule.
2. The total amount of credit inserted by MES in column 6 shall be taken as lump sum for the purpose of acceptance of tender.
3. The total amount of credit inserted by MES in column 6 is only rough indication and the contractor shall have no claim whatsoever against the department, if the actual cost of dismantled materials turns out to be different from the cost given by the department.
4. The final quantities for different items listed in this schedule shall depend upon the quantities ordered for taking down/dismantling etc., under various items of Schedule 'A'.
5. The items becoming the property of contractor under this schedule, and shall not be reused in the work by the contractor.
6. The serviceable materials obtained from taking down/dismantling etc., other than those listed in this schedule shall be the property of MES and the contractor shall be responsible for returning the same to MES store yard of Engineer-in-Charge at no extra cost to the Government.
7. The materials listed in this schedule will not be allowed to be removed by the contractor from the site till such time in which the value of work done is more than the value of credit for such materials.
8. The schedule of credit shall be taken into account by the tenderer while arriving at the amount for works under Schedule 'A'.
9. The credit amount shall be deducted in the RARs as and when the materials are obtained after taking down/dismantling.
10. The dismantled materials shall be removed from the site only after recording measurement in the MB and after obtaining written permission from the Engineer-in-Charge.
11. The unserviceable materials obtained, if any out of taking down/dismantling shall be disposed off to a distance exc100 m but not exc 250 m from the starting point which has not been included in this Schedule and debris shall also be disposed off at places as directed by Engineer-in-Charge.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

SCHEDULE 'B'**ISSUE OF MATERIALS TO THE CONTRACTOR**
(SEE CONDITION 10 OF IAFW-2249)

| SI No. | Particulars | Rate at which materials will be issued to the contractor | | Place of issue by name | Remarks |
|--------|-------------|--|------|------------------------|---------|
| | | Unit | Rate | | |
| 1 | 2 | 3 | 4 | 5 | 6 |

NIL

SCHEDULE 'C'**LIST OF TOOLS AND PLANTS OTHER THAN TRANSPORT**
WHICH WILL BE HIRED TO THE CONTRACTOR
(See Condition 15, 34 and 35 of IAFW-2249)

| Sl. No | Qty | Particulars of T&P | Details of MES crew supplied | Hire charges per unit working day. | Stand by charges per unit per off day | Place of issue by name. | Remarks. |
|--------|-----|--------------------|------------------------------|------------------------------------|---------------------------------------|-------------------------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

NIL

SCHEDULE 'D'**TRANSPORT TO BE HIRED TO THE CONTRACTOR**
(See condition 16 and 35 of IAFW-2249)

| SI No. | Qty. | Particulars | Rate per unit per working day | Place of issue by name. | Remarks. |
|--------|------|-------------|-------------------------------|-------------------------|----------|
| 1 | 2 | 3 | 4 | 5 | 6 |

NIL

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

In lieu of IAFW 2159

TENDER

To,

The President of India

Having examined and perused the following documents: -

1. **Specifications signed by DCWE (Contracts).**
2. Drawings detailed in the specifications.
3. Schedule 'A', 'B', 'C' and 'D' attached hereto.
4. MES Standard Schedule of Rates **Part-I 'Specifications (2009)' including Amendment Nos. 1 to 3 to Part-I and Part-II 'Rates' (2020)** (hereinafter and in IAFW-2249 referred to as MES Schedule).
5. General Conditions of Contracts IAFW-2249 (1989 print) together with Errata No.1 to 20 and Amendments Nos. 1 to 49.
6. **WATER (REFER CONDITION 31 OF IAFW 2249- GENERAL CONDITIONS OF CONTRACTS).** Water will be supplied by MES for which recovery shall be made @ Rs. 3.75 per every Rs 1000.00 worth of work done at contract rates.
7. Should this tender be accepted, I/We AGREE.
 - (a) Amount of earnest money is **Rs.20,000.00** forwarded as Earnest Money shall either be retained as a part of Security Deposit or be refunded by the Government on Receipt of an appropriate amount of Security Deposit, as per condition 22 of IAFW - 2249.
 - (b) To execute all the works referred to in the said documents upon the terms and conditions contained/referred to therein and as detailed in the General Summary hereinafter and to carry out such deviations as may be ordered vide Condition 7 of IAFW-2249 up-to a **maximum of 10%** and further agree to refer all disputes as required by Condition 70 of IAFW-2249 to the sole arbitration of a serving officer, to be appointed by **Chief Engineer Chennai Zone, Chennai** or in the absence the officer officiating as Chief Engineer Chennai Zone, Chennai, if specifically delegated in writing by Chief Engineer Chennai Zone, Chennai, whose decision shall be final, conclusive and binding.

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

GENERAL SUMMARY

1.

Total amount of Schedule ‘A’ Part-I (BoQ)

Rs. _____
2.

Deduct Amount of Schedule ‘A’ Part-II
(CreditSchedule)

Rs. _____

CONTRACT SUM

Rs _____

Tender (Contd...)

Signature _____ in the capacity of _____

_____ duly authorised to sign the TENDER FOR AND ON BEHALF

OF _____ (IN BLOCK/ CAPITAL LETTERS)

dated _____

Postal Address with Mobile No :

_____**WITNESS :** _____

ADDRESS :

Mobile No. _____

ACCEPTANCE

_____ alterations have been made in these documents and as evidence that these alterations were made before the execution of the Contract Agreement; they have been initialled by the Contractor and Shri G V Bhaskara Rao, AE (QS&C), Offg DCWE (Contracts).

The said officer is hereby authorised to sign and initial on my behalf, the documents forming part of this Contract.

The above tender was accepted by me on behalf of the President of India, for the Item Rate Contract of

Rs _____ (Rupees _____)

on the _____ day of _____

Signature _____

Dated _____

Appointment:

Commander Works Engineer No 2 Secunderabad
(For and on Behalf of The President of India)
Accepting Officer

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

Substitute page for
General Conditions of contracts
(IAFW-2249-1989 print)
Item Rate Contracts (IAFW-1779A)

A copy of the General Conditions of Contracts (IAFW-2249) **1989 PRINT** with errata **Nos. 1 to 20 and amendment Nos. 1 to 49** has been supplied to me/us and is in my/our possession. I/We have read and understood the provisions contained in the aforesaid General Conditions of Contracts before submission of this tender and I/We shall abide by the terms and conditions there of, as modified, if any, elsewhere in these tender documents.

It is hereby further agreed and declared by me/us that the General Conditions of Contracts (**IAFW-2249-1989 Print**) including condition 70 thereof pertaining to settlement of disputes by Arbitration, containing 33 pages and **Errata Nos. 1 to 20 and amendment Nos. 1 to 49** shall form part of this tender.

Note: “**General Conditions of Contract IAFW-2249 (1989 Print)**” referred to above is available for reference in the office of the **Commander Works Engineers No 2 Secunderabad - 500003.**

Substitute page for
Schedule of Minimum Fair Wages

It is hereby agreed that the “Schedule of Minimum Fair Wages” (SMFW) as Published vide Government of India Notification dated 10-3-92 comprising 10 pages or the latest notification of Central or state Govt.(whichever is higher) up-to the date of submission of tender forms part of these tender documents.

My/ Our signature hereunder amounts to my/our having signed the aforesaid documents forming part of this tender.

Note :“Schedule of Minimum Fair Wages” referred to above is available for reference in the office of the **Commander Works Engineers No 2 Secunderabad - 500003**.

SPECIAL CONDITIONS

1. General

1.1 The following special conditions shall be read in conjunction with General Conditions of Contracts (IAFW-2249) 1989 print including amendments and errata thereto. If provisions in these special conditions are at variance with the provisions in the aforesaid documents, the provisions in these special conditions shall be deemed to take precedence there-over.

1.2 The work under this contract shall be carried out in accordance with Schedule 'A', the particular specifications, drawings and other provisions in MES Schedule.

1.3 The term General Specifications referred to herein before as well as referred to in IAFW-2249 (General Conditions of Contracts) shall mean the specifications contained in the MES Schedule.

1.4 General rules, specifications, special conditions and all preambles in the MES Schedule shall be deemed to apply to the work under this contract. In case of any discrepancy, the provisions in these documents shall take precedence over the aforesaid provisions in the MES Schedule.

2. Inspection of Site

2.1 For the purpose of inspection of site, the tenderer is advised to contact the **Garrison Engineer (GE)** who will give reasonable facilities thereof. The tenderer shall also make him-self familiar with the working conditions, accessibility to site of works, availability of labour and materials and such other relevant conditions which affect the execution and the entire completion of the works. The tenderer shall be deemed to have inspected the site and made himself familiar with various factors which may affect his quotation, whether he actually inspects the site or not.

2.2 Handing over site

2.2.1 The site(s) for execution of work will be available as soon as the work is awarded. In case it is not possible to make the entire site available on the award of work, the Contractor will have to re-arrange his working program accordingly. No claim what-so-ever, for not giving the entire site on award of work and for giving the site(s) gradually, will be tenable.

3. Security & Passes

3.1 Site of work lies in **Un-Restricted Area**.

3.2 Contractor's attention is invited to Condition 25 of IAFW-2249. He shall employ only Indian National after verifying their antecedents and loyalty. The contractor shall, on demand by the Engineer-in-Charge, submit list of his agents, employees and work people concerned and shall satisfy the Engineer-in-Charge as to the bonafide of such people.

3.3 The Engineer-in-Charge shall at his discretion, has the right to issue passes as per rules and regulations of the installation/area in force to control the admission of the contractor, his agents, and employees and work people to the site of the work or any part thereof. Passes should be returned any time on demand by the Engineer-in-Charge or the authorities concerned and in any case on completion of work.

3.4 The contractor and his agents, employees and work people shall observe all the rules promulgated by the authority controlling the installation/area in which the work is to be carried out e.g. prohibition of smoking and lighting, fire precautions, search of persons on entry and exit, keeping to specific routes. Nothing extra shall be admissible for any man-hours etc. lost on this account.

Signature of Contractor

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for Accepting Officer

SPECIAL CONDITIONS (Contd..)**4 Work on holidays**

4.1 The contractor shall not carry out any work on Gazetted holidays, weekly holidays and other non-working days except when he is specially authorised in writing to do so by the **GE**. The GE may at his sole discretion, declare any day as holiday or non-working day without assigning any reasons for such declaration.

5 Conditions for working in unrestricted area

5.1 The work lies in UNRESTRICTED AREA. However, the contractor, his agents servants work people and vehicles may pass through the unit lines in which case the Engineer-in-Charge shall, at his discretion has the right to issue passes, control their admission to the site of work or any part thereof. The contractor shall on demand by the Engineer-in-Charge submit a list of personnel, etc., concerned and shall satisfy the Engineer-in-Charge as to the bonafides of such people. Passes shall be returned at any time on demand by the Engineer-in-Charge and in any case on completion of work.

5.2 The contractor and his workmen shall observe all the rules promulgated by the authority controlling the area in which the work is to be carried out viz. Prohibition of smoking, lighting and fire precautions, restricted hours of working etc. Any person violating the security rules laid down by the Authority shall be removed from the site without assigning any reasons whatsoever and the contractor shall have no claim on this account. Nothing extra shall be admissible for any man hours lost on this account.

6 Fire precaution

6.1 The Contractor, his agents, representatives, workmen etc. shall strictly observe the orders pertaining to fire precautions prevailing within the concerned area.

6.2 Motor transport vehicles, if any allowed by authorities to enter the concerned area, must be fitted with serviceable fire extinguishers.

7. Safety precautions

7.1 The Contractor shall take every precaution to control traffic on road by keeping danger boards, necessary lighting arrangements, fencing & other location Viz; excavation, scaffolding etc. & watchman to avoid any damage. In case due to excavation or otherwise the road is to be blocked the contractor shall without any extra cost to the Government Provide separate by pass so that normal traffic will not be disturbed.

7.2 Any damage to the existing road/building etc. shall be made good by the contractor with the same specification as per existing work without any extra cost to the Government. In the event of contractor not fully complying with the above provisions to the satisfaction of the GE, the GE may provide the same for which the expenses incurred will be recovered from the contractor.

8. Network Analysis

8.1 The time and progress chart to be prepared as per Condition 11 of General conditions of contracts (IAFW-2249) shall consist of detailed network analysis and time schedule. The critical path network will be drawn jointly by the **GE** and the contractor soon after acceptance of tender. The time scheduling of the activities will be done by the contractor so as to finish the work within the stipulated time. On completion of the time schedule a firm calendar date schedule will be prepared and submitted by the contractor to the **GE** who will approve it after due scrutiny. This network analysis will be submitted in four copies within two weeks from the date of handing over the site.

8.2 During the currency of the work, the contractor is to adhere to the time schedule and this adherence will be a part of the contractor's performance under the contract. During the execution of Work, the contractor is expected to participate in the reviews & updating of the network undertaken by the **GE**. These reviews may be undertaken at the discretion of the **GE** either as periodical appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation orders or amendments. Any revision of the time schedule as a result of the review will be submitted by the contractor to the **GE** within a week for his approval after due scrutiny.

SPECIAL CONDITIONS (Contd..)

8.3 The contractor shall adhere to the revised time schedule thereafter. In case of contractor disagreeing with the revised schedule, the same will be referred to the Accepting Officer, whose decision shall be final, conclusive and binding. **GE's** approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to grant of extension of time. Extension of time shall be considered and decided by the appropriate authority mentioned in Condition 11 of IAFW-2249 and separately regulated.

8.4 Contractor shall mobilize and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted methods of working and safety. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule, even though the time schedule is approved by the department.

9. **Security of classified documents (Refer Condition 2A & 3 of IAFW-2249)**

9.1 Contractor's special attention is drawn to conditions 2A and 3 of General Conditions of Contracts (IAFW-2249) and also to the Indian Official Secret Act-1923 (Particularly Section 5). The contractor is bound by the provision of the act. The contractor shall not communicate any classified information regarding works either to subcontractor(s) or others without prior approval of Engineer-in-Charge.

9.2 The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of works and he shall return the entire document on completion of the work or on earlier termination of the contract. The contractor shall along-with final bill attach a receipt from the Engineer-in-Charge in respect of his having returned the classified documents as per condition 3 of the General Conditions of Contracts (IAFW-2249).

10. **Contractors' representatives, agents and workmen**

10.1 The contractor shall employ only Indian National as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no person of doubtful antecedents and Nationality is, in any way, associated with the work. If for reasons of Technical collaboration or consideration the employment of any foreign national is unavoidable, the contractor shall furnish full particulars to this effect to the Accepting Officer at the time of submission of his tender. The **GE** shall order the contractor to cease to employ in connection with this contract any representatives, agents, servants and workmen or employee whose continued employment in his opinion is undesirable. The contractor shall not be allowed any compensation on this account.

11. **Contract Labour (Regulation And Abolition) Act 1970**

11.1 The contractor when required to employ more than ten workmen on the works under this contract shall be bound by the Contract Labour (regulation and abolition) Act 1970 and rules framed there under. No contractor can undertake or execute his work without a licence issued by a licensing officer.

12. **Minimum Fair Wages: (Refer Condition 58 of IAFW-2249)**

12.1 The contractor shall not pay wages lower than minimum wages for labour as fixed by the Government of India/ State Government/Union Territory whichever is higher.

12.2 The fair wages referred to in Condition 58 of IAFW-2249 shall be deemed to be the same as the minimum wages payable as referred to above.

12.3 The contractor shall have no claim whatsoever if on account of local factor and/or regulations or otherwise he is required to pay the wages in excess of minimum wages as described above during the execution of work.

SPECIAL CONDITIONS (Contd..)**13. Royalties: Refer Condition 14 of General Conditions of Contracts (IAFW-2249).**

13.1 No quarries on Defence land are available. The contractor shall make his own arrangements for the procurement of materials such as stones, aggregate, moorum and approved earth from any quarries located outside Defence land, required to be incorporated in the work. All royalties, duties, taxes as applicable shall be borne by the contractor on such account for the material to be incorporated in the work or works ordered in subsequent deviations.

14 Land for temporary workshop, stores, etc: (Refer Para 1 of Condition 24 of IAFW 2249)

"The Contractors if they desire, will be allotted free of charge, the area as decided by the GE, for the purpose of erection of temporary workshop, stores etc. Plot of land so allotted shall not be used for accommodation of labour and canteen for which the Contractor shall make his own arrangements, at his own expenses".

15. Proprietary Brand Materials

15.1 Original vouchers / invoices, shall be submitted by the contractor, only in respect of items for which Payment is claimed in RAR as "Material lying at Site". However purchase vouchers in respect of cement, steel, major (E&M) equipments like transformers, DG Sets, Pumps, Motors, AC and lift equipment will be submitted by the Contractor invariably.

15.2 The vouchers/invoice shall be from the manufacturers and/or from their authorised agents for full quantity of respective items required for the work under this contract. These vouchers shall be endorsed, dated and initiated by the Engineer-in-charge giving the contract number and name of work and a certified true copy of each such voucher signed both by the Engineer-in-charge and the contractor shall be kept on MES record.

15.3 The quantity brought to site shall be recorded in measurement books and signed by contractor and Engineer-in-Charge as a check to ensure that the required quantity have been brought to site for incorporation in the work.

15.4 Proprietary materials brought at site shall be stored as directed to site in original sealed containers or packings bearing manufactures making.

15.5 The contractor shall permit free access are brought to site in original sealed containers or packings bearing manufactures making.

16. Site Clearance/ Cleaning Down (Refer Condition 49 of IAFW-2249, General Conditions of Contracts)

16.1 The contractor shall remove from the site all unused stores and huts and the like belonging to the contractor provided for the execution of work under this contract and the site of works shall be cleared off all rubbish and waste materials by the contractor and the site of work delivered in clean and tidy manner to the satisfaction of the Engineer-in-Charge on or before the date of completion.

16.2 The contractor shall clean all floors, remove cement/lime/paint drops etc, clean the joinery, glass panes etc, touch up all painting work and carry out all other necessary items of work in connection there with and leave the whole premises clean and tidy to the entire satisfaction of the Engineer-in-charge before handing over the buildings.

SPECIAL CONDITIONS (Contd..)

16.3 Nothing extra whatsoever shall be paid to the contractor for ABOVE such clearances of site.

17. Standard Of Workmanship And Finishes

17.1 In order to identify the acceptable standards of materials and workmanship under the terms and conditions of the contract, a sample quarter or sample room(s) depicting all items of fittings, fixtures and finishes will be built in a specific period of time in advance of the completion time stipulated in the contract. The dates for completion of different stages of work will be laid down by the GE so that completion of samples of materials and workmanship are achieved well in advance. The various stages of the sample quarter will be passed by the GE on the stage passing register. The standards of work in the remaining part of the accepted contract will not in anyway be inferior to the standards approved in the sample quarter by the GE. The quarter which will serve as sample quarter and separate period of completion, if any, shall be as stipulated in note to Schedule 'A'.

18. Applicability Of Employees Provident Fund

18.1 Employees Provident Funds and Miscellaneous Provisions Act-1952 is applicable to contractor for this contract. The contractor and their sub contractors shall be in possession of Provident Fund Code Number. All the workers deployed in the work by the contractor and sub contractor shall be enrolled as members of Provident Fund and shall be give the Universal Account Number (UAN).

18.2 The contractor shall submit a certificate stating that all workers employed by him or his subcontractors in the work are registered for EPF and their due contributions have been credited into their account. This certificate duly signed by the contractor shall form part of RARs and FB.

19. Record of consumption of Cement

19.1 For the purpose of keeping a record of cement received and consumed in works, the contractor shall maintain a pucca bound register in the form approved by the Engineer-in-Charge showing daily receipt, quantity used in the works and balance in hand. The register shall be signed daily by the contractor's representative and the Engineer-in-Charge in token of their verification of its correctness. The check will not, however, absolve the contractor of his responsibility to justify the consumption of cement at the time of finalisation of his accounts.

19.2 The register shall be kept at site in the safe custody of the contractor during progress of the work and shall, on demand, be produced for verification on Inspecting Officer. On completion of work, the register shall be handed over to the Engineer-in-Charge for record with MES.

20. Period for keeping the Tender/ bid open for acceptance

20.1 The tender/ bid shall remain open for acceptance for a period of **60 [Sixty]** days commencing from the next day subsequent to bid submission end date.

21. Damage to existing work

21.1 Any damage done to the existing structure during the execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification/reinstatement etc. shall conform to the standard of materials originally used in the work and finished work shall match with existing work in all respects to the entire satisfaction of the **GE**. In case of any dispute on this account the matter shall be referred to the CWE, whose decision in writing shall be final and binding.

SPECIAL CONDITIONS (Contd..)

22. **Official Secret Act.** The contractor shall be bound by the Official Secret Act-1923.

23. **Signing of Contract documents.** The person signing the tender on behalf of the firms shall attach with the tender a proper power of attorney duly executed in his favour by such person or by all the partners of the firm stating that he has authority to bind such other persons of the firm as the case may be in all matters pertaining to the contract including Arbitration clause.

24. **Bank Guarantee Bond.**

24.1 In case the contractor desires to furnish Bank Guarantee in lieu of retention money/security deposit, the guarantee bond shall be executed as per specimen prescribed by the Government of India, Ministry of Defence on Non-judicial stamp paper(s) of appropriate value from a Schedule Bank. In case the Bank Guarantee Bond is executed from a non-Scheduled Bank the same shall be supported with cover from Reserve Bank of India.

24.2 Guarantee Bond shall come into force after the same is accepted by the Accepting Officer.

25. BLANK

26. **Water.** (Refer condition 31 of General Conditions of Contracts IAFW-2249)

26.1 Water will be supplied by MES at the point(s) marked on site plan or at point/ location as directed by Engineer-in -charge. As the supply by MES is likely to be intermittent, the contractor shall make his own arrangement for storing the water required for the works, labour and workman etc. at his own expense. Govt. will not guarantee the continuity of the water supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for breakdown in the system for any reason whatsoever.

26.2 If the contractor does not desire to take water from MES, he shall categorically mention it while submitting the tender. Otherwise, the contractor shall be deemed to have agreed to take water supply from the MES.

27. **Electric Supply.**

27.1 Electricity will be supplied by MES at the prescribed rates. The contractor has to make his own arrangement for tapping the supply and for the use of the same. In case of failure of electric supply, the contractor shall make his own arrangements for provision and distribution of electricity through portable D.G sets of suitable capacities or by any other means for all the purposes in the contract.

28. Condition 64 of IAFW-2249 advance on account (**Applicable to Contract of value Rs. 50 lakh and above**)

28.1 The contractor may be paid advance on account to the full value of the under mentioned materials only, brought on the site, on his furnishing guarantee bonds, from a scheduled Bank for the amount of the retention money which should otherwise be recoverable from him under the contract: -

- (a) Factory made wooden shutter
- (b) Factory made steel windows
- (c) Iron Mongery
- (d) Sanitary fittings
- (e) Electrical fittings/fixtures/equipment
- (f) Water supply pipes, fittings and fixtures
- (g) LT/HT Cables
- (h) Any non perishable materials which do not lose their identity at the discretion of GE

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SPECIAL CONDITIONS (Contd..)

28.2 The Bank Guarantee Bond(s) shall be executed for a period and on a form as directed by the Accepting Officer. The Contractor shall further arrange to extend the period of Guarantee Bond(s) if any when necessary as directed by the Accepting Officer or shall furnish fresh guarantee bond(s) of similar value.

29. **Taxes, Levies and other Duties**

29.1 The unit rates quoted by the Contractor shall include for **all taxes liability & statutory levies/duties i.e GST, Labour Welfare Cess, Turn Over Taxes or any Levies/duties applicable on Contract as on bid submission end date** including Labour welfare cess for Building construction workers welfare Act required to be paid by him to concerned authorities as per the rules and laws in force. No additional payment on these accounts shall be made under this Contract by the MES. Department shall not issue form "D" or its equivalent. Tenderer is advised to check the rules and regulations from concerned authorities before submitting his tender.

30. **Qualified tradesmen: (Applicable for works exceeding Rupees one crore)**

30.1 In compliance with Condition 26 of IAFW-2249 (General Conditions of Contracts), the contractor shall employ skilled/ semiskilled tradesmen who are qualified and possess certificate in particular trade from Industrial Training Institute (ITI)/ National Institute of Construction Management and Research (NICMAR)/ National Construction Academy (NAC), Hyderabad/ Similar reputed and recognized institutes by State/ Central Government, to execute the works of their respective trade. The number of such qualified tradesmen shall not be less than 25% of total skilled/semiskilled tradesmen required in each trade. The contractor shall submit list of such tradesmen along-with requisite certificates to GE for verification & approval. Notwithstanding the approval of such tradesmen by GE, if the tradesmen are found to have inadequate skill to execute the work of their trades, leading to un- satisfactory workmanship, the contractor shall remove such tradesmen within a week after written notice to this effect by the **GE** and shall engage other qualified tradesmen after prior approval of **GE**. **GE's** decision whether a particular tradesmen possesses requisite qualification, skill and expertise commensurate with nature of work shall be final and binding. No compensation whatsoever on this account shall be admissible.

31. **Conciliation**

31.1 The scope of conciliation shall be restricted to the following types of disputes with financial limits as indicated therein.

- (a) Disputes relating to levy of compensation for delay in completion -actual amount of compensation.
- (b) Disputes relating to technical examination of works.
- (c) Disputes relating to interpretation of the provisions of the contract with reference to their application to parties.
- (d) Disputes relating to non-return of schedule 'B' stores over issued to contractor.
- (e) Any other dispute having fair chances of being resolved by conciliation and considered fit to be referred to conciliation by the parties.

For item (b), (c), (d) and (e) each as stated above the financial limit shall be Rupees two lakh or one percent of the contract amount whichever is less.

31.2 **Commencement of conciliation proceedings**

31.2.1 The party initiating conciliation shall send to the other party a written invitation to conciliate, briefly identifying the subject of the dispute.

SPECIAL CONDITIONS (Contd..)

31.2.2 Conciliation proceedings shall commence when the other party accepts in writing the invitation to conciliate.

31.2.3 If the other party rejects the invitation, there will be no conciliation proceedings. If the party initiating conciliation does not receive a reply within 30 days from the date on which he sends or within such other periods of time as specified in the invitation, he may elect to treat this as a rejection of the invitation to conciliate and if he so elects, he shall inform in writing the other party accordingly.

31.3 **Number of conciliators**

There shall be a Sole conciliator.

31.4 **Appointment of conciliator**

All disputes brought out in Para 31.1 (a) to (e) above shall be referred to the sole Conciliator viz. Serving Officer not below the rank of Superintending Engineer/ Superintending Engineer (QS & C) having degree in Engineering or equivalent or having passed final/direct final examination of Sub division II of Institution of Surveyors (India) to be appointed by the Engineer-in-Chief, Army Headquarters, New Delhi or in his absence the officer officiating as Engineer-in-Chief or Director General of works if specifically delegated by the Engineer-in-Chief in writing.

31.5 **Status of effect of settlement agreement**

The settlement agreement signed by the parties as a result of conciliation proceedings shall have the same status and effect, as it is an arbitral award on agreed terms.

32. **Out of pocket expense**

Out of pocket expenses incurred by the tenderer in submitting this tender shall not be reimbursed whether tender is accepted or not.

33. **Minor and missing details**

33.1 The lump sum quoted by the tenderers shall also include for any minor details of works and/or construction which are obviously and fairly intended and which may not have been specifically referred to in the tender documents but which are essential for the execution and completion of the work in a workman like manner and sound construction.

33.2 If certain details are missing, in that case, the details indicated elsewhere in the drawings, which are similar or near to the missed out items of work shall be followed. In the absence of any other similar and near details, the minimum essential requirement for the completion of work from the structural and utility point of view shall be deemed to be included in the amount quoted.

33.3 In the case of difference of opinion between the contractor and department as to whether or not a certain item of work constitutes minor or extra constructional details included in the lump sum amount quoted or not, the decision of the Accepting Officer shall be final, conclusive and binding.

34. **Materials and Samples (refer Condition 10 of IAFW-2249)**

34.1 The tenderer is advised to inspect samples of the local building materials maintained by the **GE** before submitting his tender. He will be deemed to have full knowledge of these materials whether he inspects them or not. The materials to be provided by the contractor shall conform to/shall be superior to the standard of samples displayed in the office of **Garrison Engineer** in the matter of quality unless otherwise specified.

34.2 The contractor shall produce samples of materials for incorporation through Engineer-in-Charge to the **GE** and get them approved in writing by the **GE** before commencement of work. All approvals of materials shall be in writing from **GE** to contractor. The materials, articles etc as approved shall be labeled as such and shall be signed by **GE** and contractor and kept in the safe custody of **GE/Engineer-in-Charge**.

SPECIAL CONDITIONS (Contd..)**35. Record of Materials**

35.1 Original vouchers for the proprietary materials required for execution of works shall be produced by the contractor before claiming RAR payments.

35.2 The vouchers/invoices shall be from the manufacturers and/or from their authorised agents for full quantity of respective items required for the work under this contract. These vouchers shall be endorsed, dated and initialed by the Engineer-in-Charge giving the contract number and name of work and a certified true copy of each such voucher signed by both Engineer-in-charge and contractor shall also be kept on MES record.

35.3 The quantity brought to site shall be recorded in measurement books and signed by contractor and Engineer-in-Charge as a check to ensure that the required quantity have been brought to site for incorporation in the work.

35.4 Proprietary materials brought at site shall be stored as directed by Engineer-in-Charge and those already recorded shall be suitably marked for identification.

35.5 The contractor shall ensure that materials are brought to site in original sealed containers or packing bearing manufacturers marking except in the case of the total requirement less than the smallest packing.

36. Refund/ Release of Performance Security Deposit (Refer condition 19 of IAFW-2249)

36.1 The Performance Security Deposit mentioned in Condition-19 (Added through Amendment No. 47 to IAFW-2249, General Conditions of Contracts) may be refunded to the contractor after expiry of the defects liability period (vide Condition 46) by the GE provided always that the Contractor shall first have been paid the final bill and have rendered a No- Demand Certificate (IAFW-451).

36.2 The refund/ release of Performance Security Deposit will be allowed only if there are no claims outstanding against the contractor in respect of the contract and the final bill is not "minus". In case any claims are outstanding against the contractor, and/or the final bill is "minus", the amount of Performance Security Deposit to be released, will be adjusted against the outstanding amount due to the Government and the balance, if any, will be released to the contractor.

37. Testing of building Materials

37.1 Sampling and testing of materials shall be done as per BIS stipulations and as modified in tender documents. The cost of samples of materials and other expenses required to be incurred for taking the samples, packaging, conveyance, preservation for future reference and testing charges shall be borne by the contractor.

38. Import Licence

38.1 Particular attention of the tenderer is drawn to the fact that all material to be supplied under this contract shall be from the ready stock or such as would be available within India except for such items are not of indigenous manufacture and are not otherwise totally banned for import by the Ministry of Commerce and Industry. No import license will be arranged by the Department for such items and where required, such license will have to be arranged by the contractor against their own import quota or through their sources.

38.2 All equipments and material to be used in the work shall be new and of the best of their respective kind.

38.3 No foreign exchange shall be provided by MES for any equipments/materials.

SPECIAL CONDITIONS (Contd..)**39. Re-imbursement/ refund on variation in “Taxes directly related to Contract value”**

The rates quoted by the Contractor shall be deemed to be inclusive of all the taxes Service Tax inclusive cess as applicable (including **GST**, Sales Tax/ VAT on materials, Sales Tax/ VAT on works contracts, Tur01 Decer Tax, Service Tax, Labour Welfare Cess/Tax, etc), duties, Royalties, Octroi& other levies payable under the respective Statues. No re-imbursement/ refund for variation in rates of Taxes, duties, Royalties, Octroi& other levies, and/ or imposition/ abolition of any new/ existing Taxes, duties, Royalties, Octroi other levies shall be made except as provided here-in-below in Sub Para of Para 38: -

(a) The Taxes which are levied by Government at certain percentage rates of Contract Sum/ Amount shall be termed as “Taxes directly related to Contract Value” such as **GST**, Sales Tax/ VAT on Works Contracts, Tur01 Decer Tax, Labour Welfare Cess/ Tax and the like but excluding Income Tax. The tendered rates shall be deemed to be inclusive of all “Taxes directly related to Contract Value” with existing percentage rates as prevailing on the last due date for receipt of tenders. Any increase in percentage rates of “Taxes directly related to Contract Value” with reference to prevailing rates on last due date for receipt of tenders shall be reimbursed to the Contractor and any decrease in percentage rates of “Taxes directly related to Contract Value” with reference to prevailing rates on last due date for receipt of tenders shall be refunded by the Contractor to the Government/ deducted by the Government from any payments due to the Contractor. Similarly imposition of any new “Taxes directly related to Contract Value” after the last due date for receipt of tenders shall be reimbursed to the Contractor and abolition of any “Taxes directly related to Contract Value” shall be refunded by the Contractor to the Government/ deducted by the Government from payments due to the Contractor.

(b) The Contractor shall within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of any further “Taxes directly related to Contract Value”, give written notice to thereof to the **GE** stating that the same is given pursuant to this Special Condition, together with all information relating there to which he may be in a position to supply. The Contractor shall submit the other documentary proof/ information as the **GE** may require.

(c) The Contractor shall, for the purpose of this Condition keep such books of account and other documents as are necessary and shall allow inspection of the same by the duly authorised representative of Government and shall further, at the request of the **GE** furnish, verified in such manner as the **GE** may require, any documents so kept and such other information as the **GE** may require.

(d) Reimbursement for the increase in percentage rates/ imposition of “Taxes directly related to Contract Value” shall be made only if the Contractor necessarily & properly pays additional “Taxes directly related to Contract Value” to the Government, without getting the same adjusted against any other Tax liability or without getting the same refunded from the concerned Government Authority and submits documentary proof for the same as the **GE** may require.

ANNEXURE-IMATERIAL TESTS AND THEIR RECOVERY RATES OF TESTING CHARGES

| SI No | Materials | Test | Method of Testing | Frequency of Tests | | | Level of Test | Rate per Test inRs | Remarks |
|-------|------------------|-------------------------|-------------------|---|------------------|--|---------------|--------------------|--|
| 1 | 2 | 3 | 4 | 5 | | | 6 | 7 | 8 |
| 1. | Brick | 1) Compressive strength | IS-3495 (Part-II) | As per IS-5454 as given under: - | | | A | 180/- | Checks for visual and Dimensional characteristics shall also be carried out as per IS:5454 |
| | | 2) Water Absorption | IS-3495 (Part-II) | Lot Size. 1001 to 10000 | Sample Size 5 | Permissible Nos of defective bricks 0 | A | 150/- | |
| | | 3) Efflorescence | IS-3495 (Part-I) | 10001 to 35000 | 10 | 0 | A | 180/- | |
| | | | | 35001 to 50000 | 15 | 1 | | | |
| 2. | Coarse Aggregate | 1) Sieve Analysis | IS: 2386(Part-I) | One test for every 15 cum of aggregates or part there of brought to site. | | | A | 120/- | |
| | | 2) Flakiness Index | IS: 2386(Part-I) | One test for every 15 cum of aggregates or part there of brought to site. | | | A | 90/- | |

Signature of Contractor

OffgDCWE (Contracts)
for Accepting Officer

MATERIAL TESTS AND THEIR RECOVERY RATES OF TESTING CHARGES (Cond.....)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----|----------------|--|-------------------------------|---|---|-------|---|
| 2 | Contd... | 3) Estimation of deleterious materials | IS:2386(Part-I) | One test for every 100 cum of aggregate or part thereof. | A | 120/- | |
| | | 4) Organic impurities | IS:2386(Part-I) | One test per source of supply | C | 120/- | |
| | | 5) Moisture content | IS: 2386 (Part-II) | Regularly as Required. | A | 120/- | |
| | | 6) Specific gravity | IS: 2386 (Part-II) | One test for each source of supply. | B | 120/- | |
| 3. | Fine aggregate | 1) Sieve Analysis | IS: 2386 (Part-I) | One test for every 15 cum of FA or part thereof when brought to site. | A | 180/- | |
| | | 2) Test for clay, silt and impurities. | IS: 2386 (Part-I) | One test for every 15 cum of FA or part thereof when brought to site. | A | 90/- | |
| | | 3) Specific gravity | IS: 2386 (Part-II) | One for each source of supply | B | 180/- | |
| | | 4) Test for organic impurities | IS: 2386 (Part-II) | One test for each source of supply. | C | 180/- | |
| | | 5) Moisture content | IS: 2386 (Part-II) | Regularly as required subject to 2 tests/ per day when being used. | A | 180/- | |
| 4. | Cement | 1) Setting time | IS-4031-63 Reaffirmed 1980 | Once for each consignment or as and when Required. | B | 180/- | |
| | | 2) Soundness | IS-4031-63 Reaffirmed 1980 | Once for each consignment or as and when Required. | B | 120/- | |
| | | 3) Compressive strength | IS-4031-63 Reaffirmed 1980 | Once for each consignment or as and when Required. | B | 360/- | |
| | | 4) Fineness | IS-4031-63 Reaffirmed 1980 | Once for each consignment or as and when Required. | B | 120/- | |

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for Accepting Officer

MATERIAL TESTS AND THEIR RECOVERY RATES OF TESTING CHARGES (Cond.....)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----|--|---|---------------------|--|--|---|--|
| 5. | Structural concrete (M-15 Grade and above) | 1) Slump test or compacting factor test or VEE-BEE time | IS-1119 | The Min frequency of sampling of concrete of each grade shall be as under :- | | A | 180/- (1) Random sample shall be carried out to Covermixing units. |
| | | 2) Compressive strength | IS-516 | Qty of Conc. in the work (M ³) | No of samples | A | 120/- (2) As per IS-456-2000 Clause. 14 for frequency or sampling. |
| | | | | 1 - 5 | 1 | | |
| | | | | 6 - 15 | 2 | | |
| | | | | 16 - 30 | 3 | | |
| | | | | 31 - 50 | 4 | | |
| | | | | 51 and above | 4+1 for each Addl 50 Cu m. or part thereof | | |
| 6. | Cement flooring Tiles / Terrazzo tiles | 1) Water absorption | IS:1237 (Appx 'D') | 6 Tiles out of 18 | | B | 180/- Samples: 18 |
| | | 2) Wet Transverse strength | IS: 1237 (Appx 'E') | 6 Tiles out of 18 | | B | 144/- Tiles from each source of supply selected at |
| | | 3) Resistance to wear | IS: 1237 (Appx 'F') | 6 Tiles out of 18 | | C | 540/- Random. |
| 7. | Timber | 1) Specific gravity and weight | IS: 1708-1960 | Minimum 3 samples from a lot of 4 Cum or 250 pieces of seasoned timber. | | B | 120/- |
| | | 2) Moisture content | IS: 1708-1960 | | | A | 120/- |

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MATERIAL TESTS AND THEIR RECOVERY RATES OF TESTING CHARGES (Cond.....)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----|---|--|---|--|-------------|-------------------------|--|
| 8. | Water for Construction purpose | 1) Test for acidity 2) Test for alkalinity 3) Test for Solid content | IS: 456 & 3015 IS: 456 & 3015 IS-456 & 3015 | Once at the stage of approval of source of water | B B C | 240/- 240/- 300/- | Also refer clause 4.3 of IS-456 and its subsequent sub clauses regarding suitability of water. |
| 9. | Welding of steel work | Visual inspection Test. | IS:822-1970 Clause-7.1 | 100% by visual inspection | Work site | 360/- | Specialised tests, their method and frequency to be decided on consideration of their importance by the Accepting Officer. |
| 10. | Timber paneled and glazed Door/ window shutters(including factory made shutter) | a) Dimensions, sizes workmanship and finish | IS:1003-1977 (Pt-I) | Frequency of sampling from each lot shall be as under: - | A | 180/- | |
| | | | | Lot size | Sample Size | | |
| | | | | 26 to 50 | 5 | | |
| | | | | 51 to 100 | 8 | | |
| | | | | 101 to 150 | 13 | | |
| | | | | 151 to 300 | 20 | | |
| | | | | 301 to 500 | 32 | | |
| | | | | 501 to 1000 | 50 | | |
| | | | | 1001 and above | 80 | | |

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MATERIAL TESTS AND THEIR RECOVERY RATES OF TESTING CHARGES (Cond.....)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----|---|---------------------------------------|----------------------|--|-------|-------|---|
| | | b) STRENGTH TEST | IS: 1303-1990 | From each lot 5% of the factory made shutter shall be Manufacture tested for strength tests. | | | |
| | | 1) Slamming | | | | | |
| | | 2) Impact Indentation | IS: 1303-1990 | | | | |
| | | 3) Shock Resistance | IS: 1303-1990 | | | | |
| | | 4) Edge Loading | IS: 1303-1990 | | | | |
| 11. | Ply Wood (IS:303-1989) | a) Moisture content | IS: 1734-1983 (Pt-I) | Six test pieces cut from each of the boards selected as per table-I shall be subjected to tests. | C | 240/- | SAMPLING shall be as per IS-7835-1975 Table-2. |
| 12. | Veneered Wood Particle Board (Medium Density) IS: 3097-1985 | a) Density | IS: 635 (Pt-I) | Three test specimen from each sample (Size 150mm x 75mm) | A | 60/- | Sampling shall be done as per IS: 3487-83 clause 2 with moisture meter. |
| | | b) Moisture content | IS: 2360 (Pt-3) | Three test specimen from each sample (Size 150mm x 75mm) | A & B | 60/- | |
| | | c) Water absorption | IS: 2360 (Pt-16) | Three test specimen from each sample (Size 300mm x 300mm) | A | 60/- | |
| | | d) Swelling due to surface absorption | IS: 2360 (Pt-17) | Three test specimen from each sample (Size 125mm x 100mm) | A | 60/- | |
| | | e) Swelling in water | IS: 2360 (Pt-17) | Three test specimen from each sample (Size 200mm x 100mm) | A | 60/- | |
| | | f) Modules of rupture | IS: 2360 (Pt-IV) | Three test specimens as per IS : 2380-1977 | B | 90/- | |
| | | g) Screw withdrawal strength | IS: 2360 (Pt-IV) | Three test specimens as per IS: 2385 | C | 120/- | |

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MATERIAL TESTS AND THEIR RECOVERY RATES OF TESTING CHARGES (Cond.....)

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----|---|----------------------------|-----------------------------|---------------------|-----|-------|--|
| 13 | (a) PCC Blocks for walling (Hollow Block) | (i) Compressive strength | IS : 2156 – 1984 (Apps 'B') | 8 Blocks out of 14 | 'A' | 60 | Sample: 14 blocks from consignment of every 5000 blocks or part thereof. |
| | | (ii) Water absorption | IS : 2156 – 1984 (Appx 'E') | 3 Blocks out of 14 | 'B' | 120 | |
| | | (iii) Density | IS : 2156 – 1984 (Appx 'A') | 3 Blocks out of 14 | 'B' | 90 | |
| | (b) PCC solid block for walling | (i) Comprehensive strength | IS : 2185 | 12 Blocks out of 18 | 'A' | 60 | Sample: 18 blocks from consignment of every 1000 blocks or part thereof. |
| | | (ii) Water absorption | IS : 2185 | 3 Blocks out of 18 | 'B' | 120 | |
| | | (iii) Density | IS : 2185 | 3 Blocks out of 18 | 'B' | 120 | These blocks to be checked for dimension and weight |
| 14 | Ceramic tiles/glazed tiles | (i) Water absorption test | - | 6 Tiles out of 18 | 'B' | 180/- | Samples: 18 tiles from each source of supply selected at random |

NOTE: List of tests given above is not final. Other due tests required as per SSR/BIS to satisfy the quality requirement will also be got done by the GE and necessary expenditure for the same shall be borne by the contractor

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PARTICULAR SPECIFICATIONS

1 GENERAL

1.1 Work under this contract shall be carried out in accordance with Schedule 'A' (BoQ) Special conditions, Particular Specifications, including notes thereon (unless specified otherwise) and general rules and specifications given in MES SSR Part-I (2009) as well as general rules, special conditions and preambles to the various rates given in MES SSR Part-II (2020), MES SSR Part-I & Part-II hereinafter called MES Schedule.

12 The term General Specification referred to herein before as well as referred to in IAFW-2249 (General Conditions of Contracts) shall mean the specifications contained in the MES Schedule Part-I.

13 General rules, specifications, special conditions, method of measurements, preambles in the MES Schedule shall be deemed to be applicable to the work under this contract, unless specifically mentioned otherwise in these documents.

14 Particular specifications/provision given herein after shall be generally applicable to all works covered under Schedule 'A'. The particular specifications are brief and are only to particularize, amend and emphasize the specifications given in MES Schedule, which are not repeated.

15 Where specifications given in these particular specifications are at variance with the provisions/specifications given in MES Schedule, specifications/provisions given in these particular specifications, hereinafter shall be followed.

16 Where specifications for any item of work are not given in MES Schedule or in these particular specifications, specifications as given in relevant Indian Standard or Code of practice shall be followed.

2 SCOPE OF WORK

21 The work under the contract includes full, final and entire completion of items as indicated in Schedule 'A' (BoQ) and as specified in the particular specifications here-in-after

3 MATERIALS

3.1 All materials provided by the contractor for incorporation in the work shall unless otherwise specified here in after comply with the requirements of relevant Indian standards (IS) and the order of preference of materials shall be as under:-

(a) Materials bearing ISI Mark.

(b) In absence of above, the materials conforming to ISS.

In absence of (a) &(b) above the materials shall conform to or be superior in quality from the samples referred to in clause 3.3 here in after and or shall comply with the specification given here-in-after.

32 The relevant Indian Standard (IS) shall be of the year of publication (Edition) as specified in MES Schedule Part-I. The contractor may however, at this discretion provide and incorporate in the work such materials complying with the requirements or any corresponding or subsequently amended or revised edition of IS, without any price of adjustment in the contract.

33 The contractor shall produce original receipted vouchers of materials procured, to ensure that the contractor has actually brought the required quantity and the quality of materials from authorized dealers/ manufacturers and also to find out the rates thereof. These vouchers shall be endorsed, dated and initialed by the Engineer-in-Charge giving contract number and the name of work. A certified copy of such vouchers shall be kept on record by GE.

34 In case specifications of materials needed for incorporation is not contained anywhere in the contract documents, the specifications of such materials proposed to be incorporated in work shall be got approved in writing from the GE before incorporation in the work. The Contractor is advised to check availability, lead, time of procurement from these suppliers before quoting.

35 As far as practicable all manufactured articles other than those manufactured in the Contractor's workshop at site shall bear ISI certification mark and which are readily available in the market and are as given in Special Conditions. It is mandatory for the Contractor that ISI certified marked items/articles as listed therein shall only be incorporated in the work.

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PARTICULAR SPECIFICATIONS (Contd....)

36 Local materials such as lime, etc. shall generally conform to the sample kept in the GE's office in addition to their conformity with relevant specifications given in the tender documents. The samples of such materials shall be got approved from GE in writing before the materials are brought at site in bulk. The Contractor shall submit samples of materials to the GE through Engineer-in-charge for approval.

37 Letters conveying approval of samples / materials by the GE will inter-alia mention source of supply / name of manufacturer, trade name/brand (if applicable) and reference to clause of the tender documents containing specification of particular materials.

38 The Contractor and executives will ensure that the materials incorporated in the work are identical with the approved samples.

39 **TESTING OF MATERIALS**

3.9.1 All the materials to be incorporated in the work shall be subject to quality control tests as per the testing procedure and frequency as laid down in relevant IS and or as specified in the tender and or as directed by the Engineer-in-charge.

3.9.2 However any test required in the work shall also be got done in Govt. approved lab/Engineering College/National Test House as approved by the GE and entire cost of sample, handling, transportation and actual testing charges will be borne by the Contractor directly.

3.10 **FINE AGGREGATE**

3.10.1 Fine aggregate for **concrete work, masonry** work shall conform to materials specifications and grading within the limits of grading zones II or III all as specified in clause 4.4 to 4.4.7.3 of MES Schedule Part-I. Contractor may use manufactured sand (crushed stone sand) produced from hard granite/basalt/black trap stone, having cubical shaped particles with grounded edges of ground gradation zone II/III as per IS 383-2016 as applicable in lieu of river sand. In the market it is known as M-sand/Robo sand/I-sand etc.

For plastering, water proofing work & screed bed below APP membrane natural river sand conforming to gradation within limits as specified shall only be used. Under any circumstance M-sand/Robo sand/I-sand etc. shall not be used for these works.

3.10.2 While using manufactured sand, the following provision of IS codes shall be borne in mind:-

a) IS 383:2016: Salient provisions to be followed are as under:

i) Table 1 (clause 4.2.1): Utilization in lean, plain and reinforced concrete to the extent as a percent of total mass of fine aggregates.

ii) Clause 5.7: Additional requirement for all manufactured Aggregates as per table 3 to 6.

iii) Clause 6.3 & Table 9: Gradation requirement of Manufactured sand.

b) IS 2430: Method of sampling of fine aggregates

c) IS 2383 (Part I to Part 8): Testing of aggregates

d) IS 4032 & IS 14959: Chemical tests for aggregates.

3.10.3 Where manufactured sand is used instead of Natural sand, BIS certification will be insisted from the supplier and following information shall be obtained from the manufacturer / supplier and kept on record:-

a) Source of parent material and brief manufacturing process.

b) Special characteristics having bearing on concrete properties such as presence of adhered coating in case of Recycled Concrete Aggregates.

c) Service history if any especially name of projects where used and performance.

d) Special precautions to be observed during concrete production.

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PARTICULAR SPECIFICATIONS (Contd.....)**3.11 COARSE AGGREGATE**

- 3.11.1 Coarse aggregate for all cement concrete work shall be graded crushed/broken hard granite stone obtained from approved quarries all as specified in Clause 4.4 to 4.4.7.3 of MES Schedule Part - I. Mixture of two types shall however, not be used.

- 3.12 **Water.** Water shall conform to the requirement stipulated in IS 456 and as per Clause 4.9 to 4.9.2 of MES Schedule Part - I.

3.13 PLAIN CEMENT CONCRETE

- 3.13.1 (a) All materials, workmanship, inspection, sampling and testing shall be as per the requirements given in IS-456-2000.
- (b) The contractor shall provide all facilities and equipment for casting, curing and conveyance of test cubes of cement concrete to the laboratory approved by the GE. Test of concrete cubes during execution shall be carried out as laid down in IS-456 by the contractor in laboratory. Contractor shall supply free of cost concrete cubes for testing any number of times as demanded by GE. All incidental charges for taking out cubes, transporting to laboratory, testing charges etc., shall be borne by the contractor. The number of cubes made and tested shall be recorded to account the quantity of cement consumed.
- (c) **Batchin.** Batching for concrete other than design mix concrete shall be as per clauses 4.11.3 and 4.11.3.2 to 4.11.3.5 of MES Schedule Part-I. All measuring equipments shall be kept in a clean and serviceable condition and their accuracy checked periodically.
- (d) **Mixing, Transportation, placing.** All cement concrete (plain or reinforced including nominal mix concrete) shall be machine mixed as specified in Para 4.11.5 and 4.11.5.1 of MES Schedule 2009 Part-I (Specifications), deposited and compacted all as specified in clause 4.11.10 and 4.11.11 of MES Schedule Part-I. For small works and in exceptional cases, hand mixing may be carried out by the contractor with prior written permission of GE without any price adjustment. Where hand mixing is permitted, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the concrete is uniform in colour and consistency.
- (e) **Compaction.** The concrete should be adequately compacted by suitable means as directed by Engineer-in-Charge.
- (f) **Curing.** Curing shall be done as specified in clause No 4.11.13 of MES Schedule Part I.
- (g) **Sampling, testing and acceptance criteria.** Refer IS-456-2000 where the strength is specified for volumetric mix.

3.14 FORM WORK

- 3.14.1 Formwork shall be all as described in clauses 4.11.6 and 7.15 of MES Schedule Part I. The contractor shall use steel formwork only.

4. WOOD WORK AND JOINERY**4.1 TIMBER**

- 4.1.1 Timber for all woodwork shall be IInd class hard wood unless otherwise specifically mentioned.
- 4.1.2 Timber shall be well seasoned. Maximum permissible moisture content of timber for various purposes shall be as stipulated in clause 7.7 of MES Schedule Part I.
- 4.1.3 Timber for all joinery and wood work shall conform to specifications given in clause 7.3 of MES Schedule Part-I and shall be within the permissible limits of defects defined in clause 7.4 and 7.5 of MES Schedule Part-I. Species of timber shall be as under: -
- (a) First class hardwood – Indian teakwood (TectonaGrandis)
- (b) Second class hardwood – BENTEAK/BIJASAL/SALWOOD/KARIMARADU

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PARTICULAR SPECIFICATIONS (Contd.....)**4.1.4 TOLERANCE**

- 4.1.4.1 Tolerance for the wrought faces of woodwork (carpenter's work) shall be allowed all as specified in MES Schedule.

4.2 PRESERVATION OF TIMBER

- 4.2.1 Preservation / Anti-termite treatment shall be carried out to all wood work and joinery fabricated by the contractor at site. Factory made plywood / Particle boards / block boards need not be treated with any chemical.
- 4.2.2 Chemical used for Anti-termite treatment to wood work and joinery shall be copper NAPHTHENE or any other chemical specified in IS 401 – 1982 applied in any one of the manner specified in ibid IS

4.3 GLAZED AND GAUZED SHUTTERS

- 4.3.1 Glazed Shutters shall be as specified in SSR Clause No. 28.21 and dimensions shall be as given in SSR Clause 8.24.

5.0 STEEL AND IRON WORK**5.1 GENERAL**

- 5.1.1 All steel required for the work under this contract shall be procured, supplied and incorporated in the works by the contractor under his own arrangements. The reinforcement steel as well as the structural steel like angles, I-sections, channels etc shall be of tested quality and shall comply with the requirement mentioned in the drawings, SSR and particular specifications here-in-after. The specifications mentioned in the tender documents shall be read in conjunction with the provisions laid down in SSR Part I Section 10 – Steel and Iron work. The contractor shall submit test certificate from the manufacturers.

5.2 TYPES OF STEEL

- 5.2.1 Steel supplied by the contractor shall conform to the following grades and quality:-

(a) STEEL FOR CONCRETE REINFORCEMENT

(i) High strength deformed steel bars produced by Thermo Mechanical Treatment process (TMT) steel bars of grade Fe 500 meeting all other requirements of IS-1786:1985.

(ii) Mild steel bars shall conform to IS-432 (Part I) and grade I.

(iii) Fabric Reinforcement for concrete shall conform to IS: 1566.

(b) STRUCTURAL STEEL

(i) Definition of structural steel as given in Clause 10.4 of SSR Part I shall be applicable. Standard quality steel of grade E-250 (Fe -410 W quality A) conforming to IS: 2062 for all types of steel structures including those subject to dynamic loading shall be used.

(ii) Ordinary quality structural steel wherever mentioned shall be conforming to IS-2062 of grade E-165 (Fe-290) and shall be used for doors, windows, guard bars, grills, steel gates, hand railing, fencing posts etc.

(iii) Galvanised steel sheets (plain and corrugated) shall conform to IS -277. Grade of zinc coating to be used shall be the one which is given in Clause 10.29.1 of SSR Part I which is dependant on thickness of sheet. Minimum coating of zinc shall be 450 g/sqm.

(iv) Steel tubes for structural purposes shall conform to IS-1161 and shall be of Grade YST-240.

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PARTICULAR SPECIFICATIONS (Contd.....)**5.2.2 SOURCE OF PROCUREMENT****(a) TMT STEEL REINFORCEMENT BARS**

(i) TMT steel bars of all sizes shall be procured directly from the following primary manufacturers:

| Sl. No. | Company Name | Address | Type of Steel |
|---------|---|--|--|
| 1 | 2 | 3 | 4 |
| 1. | Rashtriyaspat Nigam Limited (RINL) | Visakhapatnam Steel Plant, Visakhapatnam – 530031 Ph:0891-518226, 518376, Fax: 0891-518316 email:cmdvsp@itpvis.ap.nic.in | - |
| 2. | Tata Iron & Steel Company (TISCO or Tata Steel) | Bombay House, 2,4 HomiModi Street, Mumbai – 400001 Ph:022-2049131 Fax:022-2049522, 2870840 email:corpcomm@jsr.tatasteel.com (Br. Office for North: Jeevan Tara Building, Patel Chowk, New Delhi) | - |
| 3. | Steel Authority of India Limited (SAIL) | Central Marketing Organisation, Northern region, 17 th floor, Scope Minar, Laxmi Nagar, Dist. Centre, Delhi – 110092 | - |
| 4. | M/s Jai Balaji Industries Ltd. | 5 Bentek street, Kolkata – 700001 <u>Delhi office</u> : 510 Block-B, Navraung House 21, Kasturba Gandhi Marg, New Delhi – 110001 Ph:011-43620219,43620220 Mob:7838272772/9958936103 email:infor@jaibalajigroup.com | TMT bars of Grade Fe 500, Fe 500D |
| 5. | M/s Shyam Steel Industries Ltd. | Shyam Towers, EN-32, Sector-V, Salt Lake, Kolkata-700091 Ph:033-40074007 Fax:033-40074010 email:marketing@shyamsteel.com | TMT bars of Grade Fe 500, Fe 500DCRS |
| 6. | M/s SPS Steel Rolling Mills Ltd | Elegant Towers, 68A Balygunge Circular Road, Kolkata-700019 Ph:033-2895160/67 Fax:033-22894386 email:spsdelhi@spsgroup.co.in | TMT bars of Grade Fe 500/Fe 500D Fe550 |
| 7. | M/s Steel Exchange India Ltd. | My Home Laxminivas Apartments, Ameerpet, Hyderabad – 500016 TS Ph:040-23403725 Fax:040-23413267 email:infor@seil.co.in | TMT bars of Grade Fe 500, Fe 500D |
| 8. | M/s Jindal Steels and Power Ltd. | OP Jindal Road, Hissar, Haryana PIN-125005 Ph:01662-222471-84 Fax:01662-220476 | TMT bars of Grade Fe 500/Fe 500D Fe 550 / Fe550D |
| 9. | M/s SRMB Srijan Ltd | SRMB House, 7 Khetra das lane, Kolkata-700012 Ph:033-66006600 Fax:033-22110483 | TMT bars of Grade Fe 500/Fe 500D Fe 550 / Fe550D (Size 8-32mm) |
| 10. | M/s Concast Steel & Power Ltd. | 21 Hemant BasuSarani, Suit Nos – 511 & 512, 5h floor, Kolkata – 700001 Ph:033-22130481-87, 033-22130488 email:info@concastgroup.com | TMT bars of Grade Fe 500 (Size 8-32mm) |

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PARTICULAR SPECIFICATIONS (Contd.....)**5.2.2(a) SOURCES OF PROCUREMENT (Contd...)**

| 1 | 2 | 3 | 4 |
|-----|----------------------------------|--|--|
| 11. | M/s AdhunikMetaliks Ltd. | Lansdowne Towers, 2/1A Sarat Bose Road, Kolkata – 700020 Ph:033-30517100 Fax:033-22890285 email:info@adhunikgroup.com | TMT bars of Grade Fe 500/Fe 500D (Size 8-32mm) |
| 12. | M/s ShriBajrang Power &Ispat Ltd | Vill-Borjhara, Urla Industrial Area, Raipur-493221 Chattisgarh Ph:0771-4288019/29/39 | TMT bars of Grade Fe 500/Fe 500D (Size 8-32mm) |
| 13. | M/s JSW Steel Ltd. | Jindal Mansion, 5A Dr. G DeshmukhMarg, Mumbai – 400026 Ph:022-23513000,022-23526400 | TMT bars of Grade Fe 500/Fe 500D CRS (Size 8-40mm) |
| 14. | M/s Electro steel Steels Ltd. | GK Tower, 2 nd & 3 rd floor, 19 CamacStreet,Kolkata, WB-700017 Ph No. 033-22839990, 033-71034400 Fax:033-22902882 www.electrosteel.com | TMT bars of Grade Fe 500D (Size 8-36mm) |
| 15. | M/s Jindal Steels and Power Ltd. | Jindal Centre, Plot No. 2, Sector-32, Gurgaon-122001 Haryana Ph:0124-6612000, Fax:0124-6612125 www.jindalsteelpower.com | Structural Steel (Angle, Beam, column, Channel, Plate) |
| 16. | M/s ShyamMetalics& Energy Ltd. | Viswakarma, 1st floor, 86C, Topsia Road, Kolkata-700046 Ph:033-22852212 www.shyamgroup.com | TMT bars of Grade Fe 500 (Size 8-32mm) |

(b) STRUCTURAL STEEL

Structural steel shall be procured directly from SAIL/TATA/RINL/JINDAL

NOTE:-

- (i) Contractor shall submit manufactures test certificate alongwith test sheet for the steel procured.
- (ii) Steel sections for grills, gratingsand railingsetc which do not constitute structural members can be procured from above main/primary producers as approved by E-in-C's Branch/ BIS marked manufacturers or their authorized dealers at the option of the Contractor without any price adjustment. Tests will not be insisted upon for such steel sections.
- (iii) Fabric reinforcement for concrete shall be procured directly from the main/primary producers or other as approved by E-in-C's Branch/BIS marked manufacturers or their authorized dealers at the option of the Contractor without any price adjustment. Tests will not be insisted upon for such steel sections.
- (iv) Any other manufacturer approved by E-in-C's branch, New Delhi can also be used with the approval of GE. If any of the above manufacturer is banned / removed by E-in-C's branch, New Delhi (even after acceptance of tender), the same shall not allowed to be used in the work.
- (v) In no case TMT Steel bars of any size shall be procured from other than the above mentioned main producers / primary producers.

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PARTICULAR SPECIFICATIONS (Contd.....)**5.3 PROCUREMENT**

- 5.3.1 (i) Steel sections for grills, gratings, railings etc which do not constitute structural members can be procured from above main/primary producers as approved by E-in-C's Branch/ BIS marked manufacturers or their authorized dealers at the option of the Contractor without any price adjustment. Tests will not be insisted upon for such steel sections.

- 5.4 Contractor shall submit to GE manufacturer's test certificate (IN ORIGINAL) alongwith the test sheet giving result of each mechanical test and the chemical composition of steel (as per IS 1786-1985) for reinforcement steel or authenticated copy thereof duly signed by manufacturer with each consignment. The documents such as original purchase vouchers and test certificates in support of the purchases of steel shall be produced by the contractor to the site staff & GE for verification and record.

5.5 APPROVAL OF STEEL BROUGHT BY THE CONTRACTOR

Following action shall be taken by GE before incorporating steel procured by the contractor for the work :-

(a) Physical verification of steel received to confirm the actual quantity of steel as well as to verify aspects brought out in foregoing.

(b) GE will obtain original machine numbered purchase vouchers of manufacturer from contractor.

(c) Verify the documents listed in Ser5.5 (b) & for ongoing submitted by the contractor from the manufacturer.

(d) No consignment or part thereof will be allowed to be incorporated in the work until and unless the test results of independent testing are obtained and the consignment is passed by GE. Schedule of procurement will be prepared keeping in view the time lost for testing etc.

(e) Three samples of pieces (3.00 m long) of each section of each consignment will be retained at the project site till completion of the work. These samples will be suitably marked and properly preserved.

5.6 TESTING OF STEEL

- 5.6.1 (a) The manufacturers of steel are to carry out inspection and testing of steel in accordance with the relevant BIS provisions. The contractor shall submit manufacturer's test certificate in original or authenticated attested true copy by the manufacturers only alongwith the test sheet giving the result of each mechanical test as applicable in accordance with relevant IS provision and the chemical composition of the steel or authenticated copy with each consignment. The Engineer-in-Charge shall record these details in a steel acceptance register which will be signed by the Junior Engineer, Engineer-in-Charge, GE and Contractor as given in the format as Appendix 'E' here-in-after, after due verification and Engineer-in-Charge shall send a certified true copy of test sheet to GE for his records.

(b) Independent testing of steel/structural steel/GI Sheets and fabric reinforcement for concrete by the GE shall be optional at the discretion of the GE in case of procurement of steel from main producers and testing charges shall be borne in accordance with Condition 10A of IAFW 2249 i.e. testing charges shall be borne by the Department if the test results are found in order otherwise these shall be borne by the Contractor.

(c) Independent testing of steel/ structural steel/GI sheets and fabric reinforcement by the GE shall be mandatory in case of procurement of steel from secondary producers and testing charges shall be borne by the Contractor irrespective of the outcome of test results.

(d) For independent testing random samples of steel drawn from various lots and shall be got tested from a National Test House/SEMT CME/Regional Research Labs / Government approved Labs / Zonal Labs / Govt. Engg. Colleges / IIT / NIT / ISO certified labs or test houses etc as per the minimum frequency given below. Samples from each lot shall be also tested for quality and elongation. The elongation shall not be less than 18%.

(e) In all cases mentioned above contractor at his cost shall provide all facilities required for the testing. Cost of materials consumed in tests shall also be borne by contractor.

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PARTICULAR SPECIFICATIONS (Contd.....)

5.6.2 **Ultimate tensile strength, elongation, bend and rebend test for reinforcement steel bars shall be carried out as per Clause 9 and test specimen shall be as per Clause 11 and delivery inspection shall be as per Clause 12 of IS-1786. Bend tests and tensile tests for structural steel shall be carried out as per IS-2062.**

5.6.3 **FREQUENCY OF SAMPLING FOR INDEPENDENT TESTING (NORMAL MASS, TENSILE, BEND AND REBEND TEST OF STEEL) BY GE**

5.6.3.1 Frequency for nominal mass, tensile strength, bend and re-bend tests of steel for checking nominal mass, tensile strength, bend, re-bend test, test specimen at random shall be selected by the GE at following frequency :-

(a) **STEEL FOR CONCRETE REINFORCEMENT**

(i) Bars size less than 10mm : Sample (3 specimens) for each test for every 25 tonnes or part thereof

(ii) Bars size 10mm to 16mm : Sample (3 specimens) for each test for every 35 tonnes or part thereof

(iii) Bars size over 16mm : Sample (3 specimens) for each test for every 45 tonnes or part thereof

(b) **STRUCTURAL STEEL**

(i) Tensile test : 1 test for every 25 tonnes of steel or part thereof.

(ii) Bend test : 1 test for every 25 tonnes of steel or part thereof.

NOTE:- For various tests, acceptance criteria, tolerance etc. refer to Appendix 'A' and relevant BIS codes.

5.6.3.2 **The testing by GE as per above frequency is mandatory before payment is released to the contractor in case of structural steel from secondary producers. The GE may also increase the frequency and number of samples / tests for his satisfaction. The cost of these additional tests shall be governed as per condition 10 (A) of IAFW-2249. However cost of samples, transportation and other overheads shall be borne by the contractor irrespective of test results.**

5.6.3.3 **Test shall not be insisted upon for the steel required for guard bars, holdfasts, grills and such other allied items.**

5.6.3.4 In case test results of testing pursuant to Clause here-in-before are not within the acceptable limits, then that consignment of steel shall stand rejected and contractor shall remove the same from site at his own cost. The rejected material shall not be incorporated in the work. The contractor shall have no claim on this account.

5.6.3.5 **Cost of test samples as per frequency given in Clause 9.6.3 above shall be borne by the contractor irrespective of test results.**

5.7 **DOCUMENTATION**

5.7.1 Original purchase vouchers from the manufacturer, and original or authenticated test certificates of the manufacturers for the total quantity of steel supplied under each consignment to be incorporated in the work shall be produced to the Engineer-in-Charge of the work by the contractor. All consignments received at the work site shall be inspected by the GE along with the relevant documents before acceptance. The original vouchers and the test certificates shall be defaced and signed by the Engineer-in-Charge and kept on record in the office of the GE duly authenticated and with cross reference to the control number recorded in the steel acceptance register. The steel acceptance register shall be signed by JE, Engineer-in-Charge, GE and contractor. The entire quantity of all consignments shall also be suitably recorded in the measurements book for record purposes as 'NOT TO BE ABSTRACTED' before incorporation in the work and shall be signed by the Engineer-in-Charge and contractor. The following provisions shall also be complied :-

(a) All original vouchers will be kept in a file serially numbered and to be kept in GE's office.

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PARTICULAR SPECIFICATIONS (Contd.....)

(b) Test certificates of each steel consignment will be kept in a file, serially numbered and to kept in GE's office.

(c) Steel Acceptance Register as per Appendix 'E' will be maintained by the GE.

(d) In/Out Register for details of receipt, acceptance/rejection and consumption of steel will be maintained as per Appendix 'D'.

(e) Register containing results of independent and additional testing by GE.

(f) Inspection registers.

5.7.2 GE will check the documents personally, connected with the steel, at least once in a month and record of these check will be kept in the Inspection Register (Para 5.7.1(f) above).

5.8 **STORAGE ACCEPTANCE/PRESERVATION OF STEEL**

5.8.1 The steel procured by the contractor shall be stored in the site of work as directed by Engineer-in-Charge / GE neatly in separate stacks at least 15 cm above GL for various grades/quality / sizes / consignments with distinct paint marks for identification. The steel so stacked shall be removed for incorporation in the work only in the presence of departmental representative. The quantity of steel for various sizes received at site and recommended for incorporation in the work shall be entered in a separate register and signed by the contractor and the Engineer-in-Charge daily.

5.8.2 Steel will be stored in a manner so as to prevent distortion and corrosion till it is consumed in the work. Any section that has deteriorated and corroded or if considered defective for any other reason, the same shall be removed from site by contractor at his cost.

5.8.3 The contractor will keep a separate stack of steel brought at site for inspection, away from the accepted stack of steel. In case, the consignment does not meet any of the requirements of the relevant IS codes, the steel will be rejected by the GE and it will be removed from the site within 24 hours at the cost of the contractor.

5.9 **CONVERSION WEIGHT OF STEEL**

5.9.1 The weight of steel shall be calculated as per the conversion factors specified in the SSR. For sections not listed in SSR, ISI conversion table shall be followed or manufacturer's certificate if the weights are not available in SSR/ISI tables.

5.9.2 Normal waste and off-cuts shall be stacked neatly which shall be the property of contractor. Contractor shall be allowed to remove such cut pieces after inspection and certification by the Engineer-in-Charge.

5.9.3 Advance on account of payment made towards these cut pieces shall be adjusted from advance on account of payment immediately falling due and before removal of such cut pieces from site.

5.10 **PAYMENT IN RAR**

5.10.1 Payment of the steel brought by the contractor should only be released by the GE after taking action on points enumerated in Para 5.9 here-in-before and after completing the documentation mentioned here-in-before in this regard.

5.10.2 Before procurement of steel, contract and structural drawing shall be read thoroughly and various grades/types of steel to be incorporated in the work shall be identified by contractor and got approved by the GE. Steel shall be procured sufficiently in advance as mentioned here-in-after under Clause 9.12.

5.11 **SAFETY OF STEEL**

5.11.1 It will be responsibility of contractor to make sure that all possible arrangement are made for safe custody of the steel. In case of any loss of steel, only contractor will be responsible and the loss will be made good by contractor without any delay or claim what so ever.

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PARTICULAR SPECIFICATIONS (Contd.....)

- 5.12SCHEDULE OF SUPPLY
- 5.12.1Contractor shall work out complete requirement of steel size wise and phase the same as per the activities planned to be executed in terms of CPM networking. The contractor shall procure all the steel sections in accordance with this CPM chart. Schedule of supply of steel will be finalized by GE in consultation with contractor and same will be incorporated in CPM chart so that supply of steel is monitored in such a way to avoid any delay in completion of the work. The schedule of supply of steel will be vetted by GE from time to time.
- 5.13WELDING
- 5.13.1Welding wherever shown on drawing shall be by metal arc process in accordance with IS 816 and IS 822 unless specifically indicated otherwise on drawings.
- 5.14BINDING WIRE
- 5.14.1Binding wire for reinforcement shall be mild steel wire annealed not less than 0.9mm dia.
- 5.15HOLD FASTS/LUGS
- 5.15.1Flat iron hold fasts/lugs shall be provided by welding as and where shown on drawings. Hold fasts/lugs shall be embedded in PCC (1:2:4) type B1 (using 20mm graded stone aggregate) bed blocks of size 230 x 200 x 75mm. Hold fasts/lugs shall be hot tarred and sanded before fixing in position.

Appendix 'D'

{Refer Clause No. 5.7.1(d)}

| Sl No | Date | Steel IN | | | Steel OUT | | | Qty Balance |
|-------|------|------------|---------|------------|------------|---------|----------|-------------|
| | | Qty (Tons) | Section | Control No | Qty (Tons) | Section | Reasons* | |
| | | | | | | | | |

*Note : The following reasons may be mentioned for taking out steel from storage:-

- (a) For testing purpose
- (b) For use in work
- (c) Rejected steel taken out of site

- 6.2PRESERVATION OF TIMBER
- 6.2.1Preservation / Anti-termite treatment shall be carried out to all wood work and joineryfabricated by the contractor at site. Factory made plywood / Particle boards / block boards need not be treated with any chemical.
- 6.2.2Chemical used for Anti-termite treatment to wood work and joinery shall be copper NAPTHENE or any other chemical specified in IS 401 – 1982 applied in any one of the manner specified in ibid IS
- 6.2.3The species of timber for joinery item shall be as specified here under :-

(a) Moulded paneled door shutter

:

All as specified in BOQ

(b) Wooden runner cleats/stoppers, beading and fillets for shutters and frames

:

Second class hard wood of species LAUREL/BIJASAL/BENTEAK/SAL

(c) All other wood work and joinery

:

As in (iii) above not otherwise specified

PARTICULAR SPECIFICATIONS (Contd.....)**6.3 PARTICLE BOARD**

- 6.3.1 Particle board shall be commercial veneered on both sides bonded with BWR grade synthetic resin adhesive and shall be exterior grade conforming to IS: 3097.

6.4 PLY WOOD.

- 6.4.1 All ply wood where indicated on drawing shall be BWP grade conforming to IS: 303.

6.5 JOINERY

- 6.5.1 Timber for all joinery work shall be second class hard wood unless other wise specifically entioned.
- 6.5.2 Tolerance in the thickness of joinery shall be + 2 mm.

6.5 SURFACE FINISH

- 6.5.1 The surface of timber in contact with or buried in masonry / concrete / plaster shall be clean sawn. All other surfaces shall be wrought.

6.6 PVC DOORS AND PVC DOOR FRAMES

- 6.6.1 These shall be as specified in SSR Clause No. 8.34 and relevant items of BOQ.
- 6.6.2 30 mm thick Factory Made Solid Panel PVC Door Shutter consisting of frame made out of MS tubes of 19 mm x 19mm for stiles, & 15mm x 15mm for top & bottom rails. MS frame shall be covered with 5mm thick heat moulded PVC sheet 'C' channel having a 5mm thick PVC sheet strip of 20 mm width stuck inside with solvent cement, forming stiles, and 5mm thick PVC sheets for top rail, lock rail & bottom rail on either side, and 10mm (5mm x 2) thick, 20mm wide cross PVC sheet as gap inset for top rail & bottom rail. Panelling of 5mm thick PVC sheet to be fitted in the MS frame welded/sealed to the stiles & rails with PVC sheet beading, and joined together with solvent cement adhesive etc. shall be complete as per direction of EIC, manufacturer's instructions and drawing. The width of stiles & rails shall be in proportion to the width of the door shutter

7. BUILDERS HARDWARE**7.1 GENERAL**

- 7.1.1 ITEM AND QUANTITIES. Hardware fittings and their sizes shall be provided according to that mentioned in Schedule 'A'/BOQ.
- 7.1.2 All articles of builder's hardware shall bear ISI marking. In case any item/fitting with ISI mark is not manufactured, it shall conform to the relevant IS specifications and the specifications given in the MES Schedule for the relevant item.
- 7.1.3 Screws used for fixing items of builder's hardware shall be as specified in Clause 9.2.6 of MES Schedule Part - I.
- 7.2 ARTICLES. Except where otherwise specified, articles of builder's hardware shall have the following finish:-

- (a) Brass fittings: Finished bright or satin polished.
- (b) Aluminium fittings: Anodised

7.3. HYDRAULIC DOOR CLOSER

- 7.3.1 Door closer (hydraulically regulated) shall comply with IS-3564. It shall be of designation 2/3 as specified, suitable for doors weighing 36 to 60 kg/61 to 80kg as specified. Door closer shall be of aluminum body, universal type suitable for both anticlockwise and clockwise doors, without any change in parts of closers all as specified in clause 9.16 of MES schedule Part - I.

7.4 MIRROR

- 7.4.1 Mirror shall be of size as mentioned in BOQ. It shall be of approved and selected quality sheet glass duly silver plated uniformly on the back edge 5.5 mm thick and plywood backing 3 ply 6 mm thick conforming to IS-303-1975 of General purpose and shall be of BWR grade with type 'B' face on the both ends. The plywood shall be provided a priming coat of zinc chrome primer.

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PARTICULAR SPECIFICATIONS (Contd.....)**8 FLOORING****8.1 GENERAL**

8.1.1 Floors shall be laid to levels or to falls as directed by the Engineer-in-Charge. Floor finish shall be extended over dwarf walls, doors and other openings, as directed.

8.1.2 The dividing line between the floors of different types wherever they so meet between adjoining rooms, shall be determined on the basis of the finish visible when the doors are closed and applicable finish shall accordingly be provided.

8.2 PCC FLOOR

8.2.1 PCC floor where mentioned in BOQ shall be of grade as specified and provided over sub base over hard core/ rammed earth filling as applicable. The thickness of flooring shall be provided as mentioned in BOQ. PCC flooring shall be carried out as mentioned in BOQ and as per relevant clauses of SSR Part – I.

8.3. DIGITAL GLAZED VITRIFIED TILES

8.3.1 Digital Glazed Vitrified polished floor tiles shall be of 1st quality heavy duty digital glazed vitrified and as mentioned in Schedule 'A'/BOQ. These digital glazed vitrified tiles are classified under group B1a of the International Standard for ceramic tiles ISO: 13006/ IS 13712. Tiles shall be hard, dense, impervious and frost resistant. Water absorption of tiles shall be less than 0.5% and flexural strength (Modulus of Rupture) shall be more than 35 N/Sqmm. Vitrified polished porcelain floor tiles shall be provided of sizes, colour, shades, texture and designs as indicated in Schedule 'A' and if size not indicated it shall be 600x600 / 605x605 mm. The thickness/ shade shall be as given in Schedule 'A'/BOQ. Tiles shall be laid as specified in clause No. 13.40 of MES Schedule Part – I or as per manufacturers' instructions.

8.4 CERAMIC TILE FLOORING/SKIRTING

8.4.1 Provide coloured ceramic tiles of size and thickness as indicated in Schedule 'A'. Tiles shall be of 'first quality' (B-IIa grade) conforming to IS-13712. Colour and design shall be as approved by GE. Laying of tiles shall be all as specified in Schedule 'A'. The ceramic tiles shall be set, jointed with neat cement slurry and pointed with coloured cement to match the colour of tiles. The work shall be as specified in clause 13.40 of MES Sch Part-I and/or as per manufacturer's instructions.

8.4.2 Tiles shall be from any one of the makes mentioned in list of makes specified here-in-after and got approved from GE. Manufacturers test certificate should be submitted for the lot if the quantity purchased is more than 1000 Sqm.

8.50 COLOURED GLAZED CERAMIC TILE

8.5.1 Coloured glazed Ceramic tiles shall be of size and thickness as indicated in schedule 'A'. Colour & pattern of tiles shall be as approved by the Garrison Engineer.

8.5.2 Ceramic tiles shall be set and jointed in grey cement and pointed with white or coloured cement to match the colour of tiles. The work shall be carried out all as specified in clause 13.40 of MES Schedule Part-I and as per manufacturer's instructions.

9 PLASTERING**9.1 GENERAL**

9.1.1 Plaster and/or skirting/dado shall be returned in jambs, soffits or lintels and windows cills etc.

9.1.2 Where plaster on concrete surface is to be provided, it shall match the adjacent wall surfaces, the mix of plaster shall be as for the brick surfaces.

9.1.3 All plastered surfaces shall be troweled to smooth and even surfaces without using extra cement and external plastered surfaces shall be finished even and fair.

9.1.4 All external plastering shall be carried out upto 15 cm below the top level of plinth protection.

9.1.5 All corners, angle, junctions, and edges shall be truly vertical or horizontal as the case may be and shall be carefully finished. Corners around jambs of openings and junction of walls shall be rounded to minimum radius of 5 mm.

9.1.6 Contractor shall take note of local practices and local availability of materials like bricks, stones, form work etc., for any extra quantity of mortar required for rendering smooth, extra dubbing required, touching up properly and achieving smooth and even surfaces.

9.1.7 Where dados/skirting are provided, the internal plaster shall commence from the top of the dado/skirting.

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PARTICULAR SPECIFICATIONS (Contd.....)

9.1.8 Cement mortar in all situations shall be machine mixed at the discretion of the contractor.

9.1.9 Thickness of cement plaster mentioned here-in-after and on Sch 'A' is the net thickness above the proudest part on masonry walls. Nothing extra shall be paid for dubbing.

10. PAINTING

10.1 All synthetic enamel paint shall be of superior quality manufactured by the standard firms listed here-in-after. This shall be of first quality.

10.2 The contractor shall inform the GE, within four weeks of the acceptance of the tender, the brand names of manufacturers of paint proposed to be used in the works and submit samples thereof well in time and obtain prior written approval of the GE before their use in work.

10.3 The contractor shall, when so required by the GE, produce certificate from the manufacturer, or their representative to establish that the brands of paints purchased by the contractor from them satisfy the requirements of relevant Indian Standard.

10.4 Paints for priming coat, under coat and finishing coat shall be of same manufacturer.

10.5 Tint of paint, if not mentioned in drawings/Schedule of finishes, will be as approved by the GE.

10.6 Prepare surfaces and apply two coats of synthetic enamel paint over a coat of primer to all exposed faces of wood work in joinery etc., other than covered with laminated sheets or surfaces for which other treatment is specifically indicated.

10.7 WORKMANSHIP

10.7.1 All wood work surfaces required to be painted shall be smoothened, sized and knotted and then applied with pink priming coat. Stopping and filling (filler coat) shall be done after priming coat and surface rubbed down to a level of smooth surface and thereafter under coat and finishing coat applied, all as specified in Clause 17.6 to 17.6.5 of MES Schedule Part - I. Steel and iron work shall be painted in the manner as specified in Clause 17.8, 17.8.1, 17.8.3 to 17.8.6 of MES Schedule Part - I.

10.7.2 No treatment shall be given to reinforcement.

10.7.3 All steel surfaces (except GI pipes) exposed to view but not covered in Schedule of finishes or their finishing is not specifically indicated in any other drawings or specified elsewhere, shall be given two coats of synthetic enamel paint over a coat of zinc chrome primer of tint as directed by GE.

10.7.4 Bottom of door shutters shall be given one coat of primer only.

10.7.5 Irrespective of what is indicated on drawings and specified elsewhere, finishing coat and under coat shall be with synthetic enamel paint.

11 BLANK**12 GLAZING**

12.1 Glazing to windows, as mentioned in Sch 'A'/BOQ shall be of sheet glass of thickness. In case thickness is not mentioned the thickness shall be 5 mm sheet glass. However in case of toilet, figured glass 4 mm thick shall be provided all as specified in MES Schedule

13 DISTEMPERING WITH OIL EMULSION DISTEMPER

13.1. Distempering with oil emulsion distemper shall be carried out all as specified in clause 15.14.4, 15.14.5. on Page 15.4 and 15.5 of SSR Pt-I. Oil emulsion distemper shall be of approved make confirming to IS-428-1969.

13.2 PUTTY FINISH. Putty shall be in ready mixed form and applied over pre wetted surfaces with steel trowel/blade. The first coat thickness is about 1 to 2 mm and smoothened properly. Second coat shall be applied only after first coat dries up. The over thickness of putty finish shall not exceed 3 mm.

14 & 15 BLANK**16.1 WATER PROOFING WITH ATACTIC POLYPROPYLENE MODIFIED POLYMERIC MEMBRANE**

16.1.1 (a) A fillet of 75-mm size shall be provided using PCC 1:2:4 type B-0 at the junction of all horizontal and vertical surfaces.

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PARTICULAR SPECIFICATIONS (Contd.....)

- (b) Ponding shall be done over RCC slab by filling water which shall be kept there for 48 hours. In case a slightest indication of seepage/ leakage is noticed, the same shall be rectified by grouting and / or plastering with cement mortar 1:3 after roughening the affected portion at no extra cost.
- (c) Brushing with neat cement slurry @ 3kg/sq.m on concrete surfaces shall be provided.
- (d) The surface after curing and drying shall be primed using bituminous primer T-10/ Polymerised primer oil based coat conforming to IS-3384 applied @ 0.3 Litre/Sqm.
- (e) Laying Atactic Polypropylene Polymer (APP) modified membrane pre fabricated five layer 3 mm thick with non-woven polyester matt central core of 160 gsm (minimum) impregnated and coated on both sides with layers of APP modified bitumen and finished with micro-perforated heat fusible polythene film on both surfaces. The weight of membrane shall not be less than 3.5 kg per Sqm and laid over primed surface by using LPG/Butane torch and applying uniform pressure with a roller /wet cloth to ensure to remove entrapped air if any.
- (f) The overlap of the membrane shall be 100 mm which shall be fused uniformly by LPG torch flame/butane torch. The joints shall be sealed with trowel.
- (g) Finally apply a coat of hot blown bitumen 85/25 grade @ 1.2 kg/Sqm over the membrane and applying two coats of aluminium paint over bitumen.
- (h) Khurras shall be provided to all inlet points of rain water pipes 450x450 mm and provide water proofing treatment as described herein before in para (i) to (vii).
- (j) The whole treated portion shall be flooded with water for two weeks for testing. In case any leakage/seepage is noticed then the affected area shall be rectified and retested to the satisfaction of the Garrison Engineer.
- (k) The vital physical and chemical parameter of the membrane shall be as under :-
- (l) Joint strength in longitudinal and traverse direction at 23°C as - 650N/450N/5cm
- (m) Tensile strength in longitudinal and traverse direction as 650/350 N/Sqcm.
- (n) Softening point of membrane not less than 150°C.
- (o) Cold flexibility shall be up to -5°C when tested in accordance with ASTM.
- (p) A minimum elongation of >20% in both directions.
- (q) Water tightness / impermeability at 2 kg / Sqcm
- (r) Single central non-woven polyester reinforcement of ≥ 160 gms/Sqm
- (s) Water absorption of not more than 1% of mass within 24 Hrs.

16.2 TREATMENT ON CHAJJAS/CANOPY

16.2.1 20mm thick plaster in CM (1:4) using water proofing compound shall be provided to the top of chajjas and canopy as shown in drawings. Coving indicated at the junctions of wall with chajjas shall be in PCC (1:2:4) type B1, 7.5cm girth with thickness of plaster 10mm (minimum) and to a radius of 4cms. The waterproofing cement plaster shall be taken over to the wall to a height of 30cms. The thickness of waterproof plaster taken to the wall shall however, be 15mm to get a uniform thickness in wall plaster.

16.3 GUARANTEE

16.3.1 **The contractor shall stand guarantee for the effectiveness of water proofing treatment carried out for 10 (TEN) years** from the date of completion of work to the Government. For giving guarantee, if any additional treatment over and above that is specified is required, the same shall be carried out by the contractor without any extra cost to the Government. **The contractor shall furnish a written guarantee on Non-Judicial stamp paper for the effectiveness of the treatment for a period of TEN YEARS from the date of completion of work in favour of Garrison Engineer.**

16.3.2 The amount security deposit for water proofing treatment to be carried out for the buildings under BOQ against guarantee period shall be calculated in terms of calculation made for security deposit subject to a minimum of **Rs 20,000.00**. The amount to be calculated shall be as per quoted rates enhanced by 25%. This amount shall only be released after successful expiry of the guarantee period. The contractor may however, furnish a fixed deposit receipt in lieu, from a Nationalized Bank, pledged in favour of Garrison Engineer for the period of Guarantee in which case the amount if any, deducted from the dues/ final bill shall be refunded.

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PARTICULAR SPECIFICATIONS (Contd.....)**17 PLUMBING & SANITARY APPLIANCES FITTINGS AND FIXTURES****17.1 STOP VALVES / BIB TAPS / PILLAR TAPS**

17.1.1 Bib taps and stop valves shall be screwed down type and shall conform to IS: 781. The spindles, glands, crutches (handles), washer plates, nuts etc., should be of brass rod. The handle shall be crutch or butterfly type as directed. Bib taps shall be polished bright, stop valves shall be polished bright or they may be un-polished "as cast" finish as directed. Minimum finished mass of bib taps and stop valve shall be all as specified in clause 18.14.1 of MES Schedule Part - I. Pillar taps shall be of brass or bronze and shall conform to IS: 1795. Minimum finished mass of pillar taps shall be all as specified in clause 18.16.2 of MES Schedule Part - I.

17.2 GI TUBE AND FITTINGS

17.2.1 GI tube and fittings shall be of mild steel galvanized medium grade conforming to IS-1239 and ISI marked. Fittings conforming to IS-1239 if not available readily may alternatively comply with the requirement of IS-1879 for malleable cast iron fittings. GI tube and fittings shall be ISI marked.

17.2.2 TESTING

17.2.2.1 Testing shall be carried out all as specified in MES schedule. All the equipment required for carrying out the specified tests shall be responsibility of the contractor.

17.3 GUN METAL GATE/ GLOBE VALVE: Gun metal globe valve/gate valve shall conform to IS - 778. Gun metal gate valve shall be all as specified in MES Schedule Part - I, Section 18 and fixing shall conform to clause No. 18.62 of MES Schedule Part-I.

17.3 BLANK**17.5 SANITARY FITTINGS AND FIXTURES**

17.5.1 All sanitary appliances & fittings shall be vitreous china, white, first quality conforming to IS 2556 and shall bear ISI mark. The sanitary appliances & fittings shall be procured from any one of the make as listed in manufacturer's list as approved by GE.

17.5.2 WATER CLOSET PEDASTAL TYPE (EWC)

17.5.2.1 Pedestal pattern (wash down) water closet shall consist of following: -

(a) Vitreous China White pedestal pan (EWC) as approved by Garrison Engineer with and including concealed 'P' or 'S' trap.

(b) Seat cover with solid flat bottom made of thermosetting material and mild steel chromium plated hinging device and rubber washers.

17.5.3 WASH HAND BASIN

17.5.3.1 Wash hand basin shall be vitreous China white, Size shall be as described in Schedule A'/BOQ. Wash hand basin shall be fixed on a pair of standard CI brackets for fixing to walls with 32mm dia CP waste fitting, with bottle trap. WHB shall be all as specified in clause 18.32.5 of MES Sch part I. The cast iron brackets shall be painted with two coats of aluminium paint all as specified in MES Sch part I.

17.5.3.2 One number 15mm dia PVC flexible pipe with brass union and check nut for connecting WHB to GI supply pipe shall also be provided.

17.5.4 LOW LEVEL FLUSHING CISTERN

17.5.4.1 Low level flushing cistern shall be all as specified for Pedestal pattern (wash down) water closet and shall be of the makes as listed herein after 10 liters discharge capacity low level flushing cistern made of hard durable plastic (HDPE/PP) finger touch operated bearing IS-7231 diaphragm bearing IS 13049 and delrin valve float bearing IS 9762 model water bird of commander brand fixed with standard cast iron brackets, 32mm dia polythene flushing pipe of required length with suitable plastic coupling, nuts and other accessories all as specified in Para as 18.32.2 18.35 and 18.36 of MES Sch Part I. Fixing shall be done as specified in Para 18.87 of MES Sch part I.

PARTICULAR SPECIFICATIONS (Contd.....)**17.6 UPVC SOIL, WASTE AND RAINWATER (SWR) DRAINAGE PIPES**

17.6.1 UPVC (SWR) pipes shall conform to IS 13592 – 1992 as under:-

- (a) Type 'A' Pipe : For use in ventilation pipe work and rain water application.
- (b) Type 'B' Pipe : For use in soil and waste discharge system.
- (c) The size of pipes shall be mentioned in BOQ.

17.6.2 Rubber rings for pipes and fittings shall conform to IS 5382-1985.

17.6.3 UPVC (SWR) fittings shall be used as per recommendations of the manufacturer of the pipes. In case there is no IS code for the fittings, these shall generally conform to the requirements of BS 4515 DIN 19531 and DIN 19534.

17.7 HDPE WATER TANK

17.7.1 Provide HDPE rotational moulded water tanks conforming to IS : 12701 & ISI marked at locations as directed by Engineer-in-Charge. Capacity of water tank shall be as indicated in Schedule 'A'.

17.7.2 HDPE water tanks shall be Rotational moulded polyethylene water storage tanks 'double layer' (cylindrical vertical with closed top) as per IS 12701-1989 hoisted and fixed in position any capacity as indicated in drawings all as specified in clause 18.60 & 18.60.A of SSR part-I. HDPE water tank shall be provided with suitable size of Ball valve high-pressure type of brass with polythene ball conforming to IS 1703 and ISI marked.

17.7.3 HDPE water tanks shall be any one of the make as listed in list of makes as approved by GE. HDPE water tanks shall be placed on levelled PCC platform of minimum 100mm thick PCC (1:2:4) type B1 and the cost of same shall be deemed to be included in the rate quoted.

17.8. LOW DENSITY POLYETHYLENE (LDPE) PIPES

17.8.1 LDPE pipes shall conform to IS 3076-1985. Specification for low density polyethylene pipes for potable water supply. Pipes shall be smooth clean and reasonably free from grooving and other defects. LDPE Pipes shall be of pressure ratings (working pressure) 2.5, 4, 6 and 10 Kg/cm² as indicated.

Note :- Polyethylene and PVC pipe are designated by their outside diameter

18. ALUMINIUM SECTIONS

18.1 Aluminium Sections required shall conform to IS-737- 1986.

18.2 All aluminium fittings/sections shall be of anodised aluminium with minimum anodising 15 microns. Fixing of frames, shutters and other fittings shall as per manufacturers instruction and as directed by Engineer-in-Charge. The work shall be carried out as per clause 10.37 on of SSR 2009 Part-I. Aluminium section shall be procured from any one of the manufacturer's as given herein below.

18.3. ALUMINIUM PARTITION/WINDOWS/DOORS

18.3.1 All aluminium joinery and fittings where described in Schedule 'A' shall be of anodized aluminium with minimum anodizing thickness of 15 microns. These shall be of design as approved by GE.

18.3.2 Aluminium joinery shall be manufactured out of heavy extruded sections.

18.3.3 The size and sections of partition/doors/windows shall be all as described in Sch `A'/BOQ.

18.3.4 The rubber gasket as described in Sch `A'/BOQ shall be ERIDIUM rubber.

19 FLY ASH BRICKS

19.1 (a) Fly Ash cement bricks shall be of size 230x115x75 mm with frog size 100x40x10-20 mm having minimum compressive strength 75 kg/cm², for best locally available and shall comply with the requirements as specified in IS 12894-2002 for all aspects except that the word 'lime' shall be replaced with the word 'cement' in the above code. Cement shall be OPC 43 grade and shall be minimum 10% by weight.

(b) Fly ash to be used in the manufacturer of fly ash cement bricks shall conform to Grade 1 or 2 of IS: 3812-1981.

PARTICULAR SPECIFICATIONS (Contd.....)

(c) Minimum percentage of fly ash to be used in the fly ash cement bricks shall not be less than 25%. Manufacturers test certificate and independent testing conforming chemical and physical requirement /characteristics and proportion of fly ash shall be produced by the contractor to the GE for approval. Independent testing of bricks for compressive strength shall be carried out by GE. Fly ash shall be procured from coal/ lignite based thermal plants.

(d) Water absorption for the fly ash cement bricks shall not be more than 20% of weight.

(e) Efflorescence when tested according to IS-3495 (Part III) 1976 shall have the rating of efflorescence not more than 12.5%.

(f) Testing of fly ash cement' bricks shall be carried out in accordance with procedures listed in IS-13757-1993. Frequency of test shall be as per IS-1077 and IS-5454.

(g) The manufacturers shall have batching plant for mixing of raw materials and high pressure pressing machine for making bricks. The fly ash bricks shall be of best locally available and of make of fly ash bricks shall be as approved by GE.

(h) Brick work in one brick thick and above shall be built in cement mortar 1:6. The half brick walls, cavity walls shall be built in cement mortar 1:4 unless otherwise specified hereinafter. All the internal and external walls shall be 230mm thick walls except partitions for bath and toilets all as shown on drawings/as directed. The thickness of walls shown as 115mm, 230mm, 345mm etc., shall be reckoned as half brick, one brick, and one and half bricks etc., (i.e. in multiples of half brick) respectively.

20 GALVALUME SHEET ROOFING

20.1 Galvalume sheet shall be 0.50mm thick (base metal thickness), 550 Mpa minimum, yield strength. It shall be coated with hot dip alloy of 55% Aluminium 43.5% Zinc 1.5% Silicon and finished with resin coat on both surfaces @ 150 gm/ sqm of coating (total both surfaces) having overall width and laid width as specified and shall be fixed using hot dip galvanized, self drilling and self tapping screws neoprene and EPDM washers. Penetrations and laps in sheet shall be sealed by using proper sealant profile. HDPE fillers shall be provided wherever required to close voids between sheets, sheet & fasteners, etc.

20.2 Fixing system shall be as per manufacturer's instructions and shall be safe against effects of Wind velocity.

21 Blank

22. **SHAHABAD STONE FLOORING**: 15-20 mm thick machine cut polished Shahabad stone slabs shall be used. The colour and size of slabs shall be as directed by the GE. The Shahabad stone slabs shall be of good quality, hard, durable, sound, tough, regular in shape, uniform in colour and free from soft veins, cracks, flaws, decay and weathering. The contractor shall get samples of granite slabs, approved by the GE for the colour and quality of granite before incorporating in the work. Every slab shall be machine cut to the required size and shape and shall be pre-polished. Shahabad stone shall be laid over 15mm thick cement mortar 1:6 screed bed/as described in BOQ. The front edges shall be bull nosed and polished to match with top surface.

23. INTERNAL ELECTRIFICATION**23.1 SCOPE OF WORK**

23.1.1 The work included in this schedule comprises of internal electrification complete including testing and as specified in Schedule 'A' / BOQ. The layout of conductors/cable route shall be as directed by the Engineer-in-Charge.

23.1.2 GENERAL

(a) This installation shall strictly comply with the provisions contained in the latest edition of the Indian Electricity Rules and amended IS-732-1989. Code of practice for Electrical wiring and fittings in buildings as applicable to these works except where such regulation and rule are modified by these specifications.

(b) All electrical work shall be executed properly by skilled licensed electricians (minimum ITI holder) under the supervision of suitable qualified electrical supervisors. The contractor on demand by Engineer-in-Charge shall produce such evidence of qualification of his workmen, supervisors(s) either at the time of commencement of the work or at any time thereafter during the contract period.

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PARTICULAR SPECIFICATIONS (Contd.....)

- (c) The position of various electrical fittings and fixtures shown on the drawings may be changed by the Engineer-in-Charge at the time of execution if found necessary.
- (d) The run of conduits shall be marked on the walls and soffits of roof floors slabs for the wiring. Approval of the Engineer-in-Charge shall be obtained in writing before starting the works.
- (e) Looping back system of wiring shall invariably be used throughout the installation
- (f) All electrical fittings and wirings shall be clear of door, windows and other openings.
- (g) The main switches and controls should have the voltage of supply clearly painted on them.
- (h) The phase indication (RYB) should be provided at the main incoming switches and controls.
- (j) The name of functions of each distribution board shall be clearly and neatly painted on the distribution boards.
- (k) Colour code system for internal electrification of conduit wiring shall be followed as per IS for phase neutral and earthing. For phase RYB cable colour shall be red, yellow and blue respectively. For neutral and earthing cable shall be of black and green colour.

23.2 MATERIALS AND SAMPLE BOARD

23.2.1 All materials unless otherwise specified shall possess ISI mark or conform to relevant IS specifications or to BSS if ISS is not available. Approval of GE referred to in clause 19.2.1 and 19.2.2 of MES Schedule Part - I shall be in writing. Approved samples shall be labeled as such and signed both by the contractor and the Engineer-in-Charge. They shall remain in the custody of Engineer-in-Charge, till final completion of work.

23.2.2 The contractor is deemed to have included in rates, cost of making holes/chases where required through masonry or concrete work for taking in cables/conduits and conductors etc and making good the same to match with existing work under Schedule 'A' / BOQ .

23.3 TYPE OF ELECTRIC SUPPLY

23.3.1 Type of electric supply will be AC-415 volts, 3 phase and 240 volts single phase at 50 cycles.

23.4 SCREWS, NAILS ETC

23.4.1 All screws, nails used in the electrical works shall be of brass, unless otherwise specified. Laminated sheet cover for pressed steel boxes shall be fixed with cadmium plated iron screws.

23.5 CABLES

23.5.1 All cables to be used in this work shall be indigenous make with ISI mark conforming to IS-694 including amendments if any for PVC insulated and unsheathed copper conductor cables.

23.6 LIGHT FITTINGS

23.6.1 Light fittings shall be of approved make and shall conform to the description given in Schedule 'A'/BOQ. The rates quoted shall be deemed to include for fixing the fittings and connecting up complete with necessary connectors, cables etc, all as directed by Engineer-in-Charge. The make shall be any one of the make as specified here-in-after. The make shall be got approved from GE.

23.6.2 Particular attention is drawn to the neatness in appearance which is to be achieved by judicious location of light fittings, switches socket outlets and main controls etc. Due regard shall be given to door, window, opening etc. in fixing the run of cables, position of fittings, control switches etc. The location of fittings etc. shall be marked in advance on walls etc. as approved by GE.

23.7 SWITCH SOCKET OUTLET

23.7.1 Switch socket outlet shall be as specified in Schedule and of approved best indigenous make and provided with piano type / modular type control switch and shall be ISI marked.

23.8 SOCKET OUTLET

23.8.1 Socket outlet shall be of approved best indigenous make and shall bear ISI mark. The socket outlet shall be as specified in Clause 19.40 of MES Schedule Part – I. The number of outlets and capacity shall be as specified in Schedule 'A' / BOQ. Unless otherwise specified the socket outlets shall be of surface flush / surface modular type and non shuttered type.

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PARTICULAR SPECIFICATIONS (Contd.....)**23.9 PVC CONNECTION**

23.9.1 These shall be of best indigenous make conforming to relevant IS suitable for AC single phase 230 volts 5 amps and shall be as approved by the GE before incorporation in the work. The terminal of grub screws shall be of cadmium plated and shall be concealed.

23.10 DISTRIBUTION BOARD AND MCBs

23.10.1 Provide distribution board and MCBs as indicated in Schedule 'A'. Miniature circuit breaker shall comply to the requirement of IS-8828-1996. The MCBs shall have rupturing capacity of 10 KA. The terminals of MCBs should be brought out sufficiently to connect cable lugs directly. No adopter should be used for terminating the cables. The MCBs should have quick-break-trip free mechanism to ensure that contact cannot be closed against persistent fault. Bus bars shall be electroplating copper tin plated and rated 200 Amps. Exposed faces of sheet steel enclosures shall be painted with epoxy polyester powder coating at factory. Neutral has same number of outgoing holds as the number of MCBs. Unit rate in Schedule 'A' shall also be deemed to include for all internal connections in the distribution board and bus bar system is completely insulated and fitted in PVC channel to avoid accidental toner, bus bar available in single phase and 3 phase shall be colour coated suitable for both flush and surface mounting.

23.11 END TERMINATION

23.11.1 All cable termination for internal electrification for various switches, light fittings, MCBs, MCCBs junction boxes, connectors etc shall be provided with suitable crimped legs/studs/sleeves as required to avoid any possibility of loose connections and sparking.

23.12 CONDUIT, CONDUIT ACCESSORIES AND CONDUIT WIRING

23.12.1 Non metallic PVC rigid conduit shall conform to IS-9537 (Part-III) medium grade and bear ISI mark. The dia of conduit shall be as specified in clause 19.125 of MES Schedule Part - I. Conduit and conduit accessories shall conform to type of conduit and as specified in Clause No. 19.29 of MES Schedule Part – I.

23.13 BLANK**23.14 POINT WIRING / SUB MAIN WIRING**

23.14.1 Cable and earthing lead for internal wiring, submain wiring shall be as specified in Schedule 'A'/BOQ. Cables and cords shall be from fresh stocks and shall be of approved make. The capacity of current per circuit shall be as specified in Clause No.19.24.2 of MES Schedule Part – I.

23.14.2 Cable for internal wiring work shall be as specified in Schedule 'A'/BOQ. Unless otherwise specified the cable shall be copper conductors and as specified in clause No. 19.25 of MES Schedule Part – I.

23.15 MODULAR FLUSH BOXES

23.15.1 "Metal flush boxes of suitable size for mounting modular type switches, sockets, fan regulators including white cover plate with frame It shall be embedded in the walls with cement mortar (1:2) so that the cover is flush with the finished wall surfaces."

23.16 ELECTRICAL TEST

23.16.1 On completion of wiring, the whole installation shall be tested in accordance with IS-732, clause 8 (a) (b) & (c) and test certificate as per Appendix 'B' of the above IS rendered duly signed by the contractor and Engineer-in-Charge. If the test results are not acceptable, all repairs and replacement and extra work of removal and relaying or refixing shall be carried out by the contractor at his own expense and installation retested, until test result indicate compliance with the pre scribed requirement. The contractor shall supply all necessary apparatus, lab and instruments or equipments required for testing. The quoted rates shall be deemed to include for the above provision.

23.17 RECORD DRAWING

23.17.1 On completion of wiring to the building the contractor shall submit three copies of the line plans of the building (Scale 1:100) indicating actual position of all controls and fittings and actual runs of main and sub-circuit and such other information which the Engineer-in-Charge may require. All circuits shall be clearly indicated and numbered in the wiring diagram and all points shall be given the same number as the circuit to which they are electrically connected phase and neutral wires shall be shown in red and black colours respectively.

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PARTICULAR SPECIFICATIONS (Contd.....)**23.18 EARTHING**

23.18.1 The earthing shall be in accordance with section 19 clause 19.137 of MES Schedule Part - I and as per electrical plate No 3 of SSR Part-I, earthing with galvanised iron as described in Sch 'A' and the work shall be executed in the presence of MES representative. Excavation for earth pit shall be in any type of soil, excavation shall be passed by Engineer-in-Charge before filling in. Surplus soil if any shall be removed to a distance not exceeding 50 metres and the site left clean and tidy. Concrete in earth pit shall be 1:3:6 type C1 using 20mm graded stone aggregate.

23.18.2 The maximum continuity resistance from any point of the installation including the earth continuity conductor and earth lead to the earth pit shall not exceed 1 ohm.

23.18.3 All metal works associated with wiring system other than current carrying parts including the cable sheathed and armoured conduit, ducts and box shall be connected to the earth continuity conductor as required under Indian Electricity Rules 1965 and IEE wiring regulations. The earth terminal of socket outlet etc. shall be connected to the earth continuity conductor. The sizes of all the earth continuity shall be as specified in respective Schedule 'A'/BOQ items. Testing of earthing shall be carried out as per clause No 19.146 of MES Schedule Part - I.

23.19 MCB DB.

23.19.1 The MCBs and mini break isolators shall be fitted in the metal clad enclosures supplied by the manufacturers as mentioned. Additional ways left un- utilised in the metal clad enclosures shall be enclosed with suitable blanking pieces supplied by the manufacturer. MCB shall have ISI marking.

23.20 MINIATURE CIRCUIT BREAKERS.

23.20.1 The miniature circuit breakers shall have tungston contacts and shall have quick break free mechanism. The break shall be provided with both thermal overload and magnetic short circuit tripping devices. The trip free mechanism shall ensure that contact cannot be held closed against fault and the thermal element shall prevent continuous rapid reclosing of a circuit when a fault over load persists. The body of the breaker shall be made with heat resisting mouldings. The breaker shall be flush mounted and conforming to IS-8828. The voltage shall be 415 volts AC, nominal rating current shall be as specified in schedule A/BOQ and breaking capacity shall be 10KA at 0.75 power factor.

23.21 MOULDED CASE CIRCUIT BREAKERS.

23.21.1 The MCCB shall be designed to ensure maximum safety during operation, inspection connection of cables relocating of outgoing circuits and maintenance with the busbar system energised without taking any special precaution. Means shall be provided to prevent sorting of power and or control terminals while men working and accidental slip of tools etc.

24 PURCHASE VOUCHER & GATE PASS

24.1 Original machine numbered purchase vouchers for the items to be incorporated in work shall be given by the contractor to the Engineer –in-charge before incorporating in the work. The contractor shall also produce purchase voucher of manufacturer for important items i.e. Split ACs. Garrison Engineer shall release payment only after production of the above by the Contractor.

25 EARTHING

25.1 The location of earth termination shall be directed by Engineer -in-Charge. Earth electrode shall be of copper. The maximum of resistance to earth termination shall not be more than 0.50 ohms. The earthing work shall be carried out in accordance with the code of practice for earthing IS-3043.

25.2 TESTING

25.2.1 The system will be tested for the resistance as per IS code of practice IS- 3043 and recorded in the proforma mentioned therein.

26. DEMOLITION /DISMANTLING

26.1 Demolition/dismantling works necessitate to undertake the work under this contract shall be carried out with utmost care and without any disturbance to the adjoining structure. Any damage caused to the structure/adjacent structure during dismantling/demolition due to the carelessness and negligence of the contractor shall be made good at his own expense. Concrete debris and other materials retrieved shall be removed from the site of work as directed by Engineer-in-Charge and site shall be kept clean and tidy

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PARTICULAR SPECIFICATIONS (Contd.....)

- 26.2 All the precautions prior to and during dismantling and demolition shall be taken all as specified in section 21 of MES Schedule Part-I 2009.
- 26.3 All the demolition/dismantling works as required at site and making good the disturbed portions etc. as required at site and as directed by Engineer in charge shall be deemed to be included in the unit rate quoted for the relevant item under Schedule ‘A’ .
- 26.4 Before dismantling / demolition operation are undertaken by the contractor inventory of all materials, fittings and fixtures (except hidden material) which are considered useful shall be made and signed by Engineer-in-Charge and contractor.

21. LIST OFMANUFACTURERS

- 21.1 (a) Makes of various items shall be as indicated below unless otherwise specifically mentioned in Schedule ‘A’ or Particular specifications. In case different makes are specified in Schedule ‘A’ / Particular specifications than those given below, provisions of Schedule ‘A’/Particular specifications shall take precedence over makes givenbelow.
- (b) Items for which ISI/BIS is available – ISI/BIS marked products shall only be used.

| SI No | Item | Make/Brand Name |
|-------|--|---|
| 1 | 2 | 3 |
| 1 | Digital, glazed, Vitrified tiles & Glazed, Non Skid ceramic Tiles | Kajaria, Nitco, AGL, Orient Bell Ltd, |
| 2. | WPC Doors and frames | Rajshri, Plastiwood, Sintex, Giza, |
| 3. | Aluminum Builders Hardware (ISI) | Crown,Jyothi, Classic, Shalimar, AluminiumUdyog (Global), or any ISI approved with ISI mark |
| 4. | MS Iron mongery (ISI) | Prestuge, Mowjee, Garg or any ISI approved with ISI mark |
| 5 | Paint (Primer for wood & steel) and synthetic enamel paint 1 st quality | Asian, Shalimar, Jenson & Nicholson, Berger |
| 6 | Oil bound distemper, acrylic emulsion distemper1 st quality | Asian, Shalimar, Jenson & Nicholson, Nerolac, Berger |
| 7 | GI Tubing | Tata, Zenith, Jindal |
| 8 | Galvalume sheet | TataBluescope, JSWcoloron,Lloydinsulation,Tata steel BSL, Kirby building systems |
| 9 | Aluminium sections for doors and windows incl deco grill | Jindal, Hindalco, Indalco |
| 10 | Looking mirror glass | Modiguard, Saint Gobain, Asahi Float GlassJaquar |
| 11 | Fancy Pillar Taps, Bib taps, Stop Cock, Towel rail, Glass shelf, shower rose, wall mixture, toilet paper holder, towel ring, soap dish | Cera , Hindware, Somany, Jaquar |
| 12 | APP membrane | STP, IWL, Tikitar |
| 13 | Water proofing compound | Fosroc, Cico, Dr Fixit |
| 14 | PTMT fittings, PVC connection | Polytuf, Pearl Pdo, Oriplast, Water Tec |
| 15 | UPVC (SWR) pipes, HDPE pipes, fittings and bends | Prince, Supreme, Finolex, Sudhakar |
| 16 | HDPE water tank (ISI mark only) | Sintex, Vectus, Polycon |
| 17 | Lime(First quality) | Luckycem, Suryacem (Paper Bag) 1 st Quality, Robycem, Duracem |
| 18 | Exterior emulsion paint | Asian, Berger, Shalimar, Nerolac |
| 19 | Glass for glazing | Modi Guard, Saint Gobian,Asahi |

PARTICULAR SPECIFICATIONS (Contd.....)

| 1 | 2 | 3 |
|----|--|---|
| 20 | Particle board | Century, Green Lam, Eco Board |
| 21 | Sanitary fittings | Parryware, Hindware, Johnson, Cera, Kohler, Jaquar |
| 22 | Poly carbonate sheet | Tuflite, Teflite, Paxi glass, Bayer, Macrolon |
| 23 | Ball brass valve | Zoloto, Jindal, Venus, Leader |
| 24 | Wall Care Putty | Birla cement, JK white cement, Asian |
| 25 | Stainless Steel kitchen Sink,SS plate rack | Nirali,Bluestar Sanitary Industries Pvt Ltd.(silver shine),Diamond,Nilkanth |
| 26 | PVC Chequered tile, Inter locking paver blocks | Ultra / Nitco / Topaz, Godrej or any ISI approved make with ISI markings |
| 27 | Mangalore tile | Any ISI approved make with ISI mark |
| 28 | Fibre cement false ceiling with GI grid system | GYP Board, Everest, Visakha Industries, Gyprock, Saint Gobain |
| 29 | Salt Glazed stone ware pipes (ISI mark) | Indo, Khandelwal, Mancheryal Ceramics, Any ISI approved with ISI mark |
| 30 | Cement base paint. | Super-Snowcem, Duracem, Aquacem. |
| 31 | CPVC pipes and fittings | Finolex, SFMC, Astral |
| 32 | Non asbestos Fibre reinforced cement corrugated sheet | Everest ,Ramco,Visaka |
| 33 | Lamp holder, Calling bell, Fan regulator, Lamp holder, Ceiling Rose, Piano / modular switches, & Sockets | Anchor Roma , C&S,Legrand,Indo Asian, |
| 34 | Panel board | Any CPRI approved |
| 35 | PVC insulated cables | KEI, Havells, Finolex,Anchor |
| 36 | XLPE cables | Havells,KEI,Gloster, RPG, Finolex |
| 37 | MCCB, MCB, MCB DB's | Legrand, L&T, Schneider, Indo Asian, ABB, C&S |
| 38 | LED Light fittings | Philips, Havells Wipro, Bajaj, CG |
| 39 | Fans, exhaust fans | Havells, Usha, Orient, Almonard |
| 40 | PVC Conduit, Casing & Capping | Finolex, Modi, Polycab, |

SOURCES OF BUILDING MATERIALS:

| | | |
|----|--------------------------------------|------------------------|
| 1. | Hard core broken stones of any gauge | Best locally available |
| 2. | Fine aggregate | Best locally available |
| 3. | Graded stone aggregate (Granite) | Best locally available |
| 4. | Stone for masonry (Granite) | Best locally available |
| 5. | Bricks | Best locally available |