

MILITARY ENGINEER SERVICES

ASSISTANT GARRISON ENGINEER (I) DAPPAR

NAME OF WORK : PROVN OF 03 X WATER COOLERS WITH RELATED ALLIED  
INFRASTRUCTURE AT CERTAIN AT 33 FAD, DAPPAR

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SIGNATURE OF CONTRACTOR

DATED:\_\_\_\_\_

AGE (I) DAPPAR

ACCEPTING OFFICER

Tele: 2226156

Asst Garrison Engineer (I)  
Military Engineer Services  
Dappar-140506

8124/DPR/T-12/ /E8

Sep 2024

M/S\_\_\_\_\_

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**CA NO AGE (I) DPR/T-12/2024-25 : PROVN OF 03 X WATER COOLERS WITH RELATED ALLIED INFRASTRUCTURE AT CERTAIN AT 33 FAD, DAPPAR**

Dear Sir (S)

1. Tender documents in respect of above work are uploaded on the site [www.defproc.gov.in](http://www.defproc.gov.in). The tender is on single stage two cover e-tendering system. The contents of cover I & cover II are specified in NOTICE OF TENDER.
2. Bids will be received online by ACCEPTING OFFICER upto the date & time mentioned in the NOTICE INVITING TENDER (NIT). No tender/bid will be received in physical form and any tender/bid received in such manner will be treated as non bonafide tender/bid.
3. Bid will be opened on due date and time fixed for opening in the presence of tenderer/bidders or their authorized representatives, who have uploaded their quotation bid and who wish to be present at the time of opening the bids.
4. Your attention is also drawn to instruction on filling and submission of tender attached herewith. You may forward your points on tender documents and/or depute your technical representative for discussion on tender/drawing and to clarify doubts, if any, on or before the stipulated clarification end date. You are requested not to write piecemeal points and forward your points duly consolidated before due date viz the stipulated clarification end date.
5. 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 documents and appendix 'A' to NIT alongwith EARNEST MONEY DEPOSIT (EMD) and tender fee on e-procurement portal and submit the physical documents in the office of ASSISTANT GARRISON ENGINEER (I) MILITARY ENGINEER SERVICES DAPPAR-140506 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.
6. Contractor having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of EARNEST MONEY DEPOSIT (EMD) mentioned in Notice of Tender and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.
7. Enlisted Contractor having not executed standing security bond and standing security deposit in any MES formation shall upload scanned copy of EARNEST MONEY DEPOSIT (EMD) mentioned in Notice of tender and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.

8. Enlisted contractors 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 ASSISTANT GARRISON ENGINEER (I) MILITARY ENGINEER SERIVECES DAPPAR -140506 before date & time fixed for this purpose.

9. 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 from tenderer/bidder even if they are received in time.

10. 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.

11. General conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, schedule of minimum fair wages and MES SSR (Part-I and Part-II) are not enclosed with these documents. These are available for perusal in the Office of AGE concerned and this office.

**12. 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.**

Encls: (As above)

Yours faithfully,

Signature of contractor

AGE (I) Dappar  
Accepting Officer

**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, alongwith their tender/bid :-

- (a) Deposit at Call Receipt from a schedule Bank in favour of Garrison Engineer concerned.
- (b) Receipted Treasury Challan, the amount being credited to the Revenue Deposit of Garrison Engineer concerned.

It is advisable that Earnest Money is deposited in the form of deposit call receipt from an approved Scheduled bank for easy refund. In case the tender/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 AGE.

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 alongwith 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. CONTRACTORS ENLISTED IN MES FORMATIONS OTHER THAN CHIEF ENGINEER WESTERN COMMAND**

2.1 Contractors whose names are on the approved list of any MES formations i.e other than Chief Engineer Western Command and who have deposited standing security deposit and have executed standing security bond may tender / bid without depositing Earnest Money with the bid.

**3. CONTRACTORS NOT ENLISTED IN ANY MES FORMATIONS OR ENLISTED WITH MES FORMATION BUT NOT EXECUTED STANDING SECURITY BOND**

3.1 Contractors who is not enlisted with the MES / who is enlisted but has not executed the Standing Security Bond, while submitting a tender shall be required to furnish Earnest Money alongwith the tender.

**4. GENERAL INSTRUCTIONS FOR COMPLIANCE**

4.1 The bids received only in the electronic form will be considered. All bids shall be submitted on [www.defproc.gov.in](http://www.defproc.gov.in) portal. Documents should be scanned and forwarded in 'pdf' form and 'xls' form as indicated.

4.2 Bid shall be uploaded on '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.

4.3 Bid should be DIGITALLY signed using valid DSC. All pages of tender documents, corrections / alterations shall be signed / initialed by the lowest bidder after acceptance.

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

4.5 The tender shall be signed, dated and witnessed at all places provided for in the documents after acceptance. All corrections shall be initialed. 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 the conditions what so ever, is liable to be rejected.

**INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER(Contd....)**

4.6 In the technical bid, scanned copy of power of attorney in favour of person uploading the bid using his / her DSC shall be uploaded. In case the digital signatory himself is the sole proprietor, scanned copy of 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 a limited company, digital signatory of the bid / tender shall be ensured 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 contract with Union of India including arbitration clause. A scanned copy of 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 off 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 contracts including the arbitration clause.

4.7 Even in case of Firm or Companies which have already given Power of Attorney to an individual authorizing him to sign tender in pursuance of which bids are being uploaded 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 & Articles of Association.

4.8 Hard copies of all above documents should be sent by the contractor to the Tender issuing authority well in advance to be received before the date & time fixed for the same.

4.9 Bid (Cover 1 & 2) shall be uploaded online well in time.

4.10 The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to special condition 3 referred hereinafter and also conditions 24& 25 of IAFW 2249(General conditions of contract).

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

4.12 The tender/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.

4.13 In case the tenderer/bidder has to revise/modify the rates quoted in the BOQ (excel sheet) he can do so only in the BOQ, through [www.defproc.gov.in](http://www.defproc.gov.in) site only before the bid closing time and date.

**5. 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 Earnest money deposited by him shall be forfeited. In case of MES enlisted Contractors, 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 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 ne opened in second call or subsequent calls. Reduction offered by the tenderer/bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

**INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER(Contd....)**

6 Tenderers attention is invited to General Condition of Contract (IAFW-2249) and Amendments & Minimum Fair Wages. Since the contents of these pages are common to all tenderers and are deemed to be available with the tenderers, these have not been uploaded with the tender documents and in lieu "02 (Two) sheets only have been uploaded. These documents, if required can be seen in this office during working hours on any working day.

7. **CPM (Critical Path Method)**

7.1 The project planning for work covered in the scope of tender is based on CPM.

7.2 The tenderer/bidder is expected to be fully conversant with the CPM technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literature on the subject are widely available in the market which the tenderer/bidder may make use of.

7.3 The tenderer's /bidder's attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedule for the work and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer/bidder in using the technique will be taken as his technical inefficiency and will affect his class of enlistment and future prospect/invitation to tenders for future works.

8. 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 the errata/amendment/corrigendum, if any, issued by the department.

9. These instructions shall form part of the contract documents.

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Signature of Contractor

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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 as indicated in aforesaid Appendix 'A'. This estimate, however, is not a guarantee and is merely given as rough guide and if the work cost more or less, a tenderer/bidder will have no claim on that account. The tender shall be based on as mentioned in aforesaid Appendix 'A'.

3. The work 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 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 category the estimated amount would fall, may tender/bid but in case of term contracts, contractors of categories SS to E may tender/bid. Contractors whose names are on the MES approved list of any MES Formation and who have deposited security and have executed standing security bond may also tender/bid without depositing Earnest money along with the tender/bid and if the tender/bid submitted by such a tenderer/bidder is accepted, the contractor will be required to submit to the accepting officer the amount of Performance Security for an amount equivalent to **5% of the contract sum** in any of the forms prescribed in condition 19.1 of IAFW 2249 within 28 days of receipt of the letter of Acceptance. Work order No 1 will be issued by AGE after receipt of performance security. Failure of the successful contractor to comply with the requirements of condition 19.1 of IAFW-2249 shall constitute sufficient grounds for cancellation of the award of work and forfeiture of the Earnest Money. In case of MES enlisted contractor, 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.

5. The office of **ASSITANT GARRISON ENGINEER (I) MILITARY ENGINEER SERVICE DAPPAR - 140506** will be the Accepting Officer here in after referred to as such for purpose of the contract.

6. The Technical Bid and Financial (Cover-1 and Cover-2) shall be uploaded by the tenderer/bidder on or before the date & time mentioned in NIT. A scanned copy of DD with enlistment details/documents shall be uploaded as packet 1/cover-1 ('T' bid) of the tender/bid on e-tendering portal. DD is refundable in case T bid is not accepted resulting in non-opening of 'Q' bid. 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 [eprocuremes.gov.in](http://eprocuremes.gov.in) site for download and shall form part of contract agreement in case the tender/bid is accepted.

6.2 In case of contractor who has not executed the Standing Security Bond, the Cover -I shall be accompanied with by Earnest money of amount as mentioned as Appendix 'A' in the form of deposit at call receipt in favour of AGE (see Appendix 'A') by a scheduled Bank or in receipted treasury challan the amount being credited to the revenue deposit of the concerned AGE (see Appendix 'A').

**MILITARY ENGINEER SERVICES**  
**NOTICE INVITING TENDER (NIT)(CONTD...)**

6.3 The AGE 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 the documents were returned.

6.4 The AGE will either return the Earnest money to all 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.

6.5. 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 AGE during working hours.

6.6. The tenderer/bidders are advised to visit the site of work by making prior appointment with AGE who is also the Executing Agency of the work (see appendix 'A'). The tenderer/bidders are deemed to have full knowledge of all relevant documents, samples, site etc., whether they have inspected them or not.

6.7. Any tender/bid which proposes any alternation to any of the conditions laid down or which proposes any other condition or prescription whatsoever, is liable to be rejected.

6.8. 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.

6.9. Tenderers/bidders must be in possession of the copy of MES Standard Schedule of Rates (sse appendix 'A') including amendments and errata thereto.

6.10. 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 the 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/bidder will be informed regarding non-validation of his 'T' bid assigning reasons thereof through the **www.defproc.gov.in** website. The applicant contractor/bidder if he so desires may appeal to the next higher Engineer authority viz **HQ COMMANDER WORKS ENGINEERS BLDG NO 26 NEW LALBAGH, PATIALA-147001** on email [ptlacz3-mes@nic.in](mailto:ptlacz3-mes@nic.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 not be entitled for any compensation whatsoever for rejection of his bid.

6.11. The Accepting Officer reserve 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 any compensation or otherwise shall be admissible from such tenderer/bidder whose tender/bid is rejected.

6.12. Accepting Officer does not bind himself to accept the lowest or any tender/bid or to give any reason for not doing so.

6.13. This Notice Inviting Tender (NIT) including Appendix 'A' shall form part of the contract.

\_\_\_\_\_  
Signature of Contractor

AGE (I) Dappar  
Accepting Officer



APPENDIX 'A' TO NOTICE INVITING TENDER(NIT)

1.	Name of work	:	PROVN OF 03 X WATER COOLERS WITH RELATED ALLIED INFRASTRUCTURE AT CERTAIN AT 33 FAD, DAPPAR														
2.	Estimated Cost	:	2,21,551.00														
3.	Period of completion	:	120 days (4 Months)														
4.	Cost of tender documents	:	Rs. 500/- in the shape of DD/Bankers cheque from any schedule Bank in favour <b>AGE(I) Dappar</b> and payable at <b>Dappar</b> . <b>(Note : In case of retendering, the contractor who had quoted in the previous call is not required to submit the cost of tender)</b>														
5.	Website/portal address		<a href="http://www.defproc.gov.in">www.defproc.gov.in</a> . and <a href="http://www.mes.gov.in">www.mes.gov.in</a>														
6.	Type of contract	:	The tender shall be based on (IAFW-1779 and 1779-A )& General Condition of Contract IAFW-2249 of Work The contractor is required to quote the rates against each item of BOQ.														
7.	Information & Details																
	(a) Bid submission start date		Refer critical dates on the website.														
	(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 <b>Class 'E'</b> and above and <b>Cat b(i)</b> shall be considered subject to satisfactory remark wrt performance in respect of works in hand as reflected in Work Load Return (WLR) or any other report circulated by competent engineer authority.														
	(b) For Contractor not enlisted with MES		<p>((i) Contractor not listed with MES should meet the enlistment criteria of <b>'E' Class and Cat b(i)</b> contractor in MES with regard to satisfactorily completion of requisite value works with Central/State Government /State PSUs/ AWHO/AFNHB/CGEWHO/DGMAP, annual turnover, bank solvency, working capital and other requirement given in Para 1.4 &amp; 1.5 of section 1 of MES Manual on Contracts 2020 as available in all MES formation as well as MES website (<a href="http://www.mes.gov.in">www.mes.gov.in</a>)</p> <p>(ii) Not carrying adverse remarks in Work Load Report (WLR) or any other similar report circulated by any competent authority, if already working in MES.</p> <p>(iii) Not suspended/debarred/ blacklisted (either permanently or temporarily) from participating in any bid or for business dealing by any Central/State Government Department or any Central/State Government PSU or any Autonomous Body under Central/State Government or any local body as on the bid submission end date.</p> <p>(iv) Details of works completed and under progress in MES be submitted in the following format:-</p> <table><tr><th>Srl No</th><th>CA No, &amp; Name of Work</th><th>Value of Work</th><th>Date of Commencement</th><th>Date of Completion</th><th>Extended Date of Completion</th></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> <p>(v) Un-enlisted Contractor who have secured two works in MES should get themselves registered in the appropriate designated Class with any Registering Authority, else the firm will not be eligible for participation in the tender unless until the firm is enlisted with the MES</p>			Srl No	CA No, & Name of Work	Value of Work	Date of Commencement	Date of Completion	Extended Date of Completion						
Srl No	CA No, & Name of Work	Value of Work	Date of Commencement	Date of Completion	Extended Date of Completion												
9.	Tender issuing and Accepting Officer		Capt Akansh Joshi Address : Asst Garrison Engineer (I) Military Engineer Services Dappar -140506 Email : <a href="mailto:idprcz4-mes@nic.in">idprcz4-mes@nic.in</a> , Contact Details - 01762-248040														
10	Executing agency		Asst Garrison Engineer (I) Dappar														
11.	Earnest money		Rs 4,431/- in favor of Asst Garrison Engineer (I) Dappar														

**APPENDIX 'A' TO NOTICE INVITING TENDER(NIT) (CONTD...)****Notes :-**

1. In case after opening of cover 1, if the number of MES enlisted contractors of eligible class as well as eligible un-enlisted contractors, if any, fulfilling the other eligibility criteria given in NIT is less than 7 (Seven) applications in respect of contractors one class below the eligible class shall also be considered subject to fulfillment of other eligibility criteria given in NIT. Therefore MES contractors one class below may also bid for this tender. Such one class below the eligible class contractor 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 works (individual work experience and / or average annual turnover, 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-I bid details related to residual work in hand like details of work in hand showing names of work, names of Accepting Officer, Contract amounts, date of commencement and completion (Stipulated) and progress as on bid submission date. Such contractors, 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-I, 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 f 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 turnover 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's/documents in the cover-I

3. Un-enlisted 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 National staying abroad/ Indian national having taken foreign citizenship as directors (s) shall be considered subject to security clearance from the concerned authorities.

4. Contractor enlisted with MES will upload following documents in Cover-I for checking eligibility :-

- (a) Application for tender on firm's letter head.
- (b) Enlistment letter issued by the Registering Authority duly renewed for the cycle period in vogue.
- (c) Scanned copy of DD/Bankers Cheque toward cost of tender and EMD instrument in SSD bond is not signed at the time of registration.
- (d) GST Registration letter.
- (e) Copy of Provident fund code head.
- (f) Any other documents required as described in the Appendix.

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

- (a) Application for tender on firm's letter head.
- (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) above as per Para 1.5 Section 1 of MES Manual on Contract 2020.
- (e) Details of works being executed in MES, if any.
- (f) GST Registration letter
- (g) Copy of Provident fund code head
- (h) Any other document required as described in this Appendix.

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

**APPENDIX 'A' TO NOTICE INVITING TENDER(NIT) (CONTD...)**

7. Contractors should ensure that their original physical DDs and Earnest Money Deposit (EMD) instrument) (as applicable) reach the office of Accepting Officer within 07 days of bids 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 I 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 biddings for a period of six months commencing from the date of opening of financial bid (Cover 2)

(b) In case of tenders from un-enlisted contractor, where scanned copies of requisite DD/Bankers Cheque towards cost of tender have been uploaded in Cover I but physical copies are not received within the stipulated period, their financial bids (Cover 2) will not be opened. Name of such contractors alongwith 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 un-enlisted contractors, where scanned copies of instrument for Earnest Money Deposit (as applicable) have been uploaded in Cover- I 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. Contractor will not be allowed to execute the work by subletting or through power of attorney to a third party/another firm on his behalf. However a contractor can execute the work through power of attorney to sons/daughter/spouse of Proprietor/Partner/Director and firm's own employees, director, project manager **provided they are not having a separate enlisted firm in MES in their names as Proprietor/Partner/Director.**

9. After opening of Cover -I 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.

10. Invitation for e-tender does not constitute any guarantee for validation of 'T' 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 'T' bid and not open the financial bid of any applicant/bidder. 'T' bid validation shall be decided by the Accepting Officer based on, eligibility of the firm as per criteria given in Appx . Tenderer/bidder will be informed regarding non-validation of his 'T' 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 HQ COMMANDER WORKS ENGINEERS BLDG NO 26 NEW LALBAGH, PATIALA-147001 on email ptlacz3-mes@nic.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 next higher Engineer authority (NHEA) shall be final and binding. The tenderer/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.

11. In case an un-enlisted 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 tending 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-I of the bid and shall be checked /verified by the Accepting Officer.

12. 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.

**APPENDIX ‘A’ TO NOTICE INVITING TENDER (NIT) (CONTD...)**

13. Revoking the offer or revising the rate upward or offering voluntary reduction by the lowest tenderer after opening of Cover 2 shall be considered as a willful 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.
14. 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.
15. Court of the place from where the tender has been issued / published shall alone have jurisdiction to decide the dispute out of or in respect of this tender. After acceptance of tender, condition 72 – Jurisdiction of Court of IAFW-2249 shall be applicable.

\_\_\_\_\_  
Signature of Contractor

AGE (I) Dappar  
Accepting Officer

Military Engineer Services  
Assistant Garrison Engineer (I)  
Dappar-140506

File No : 8124/DPR/ T-12/ /E8

Dated : Sep 2024

**DISTRIBUTIONS**

- |   |   |                                       |                               |
|---|---|---------------------------------------|-------------------------------|
| 1. CWE( AF)Ambala                         | 2. CWE Ambala                           | 3. CWE Chandimandir                   | 4. CWE Jalandhar Cantt        |
| 5. CWE (P)Amritsar                        | 6. CWE(AF)Chandigarh                    | 7. CWE (AF) Bikaner                   | 8. CWE (P) Hisar Cantt        |
| 9. CWE (AF) Palam, Delhi Cantt            | 10. GE (AF) Adampur                     | 11. GE Chandigarh                     | 12. GE Chandimandir           |
| 13. GE (AF) Chandigarh                    | 14. GE (AF) (MC) Chandigarh             | 15. GE (U) Chandigarh                 | 16. GE (P) Chandigarh         |
| 17. GE (I) R&D Chandigarh                 | 18. GE (North) Patiala                  | 19. GE (South) Patiala                | 20. GE (P) Dappar             |
| 21. All other GE's/AGE(I)'s under Zone    | 22. SBI, Patiala                        | 23. Executive Engineer, CPWD Patiala  |                               |
| 24. Executive Engineer B/R Deptt, Patiala | 25. Muncipal Board, Patiala             | 26. General Post Office, Patiala      | 27. Cantonment Board, Patiala |
| 28. E-2 Section                           | 29. HQ CE Western Command, Chandimandir | 30. HQ CE Chandigarh Zone, Chandigarh |                               |

**REGISTERED**

MES Builders Association of India, 807, ‘Sahyog’, 58 Nehru Place, Delhi-110019  
MES Builders Association of India, Patiala Branch, 111, Near Govt School, Rasulpur Saidan, Patiala-147001  
Hony Secretary MES Builders Association of India, Ambala Branch, 27 New Model Colony Ambala City 003.  
Hony Secretary, MES Builders Association of India, Chandigarh Branch 3024, Sec – 28 Chandigarh– 160002

**IN LIEU OF IAFW-2159 (REVISED 1947)**  
**(TO BE READ IN CONJUNCTION WITH**  
**GENERAL CONDITIONS OF CONTRACT: IAFW-2249 (1989 PRINT)**  
**MILITARY ENGINEER SERVICES**

Tele: 01762-248040

Asst Garrison Engineer (I) Dappar  
Military Engineering Services  
Dappar – 140 506

8124/DPR/T-12/ /E8

Sep 2024

**CANO AGE (I)/DPR/T-12/2024-25 : PROVN OF 03 X WATER COOLERS WITH RELATED**  
**ALLIED INFRASTRUCTURE AT CERTAIN AT 33 FAD, DAPPAR**

1. Shri/M/s \_\_\_\_\_ of \_\_\_\_\_ is/are hereby authorised to bid for the above work. This bid is to be submitted on- line as per critical dates mentioned in web site “www.defproc.gov.in”.
2. All documents must be submitted as per NIT and instructions on “www.defproc.gov.in”.
3. All correspondence concerning to this tender shall be addressed as indicated at the top of this sheet quoting the reference given.

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

Signature of Contractor  
Dated: \_\_\_\_\_

Accepting Officer

**SCHEDULE 'A'(BOQ)**  
**NOTES (GENERAL) APPLICABLE TO ALL SECTIONS:**

1. All works under this contract shall be carried as described in Sch 'A' (BOQ) and all as specified. The entire work under this contract as listed in Schedule 'A' shall be completed within a period of **120 Days** from the date of commencement of work as stipulated in work order No 01.

2. Defect liability period for this work shall be **Twenty Four** calendar months from actual date of completion of the work.

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

**3.1** As per condition 19.1 of IAFW-2249, the successful contractor shall submit Performance Security in the form of Bank Guarantee Bonds of Govt. Securities, FDR or any other form of deposit stipulated by the Accepting Officer within 28 days of receipt of letter of acceptance for an amount equivalent to **5% of the contract sum**.

**3.2** The Performance Security shall be in favour of Accepting Officer and shall be in any 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.

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

**3.4** Form for Bank Guarantee Bond against performance Security Deposit shall be same as Appendix 2.1 of MES Manual on contracts 2020.

**3.5** The period of validity of the Bank Guarantee Bond against Performance Security shall be initially valid upto the stipulated date of expiry of defect 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.

**3.6** The original bank Guarantee Bond against Performance Security shall be submitted by contractor to the Accepting Officer who will satisfy himself after due verification before accepting the same. After acceptance of BGB, the original BGB shall be kept in the custody of Accepting Officer and attested copies will be sent to all concerned.

**3.7.** Timely action shall be initiated to have the validity date of the bond extended by the contractor or to have it encashed before the same expires.

**3.8** In case of 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 should be liable to extend the BGB before expiry of validity of BGB. If the contractor fails to do so, the Bank Guarantee shall be encashed before expiry.

**3.9** It is further clarified that 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 :- 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 Operation & Development, Centre -1 Word Trade Centre, Cuffe parade, Colaba, Mumbai - 400005
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**3.10** Bank Guarantee Bond in lieu of Performance Security is due for discharge on expiry of Defect Liability period provided always that the contractor has been paid the final bill and contractor has rendered the No Demand Certificate (IAFA-451). Immediately after expiry of Defect Liability period, AGE concerned shall check and ascertain the position of final bill.

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

**3.12** In case final bill has not been paid, the status there of 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 (IAFA-451) to AGE and on receipt of the same, Accepting Officer shall release the Bond duly discharged to the contractor without any delay.

**SCHEDULE 'A'(BOQ)****NOTES (GENERAL) APPLICABLE TO ALL SECTIONS(Contd)**

- 3.13 If any recovery is outstanding against the contractor, release of Bank Guarantee will be subject to compliance of the procedure for effecting the recovery / withholding the due amount as stipulated in Condition 67 (as amended) of GCC (IAFW-2249) or Condition 34 (as amended) of GCC (IAFW-1815Z), as applicable.
4. The description of items given in Sch 'A' (BOQ) are in brief and shall be read in conjunction with special conditions, particular specifications, SSR 2009(Part-I) and SSR 2020 (Part-II) & all these documents shall be taken as mutually explanatory to one another.
5. Preambles given SSR-2009 (Part-I) and in SSR-2020 (Part-II) shall be applicable for the respective items of works unless specified otherwise in the tender documents and the tendered rates shall be considered to be inclusive of the same.
6. All the quantities given under quantity Col of Sch 'A' (BOQ) are provisional and are inserted as guidance only. These quantities shall however not to be varied beyond the limits laid down in condition 7 of IAFW-2249. The contractor shall not be entitled for any claim on account of variation in quantities, which may ultimately be ordered under said condition of IAFW-2249.
7. The tenderer is required to bid his unit rate under respective Col . Net amount of General Summary is not firm but will be treated as contract sum referred to in IAFW-2249 (General Conditions of Contract).
8. Tenderer's attention is drawn to condition 6A of IAFW-2249 (General Conditions of Contracts) forming part of this tender. It is an express condition of the contract that the unit rates quoted by the contractor shall be deemed to include for the full and entire completion of the items of work. All the items of Sch 'A' (BOQ) are for material and labour (Supplying and Fixing) complete unless specifically described otherwise in the description of any particular item.
9. Irrespective of whether mentioned in any particular item of Sch 'A' (BOQ) or not, the cutting & chasing wherever required particular for fixing of concealed GI tubing as directed by the Engineer-in-charge shall be carried out and made good by the contractor at his own expense to match with the adjoining surfaces. The cost of which shall be deemed to include in the rate quoted by the contractor against respective item(s) of Sch 'A'. Wherever two or more items combination is involved the cost of this element shall be deemed to be proportionally included in the rate(s) quoted by the contractor against such item(s) of Sch 'A' (BOQ).
10. Contractor will take all necessary precautions to avoid damage to structure or any other items of work. Any damage caused to buildings/fittings during execution of work shall be made good to the existing specifications by the contractor without any extra cost to the Govt.
11. All the serviceable materials (to be decided by AGE) retrieved from dismantling/demolition shall be Govt property except the items of materials listed in Sch of credit (as applicable) for which necessary credit shall be affected from the contractor as per schedule of credit. Rates quoted by the contractor shall be deemed to include for the removal of unserviceable materials to outside MD Land and to remove as well as to deposit the serviceable materials to MES store and no additional payment on this account shall be admissible to the contractor. The tenderer at site with prior appointment with the AGE can ascertain the condition of the material.
12. The rates quoted by the tenderer in Sch 'A' (BOQ) shall be deemed to allow for minor extras and constructional details, which are not specifically shown on drawings or given in particular specifications but are essential for the execution of work in a workman like manner and sound construction. In case of difference of opinion between the contractor and AGE as to whether or not a certain item of work constitutes minor extras and constructional details included in the contractor's prices, the decision of the Accepting Officer shall be final and binding.
13. To check the bitumen contents a sample from fresh mix being supplied at site shall be collected from site and the cost of testing shall be included the rates quoted by contractor.
14. Testing of material where ever specified shall be carried out from CTL (WC). If particular Test facility is not available in CTL, the Test shall be conducted from approved Govt Lab.
15. 10% of the amount of water proofing treatment items shall be kept reserved and contractor shall give 10 years written guarantee for water proofing. However contractor can deposit a FDR of same amount and if contractor fails to rectify the defects occurred during this period the same shall be get rectified at contractor's risk and cost and payment shall be made by encashing the FDR deposited for this purpose.
15. **TAXES, DUTIES & LEVIES ETC. (REFER SPECIAL CONDITION FOR REIMBURSEMENT/ REFUND ON VARIATION IN TAXES DIRECTLY RELATED TO CONTRACT VALUE).** It is pertinent to mention that contractor's quoted rates shall be deemed to include for all statutory levies/duties/taxes including GST applicable as on date of receipt of tender. It may be noted that conditional tender regarding this aspect and/or any other account will not be considered and shall be liable to be REJECTED.
16. The work pertain to **Sanctioned Woks 2024-25**
18. **ZERO QUOTED RATES** If contractor quote zero rate against any item his bid shall be treated as **NON BONAFIED** and their bids shall accordingly be rejected.
19. **Location:** - The work shall be executed in following areas: **PROVN OF 03 X WATER COOLERS WITH RELATED ALLIED INFRASTRUCTURE AT CERTAIN AT 33 FAD, DAPPAR**

**SCHEDULE 'B'**

**LIST OF MATERIALS TO BE ISSUED TO THE CONTRACTOR**

**SEE CONDITION 10 OF IAFW-2249**

Srl. No.	Particulars	Rates at which materials will be issued to the contractor		Place of issue of store	Remarks
		Unit	Rate		
1.	2	3	4	5	6

Signature of Contractor  
Dated:\_\_\_\_\_

AGE (I) Dappar  
Accepting Officer

**SCHEDULE 'C'**

**LIST OF TOOLS & PLANT (OTHER THAN TRANSPORT)**

**WHICH WILL BE HIRED TO THE CONTRACTOR**

**(See Conditions 14,15, 34 and 35 of IAFW-2249)**

Srl No	Quantity	Particulars	Details of MES Crew Supplied	Hire Changes per unit per working Day Rs	Stand by changes per unit per off Day Rs.	Place of Issue by Name	Remarks
1	2	3	4	5	6	7	8

-----NIL-----

Signature of Contractor  
Dated:\_\_\_\_\_

Accepting Officer

**SCHEDULE 'D'**

**TRANSPORT TO BE HIRED TO THE CONTRACTOR**

**(See Conditions 16 and 35 of IAFW-2249)**

Srl No	Quantity	Particulars unit per Working Day	Rate per unit per Working Day	Place of Issue by Name	Remarks
1	2	3	4	5	6

-----NIL-----

Signature of Contractor  
Dated:\_\_\_\_\_

Accepting Officer



**TENDER**

TO,

THE PRESIDENT OF INDIA

Having examined and perused the following documents:-

1. Specifications signed by Capt Akansh Joshi, AGE (I) DAPPAR.
2. Schedule 'A', 'B', 'C' & 'D' attached.
3. MES Standard Schedule of Rates-2009 (part-I specifications) and Standard Schedule of Rates 2020 Part-II (Rates) (hereinafter and in IAFW-2249 referred to as the MES schedule) together with errata/amendments as under:-

MES SCHEDULE-2009 (Part-I)	: 1 to 3
MES SCHEDULE-2020 (Part-II)	: 1 to 122

4. General conditions of contracts (IAFW-2249 -1989 Print) together with amendments Nos 1 to 49 and errata Nos. 1 to 20.
5. General condition 31 of IAFW-2249 (General Conditions of Contracts): Water will be supplied by MES un-metered and shall be charged at rate of Rs. 3.75 per Rs. 1000/- worth of work done, priced as contract rate.
6. Should this tender be accepted I/We \*\* agree :-

\* (a) That the Sum of **Rs. 4,431.00/- (Rupees four thousand four hundred thirty one only)** forwarded as earnest money shall either be retained as part of security deposit, or be forwarded by the Govt. on receipt of appropriate amount of the security deposit all 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 or referred to therein and as detailed in General summary on the subsequent pages and to carry out such deviations as may be ordered vide condition-7 of IAFW-2249 upto a maximum 20% (Twenty percent) and further agree to refer all disputes as required vide revised condition-70 of IAFW-2249 substituted vide special condition No. 32 here-in-after of tender to the Arbitrator having degree in Engineering or equivalent or having passed final/direct final Examination of sub Division II of Institution of Surveyors (India) recognised by the Govt of India to be appointed by the Chief Engineer Western Command or in his absence the officer officiating as Chief Engineer Western Command or other competent officer if specifically delegated in writing by Chief Engineer Western Command whose decision shall be final conclusive and binding

\* Delete where not applicable

\*\* Delete whichever is not applicable.

**TENDER (CONTD)**

Total amount brought forward from Serial Page No. \_\_\_\_ for the contract sum of  
Rs.\_\_\_\_\_(Rupees\_\_\_\_\_ )

Signature \_\_\_\_\_ in the capacity of \_\_\_\_\_ duly authorized to sign the  
tender for and on behalf of M/S.\_\_\_\_\_

(IN BLOCK LETTERS)

Witness _____	Postal Address_____
Address_____	_____
_____	Telegraphic Address_____
	Telephone No._____

**ACCEPTANCE**

\_\_\_\_\_ Alterations have been made in these document and as evidenced that these  
alterations were made before the execution of the contract agreement, these have been  
initialed by the contractor and \_\_\_\_\_. The said officer is  
hereby authorized to sign and initial on my behalf of the documents forming part of the  
contract.

The above tender is/was accepted by me on behalf of the President of India for the

Contract sum of Rs.\_\_\_\_\_  
(Rupees\_\_\_\_\_ )

on the \_\_\_\_\_ day of \_\_\_\_\_ 2024.

Signature \_\_\_\_\_ dated this \_\_\_\_\_ day of \_\_\_\_\_ 2024.

Accepting officer  
(For and on behalf of the President of India)

**GENERAL CONDITIONS OF CONTRACTS (IAFW-2249: PRINT-1989)**  
**FOR LUMP SUM CONTRACTS (IAFW-2159)/MEASUREMENT**  
**CONTRACTS (IAFW-1779 & 1779-A)**

A copy of the MES GENERAL CONDITIONS OF CONTRACTS (IAFW-2249 : Print-1989) with Errata and Amendments 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 agree that I/We shall abide by the terms and conditions thereof.

It is hereby further agreed and declared by me/us, that the MES General Conditions of Contracts (IAFW-2249: Print-1989) including Condition 70 thereof pertaining to settlement of disputes by Arbitration and conciliation Act (1996) containing 33 pages (Serial Page No. 21 to 53) with errata 1 to 20 and Amendment Nos 1 to 48 (Serial Page No. 54 to 59) form part of these tender documents.

Signature of Contractor  
Dated:\_\_\_\_\_

AGE (I) Dappar  
Accepting Officer

**SCHEDULE OF MINIMUM FAIR WAGES**

1. It is hereby agreed that the Schedule of Minimum Fair Wages (SMFW) as published vide Government of India Notification dated \*10 Mar 1992 comprising 10 pages (Revised up to date) form part of these tender documents.
2. My/Our signature hereunder amounts to my/our having read and understood the provisions contained therein and I/We agree that I/We shall abide by the same and those aforesaid documents form part of this tender.

**\*NOTES:**

(i) Schedule of Minimum Fair Wages is not enclosed along with tender but the contractor is deemed to have full knowledge regarding the minimum wages payable to labours as legally effective on the date of submission of tender and his tendered rates shall be deemed to have been based on this (for the purpose of reimbursement of PV for wage escalation of labour the minimum wages legally effective on the date of receipt of tender shall be the basis). The minimum wages notified in the State/Central Gazette governed by any local regulation whichever is higher.

(ii) "Schedule of Minimum Fair Wages" referred to above is available for reference in the Office of Accepting Officer".

Signature of Contractor  
Dated:\_\_\_\_\_

AGE (I) Dappar  
Accepting Officer

**SPECIAL CONDITIONS****1 GENERAL**

The following Special Conditions shall be read in conjunction with the General Conditions of Contracts, IAFW-2249 and IAFW-2159 including Errata/amendments thereto. If any provision in these Special Conditions is at variance with that of the aforesaid documents, the former shall be deemed to take precedence there over.

**2. ADMISSION TO SITE BY CONTRACTOR & RESPONSIBILITY TO ASCERTAIN HIS OWN INFORMATION**

(a) The tenderers shall contact the Garrison Engineer for the purpose of inspection of site(s) and relevant documents other than those sent herewith, who will give reasonable facilities for this purpose. The tenderers shall also make themselves familiar with working conditions, accessibility of site(s) availability of materials and other cogent conditions which may affect the entire completion of work under this contract.

(b) The tenderers shall be deemed to have visited the site(s) and made themselves familiar with the working conditions, whether they actually inspect the site (s) or not. No claim, what so ever may be, shall be admissible to the contractor on this account.

**2A. HANDING OVER OF SITE**

Site 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 arrange his working programme accordingly. No claim what so ever, for not giving the entire site on award of work and giving the site gradually, will be tenable."

**3. SECURITY AND PASSES**

3.1 Refer Condition 25 of IAFW-2249. The contractor shall employ only Indian Nationals as his representatives, servants and workmen and verify their antecedents and loyalty before employing them for the works. He shall ensure that no person of doubtful antecedents and nationality is, in any way, associated with work. If for reasons of technical collaboration or other 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.

3.2 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 bonafides of such people.

3.3 The Engineer-in-Charge shall at his discretion have 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, employees and work people to the site of the work or any part thereof. Passes should be returned at 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, observing specified timing etc. Nothing extra shall be admissible for any man hours etc. lost on this account.

**4. CONDITIONS FOR WORKING**

4.1 The work lies in Un-RESTRICTED AREA. However, the contractor, his agents, employees, work people and vehicles may pass through the unit lines in which case the Engineer-in-Charge shall, at his discretion have 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 concerned personnel, workmen, agents, photographs etc. and shall satisfy the Engineer-in-Charge as to the bonafides of such people. Further the contractor may be required to get the police verification done for his agents, personnel & work people engaged by him at his end and the same shall be submitted to the Engr-in-charge all as per the directions of the Engr-in-charge. Passes shall be returned at any time on demand by the Engineer-in-Charge and in any case on completion of work. The contractor shall ensure that the passes issued to his workmen are not misused keeping in view the security considerations. In no case, workmen shall leave the area without handing over the passes to the contractor which shall be further deposited with the Engr-in-charge by the contractor. The contractor shall be fully responsible for all the above aspects and cost of all the above aspects shall be deemed to be included in the quoted rates of the contractor.

4.2 **ENTRY/EXIT:** The contractor, his agent(s)/representatives, workmen etc. and his materials, carts, trucks or other means of transports etc. will be allowed to enter through and leave only from such gate specifically notified and at such times as the AGE or authorities in charge of the Restricted Areas may at their sole discretion permit to be used. The contractor's authorized representative is required to be present at the place of entry and exit for the purpose of identifying his carts, truck and persons etc. to the persons in-charge of the security of Restricted Areas.

**SPECIAL CONDITIONS (CONTD.)****4.3 IDENTITY CARDS OR PASSES**

The contractor, his agents and representatives are required individually to be in possession of an identity card or pass duly verified by the Garrison Engineer. The identity card or pass will be examined by the security staff at the time of entry into or exit from the Restricted Area and also at any time or number of times inside the Restricted Area.

**4.4 IDENTITY OF WORKMEN**

4.4.1 Every workman shall be in possession of an identity card. The identity card will be issued after thorough investigation of the antecedents of the labourers by the contractors and attested by the Officer in-charge of the unit concerned in accordance with the standing rules and regulations of the units.

4.4.2 Contractor shall be responsible for the conduct and action of his workmen, agents or representatives.

4.5 **SEARCH** Thorough search of all persons and transport shall be carried out at each and for as many times as a gate is used for entry or exit and may also be carried out at any time or any number of times at the work site within the Restricted Area.

**4.6 FEMALE SEARCHER**

If the contractor desires to employ female labour on works to be carried out inside the area of a Factory, Depot, Park etc. and a female searcher is not borne on the authorized strength of the Factory, Depot, Park etc; at the time of submission of the tender, he shall be deemed to have allowed in his tender for pay and allowances etc. for a Female Searcher (Class IV servants/GP 'D' servant) calculated for the period, female labour is employed by him inside that area. If more than one contractor has/have to employ female searcher in addition to the authorized strength of the Factory, Depot, Park etc. the salary and allowances paid to the additional female searcher (s) shall be distributed on an equitable basis between the contractors employing female labour taking into consideration the value and period of completion of their contracts. The AGE's decision in regard to the amount recoverable on this account from any contractor shall be final and binding.

**4.7 WORKING HOURS**

4.7.1 The units controlling restricted area, usually, work during six days in the week and remain closed, on the 7<sup>th</sup> day. The working hours available to contractor's labour and staff however, accordingly get reduced because of the time taken in security checks observed at the time of entry, exit and during working hours.

4.7.2 The exact working hours, days and non-working days observed for the restricted area, where works are to be carried out shall be deemed to have been ascertained by the contractor before submitting his tender. The tenderer's attention is invited to the fact that the total number of working hours for a unit is prescribed in regulations and they cannot be increased by the Garrison Engineer.

4.7.3 Contractor's materials, transport etc. shall normally be permitted to come in/go out of the area between 8.30 AM to 4.30PM only.

4.7.4 Contractor and his agents, employees and work people shall observed all the rules promulgated by the authority controlling the area in which the work is to be carried out e.g. prohibition of smoking, lighting and fire precaution, search of persons at entry and exit, keeping to specified routes, restricted hours of working etc. Any person found violating the security rules laid down by the authority, shall be immediately expelled from the area without assigning any reasons what so ever and the contractor shall have no claim on this account. Nothing shall be admissible for any man-hours lost on this account.

**4.8 WORK ON HOLIDAYS :-**

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 AGE. The AGE may at his sole discretion declare any day as holiday or non-working day without assigning any reason for such declaration. Nothing extra shall be admissible on this accounted for any man hours lost.

**4.9 ACCESS TO RESTRICTED AREA AFTER COMPLETION OF WORKS :-**

After the works are completed and surplus stores etc. removed, the contractor, his agents, representatives or workmen etc. may not be allowed to have access to the restricted area except for attending any rectification of defects pointed out to him by the AGE.

**4.10 FIRE PRECAUTIONS**

4.10.1 The contractor, his agents, representatives, workmen etc. shall strictly observe the orders pertaining to fire precautions prevailing within the restricted area.

**SPECIAL CONDITIONS(CONTD.)**

- 4.10.  
2
- Motor transport vehicles, if any allowed by authorities to enter the restricted area, must be fitted with serviceable fire extinguisher.
5.
- MINIMUM WAGES PAYABLE**
- 5.1
- Refer Conditions 58 of IAFW-2249. The “Schedule of Minimum Fair Wages” as published vide Govt. of India Notification dated 10 Mar 92 (revised upto date) forms part of the tender documents. The contractor shall not pay wages lower than minimum wages for labour as fixed by the Govt. of India/State Govt. under Minimum Wages Act or Contract Labour (Abolition and Regulation Act), whichever is higher.
- 5.2
- The fair wage referred to in condition 58 of IAFW-2249 will be deemed to be the same as the minimum wages payable as referred to above.
- 5.3
- The contractor shall have no claim whatsoever, if on account of local factors and or regulations, he is required to pay the wages in excess of minimum wages as described above during the execution of work.
- 6
- ROYALTIES**
- Reference Condition 14 of General Conditions of Contracts (IAFW-2249). No quarries on Defence land are available.
7.
- LAND FOR TEMPORARY WORKSHOPS, STORES ETC.**
- Delete the following from lines 5 to 9 of sub para 1 of condition 24 of IAFW-2249 reading “In the event of ..... allotted to him” and insert as under: -
- “Separate land will be allotted to the contractor for the storage of materials, temporary workshop and offices, for which he shall pay the nominal rent of Rupee 1/- per year or part of a year as mentioned in condition 24 of IAFW 2249. The land/open space available within vicinity of site of work as directed by AGE may also be used by the contractor for these purposes but free of charge. No land for accommodation of Labour will be allotted.”
- 8
- WATER**
- 8.1
- Refer condition 31 of General Conditions of Contracts IAFW-2249 & 1.13 of MES Sch Part-I.
- 8.2.
- Water will be supplied by MES at points marked on site plan or as decided by AGE. As the water supplied by MES is likely to be intermittent / short supply, the contractor shall make his own arrangement for storing the water required for the works, labour and workmen etc. at his own expense. The contractor shall not have any claim on account of short / intermittent supply and shall make his own arrangements to supplement the requisite quantity of water
- 9
- CO-OPERATION WITH OTHER AGENCIES**
- The contractor shall permit free access and generally afford reasonable facilities to other agencies or department workmen engaged by the Govt. to carry out their part of the work, if any, under separate arrangements.
10.
- ELECTRIC SUPPLY**
- 10.1
- Electric supply required for the work upto a maximum of 25 KW three phase 4 wire system shall be made available by MES from the location of existing transformer as indicated in the site plan and in case not indicated, from the location as directed by the AGE. KWH meters to register the electric energy supplied and main switch shall be provided and installed by the **MES**. Contractor shall provide all necessary cables, fittings etc. from the tapping point in order to ensure a proper and suitable supply of electricity for execution of work
- 10.2
- The contractor will be charged for the electric energy consumed for the execution of works at **Rs 12.34 per unit** for lighting as well as for power.
- 10.3
- MES do not guarantee continuity of supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for breakdown in the system.
- 10.4
- AGE or his representative shall be free to inspect all the power consuming devices or any electric lines provided by the contractor. Any devices or electric lines provided by the contractor, which are not to the satisfaction of the AGE, shall be disconnected from the supply, if so directed by him and no claim for compensation whatsoever may be, shall be allowed on this account.

**SPECIAL CONDITIONS(CONTD.)****11. CRITICAL PATH METHOD**

- 11.1 The time and progress chart to be prepared as per condition 11 of General Conditions of Contracts (IAFW-2249) shall consist of detailed net work analysis and a time schedule. The critical path net work shall be drawn jointly by the AGE and the contractor soon after acceptance of tender. The time scheduling of the activities shall be carried out by the contractor so as to complete the work within the stipulated time. On completion of the time schedule, a firm calendar date Schedule shall be prepared by the contractor on computer using M.S. or Primavera software available for the same and shall be submitted by the contractor to the AGE who shall approve it after due scrutiny. The schedule shall be submitted in four copies (along with soft copy in CD/PEN DRIVE) within two weeks from the date of handing over the site. In case contractor does not adhere to the above, the firm calendar schedule shall be got prepared by the AGE by assuming the resources available with the contractor on computer using M.S. or Primavera Software and the same shall be distributed by the AGE. The firm calendar schedule so prepared by the AGE shall be binding on the contractor. In case of contractor's disagreement with the time schedule the same shall be referred to the Accepting Officer whose decision shall be final, conclusive & binding. In addition to above, the expenses so incurred/ assessed by the AGE enhanced by 17.5% shall be recovered by the AGE from the contractor's next RAR/ Final Bill/ Contractor's dues.
- 11.2 During the currency of the work, the contractor is expected to adhere to the time schedule and this adherence will be part of his performance under the contract. During the execution of the work, the contractor shall submit the updated CPM duly prepared on computer using M.S. or Primavera Software after every 03 (three) months interval positively and the updated CPM shall be approved by the AGE within one week of its submission. In case the contractor does not submit the updated CPM, AGE shall get the same updated at his end by assuming the resources available with the contractor & the expenses so incurred/ assessed by the AGE enhanced by 17.5% shall be recovered by the AGE from the contractor's next RAR/ Final Bill/ Contractor's dues.
- 11.3 The contractor shall adhere to the updated CPM. In case of contractor's disagreement with revised schedule, the same will be referred to the Accepting Officer, whose decision shall be final, conclusive and binding. AGE's approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a 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.
- 11.4 Contractor shall mobilize and employ sufficient resources to adhere the detailed schedule within the broad framework of the accepted method of working and safety. No additional payment will be made to contractor for any multiple shift of work or other intensive methods contemplated by him in his schedule, even though the department approves the time schedule
- 11.5 In case of any dispute with regard to the interpretation of the provisions contained in clauses 11.1 to 11.4 above, the decision of the Accepting Officer shall be final, conclusive and binding on both the parties.
- 11.6 The contractor's quoted rates shall be deemed to include the above aspects.

**12. MATERIALS**

- 12.1 Refer condition 10 of I.A.F.W. 2249 and clause 1.6 & 1.7 of MES Schedule, Part-I.
- 12.2 Unless specific makes/manufacturers are specified in the tender documents, all the materials to be procured by the contractor for incorporation in the work under this contract (with the exception of local origin materials like bricks, stone aggregate, sand etc) shall be with ISI certifications mark. For materials of specific make/manufacturer's names, refer Para 12.3 here-in-below.
- 12.3 (a If any specific makes/manufacturers names are specified in Sch 'A / BOQ' or Particular Specifications or in Appendix 'B' or Appendix 'C' to Particular Specifications, materials shall be of these specific makes/manufacturers only. ISI marking will not be mandatory for such items where makes/manufacturers have been specified unless the items of makes/manufacturers specified are available both with IS marking and without ISI marking. If any material is not manufactured with IS certifications mark in the country, it shall be conforming to relevant IS and other specifications specified elsewhere and shall also conform to samples displayed in CWE's/GE's/AGE's office as applicable. However the materials/items listed in Appendix 'C' shall be of makes specified in Appendix 'C' to these particular specifications and conforming to relevant IS (ISI marking is not mandatory).
- b In case of conflicting provisions regarding makes in schedule 'A', particular specifications, Appendix 'B' & 'C', the following order of precedence shall be followed:-
- (i) Schedule 'A'/BOQ
  - (ii) Particular Specifications
  - (iii) Appendix 'B' & 'C'
- 12.4 Indian Standard (IS) of the year of publication/edition listed or specified in the SSR (Part-I) shall be applicable for the work under this contract unless specifically indicated otherwise elsewhere in these tender documents.



**SPECIAL CONDITIONS(CONTD.)**

- 12.5 The tenderer is advised to inspect samples of certain local origin materials, which are displayed in the office of AGE, before submitting his tender. The tenderer shall be deemed to have inspected the samples and satisfied himself as to the nature and quality of materials he is required to incorporate in the work irrespective of whether he has actually inspected them or not. The materials to be incorporated in the work by the contractor shall be equal or superior in quality to sample displayed and shall comply with the specifications given in these tender documents.
- 12.6 The contractor shall not procure materials unless the Garrison Engineer has first approved the samples strictly in the manner as described here-in-after.
- 12.6.1 For obtaining sample approval, contractor will download list of BIS marked manufacturers from BIS site [www.bis.org.in](http://www.bis.org.in). He will select manufacturer(s) (the items/materials shall be one of the makes/manufacturer's mentioned in these tender documents and for other items/materials, the contractor shall select manufacturer/materials) meeting contract specifications criteria and handover the report with a request letter to Engineer-in-Charge with his signatures. The Engineer-in-Charge will verify its correctness by visiting the BIS site and process it to AGE with his recommendations. AEE/AE/JE (QS&C) of AGE will recheck the same from internet, endorse his recommendation and put up for approval to AGE
- 12.6.2 The printout having signatures of all concerned including AGE will be kept on record and approval will be conveyed within 7 days of contractor's request
- 12.6.3 After sample approval, AGE shall send an e-mail to manufacturer (not the authorised dealer) intimating him, name of firm, approx quantity being procured by the contractor and request the manufacturer to ensure that his product only is purchased by the contractor from proper authorised source (authorised source means either directly from the manufacturer or authorised dealers as specified in these tender documents). A printout of the e-mail sent to manufacturer shall be kept on record duly signed by AGE and a copy thereof will be sent by post to the manufacturer.
- 12.6.4 In cases involving suspected procurement of spurious materials, purchase vouchers shall be verified through the manufacturer and proof of payment shall be obtained from the contractor. The payment of such doubtful materials shall be allowed only after AGE satisfies himself about the genuineness of material.
- 12.7 In case of any dispute with regard to the interpretation of the provisions contained in clause 12.1 to 12.6.4 above, the decision of the Accepting Officer shall be final, conclusive & binding on both the parties.
- 12.8 The contractor's quoted rates shall be deemed to include all the above aspects
- 13 **RECORD OF CONSUMPTION OF CEMENT**
- 13.1 The contractor shall maintain a pucca bound register with serially numbered pages with all pages initialed by Engineer-in-Charge against numbering showing quantities of cement received, used in work and balance at the end of each day. The form of record shall be as approved by Engineer-in-Charge. The register shall be signed daily by representatives of MES and the contractor in token of verification of its correctness and will be checked by Engineer-in-Charge, at least once a week and on the days cement is brought by the contractor.
- 13.2 The register shall be kept at site in safe custody of the contractor's representative during the progress of the work and shall on demand be produced for verification to the inspecting officer(s).
- 13.3 On completion of the work the contractor shall deposit the cement register with the Engineer-in-Charge for record.
14. **BLANK**
15. **PERIOD FOR KEEPING THE TENDER OPEN**  
The tender shall remain open for acceptance for a period of **60 (SIXTY) days** from the date on which the tenders are due to be submitted excluding the day of submission of tender.
16. **ADVANCE ON ACCOUNT OF MATERIALS WHICH DOES NOT LOOSE IDENTITY ( REFER CONDITION 64 OF IAFW-2249)(APPLICABLE FOR CONTRACTS EXC RUPEES 50 LAKHS)**
- 16.1 The contractor may be paid advance on account of the full value of the materials only, brought on the site, on his furnishing guarantee Bonds/FDRs from a Scheduled Bank for the amount of retention money which should otherwise be recoverable from him under the contract.

**SPECIAL CONDITIONS(CONTD.)**

- 16.2 The Bank Guarantee Bonds/FDRs 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 if and when necessary, as directed by the Accepting Officer or shall furnish fresh guarantee bond of similar value in lieu.
- 16.3 It will be noted that advance on account to the full value of materials brought on the site is permissible only in respect of fittings and fixtures and other manufactured items which do not lose their identity. Materials like bricks, aggregate, pre-cast concrete and similar items shall not be taken in the list.
- 17 **SECURITY OF CLASSIFIED DOCUMENTS**  
Contractor's special attention is drawn to conditions 2-A and 3 of IAFW-2249 (General Conditions of Contracts). The contractor shall not communicate any classified information regarding the work either to subcontractors or others without the prior approval of the Engineer-in-Charge. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of the work, and shall return all documents on completion of the works or earlier on determination of the contract. The contractor shall along-with the final bill, attach a receipt of his having returned the classified documents as per condition 3 of IAFW-2249 (General Conditions of Contracts).
- 18 **OFFICIAL SECRETS ACT: The contractor shall be bound by the Official Secrets Act - 1923.**
- 19 **RECORD OF MATERIALS**
- 19.1 The quantity of materials such as paints, water proofing compound, chemicals for antitermite treatment and the like, as directed by the Engineer-in-Charge (the quantity of which cannot be checked after incorporation in the works), shall be recorded in measurement books and signed by the contractor and the Engineer-in-Charge as a check to ensure that the required quantity has been brought to site for incorporation in the work.
- 19.2 Materials brought to site shall be stored as directed by the Engineer-in-Charge and those already recorded in measurement book shall be suitably marked for identification.
- 19.3 The contractor shall, on demand, produce to the AGE, original receipted vouchers/ invoices in respect of the supplies. The vouchers/invoices shall be defaced and stamped by Engineer-in-Charge indicating contract number, name of work, under his dated signature. The contractor shall ensure that the materials are brought to site, in original sealed containers/packing, bearing manufacturer's marking except in the case of the requirement of material(s) being less than smallest packing.
- 19.4 Contractor shall produce vouchers/invoices from the manufacturers and/or their authorized agents for the full quantity of the following materials, as applicable as a pre-requisite before submitting claims for payment for advances on account of the work done and/or materials collected in accordance with Condition 64 of General Conditions of Contracts - IAFW-2249. Production of vouchers by the contractor shall be his MANDATORY contractual obligation and shall be fully filled by him: -
- (a) Factory made paneled Shutters.
  - (b) Steel window.
  - (c) Iron Mongery.
  - (d) Sanitary Fittings and fixtures.
  - (e) For any other items/materials as directed by the AGE.
- 20 **ACCEPTANCE QUALITY OF WORK AND FINISHES**
- 20.1 To determine the acceptable standard of materials and workmanship, one room (to be decided by AGE) shall be completed by the contractor well in advance (minimum two stages ahead of remaining work) as directed by AGE under close supervision of the Engineer-in-Charge and shall be got approved by the AGE. The workmanship of various trades and finishes of this room shall serve as guiding sample for the work in remaining building.
- 20.2 Approval of the stages and workmanship of sample room shall be separately entered and approved in stage passing register giving reference to building and name of buildings for easy identification even at a later date.
- 20.3 The above provisions shall however do not absolve the responsibility of the contractor for execution of work as per contract provisions.

**SPECIAL CONDITIONS(CONTD.)****21 CONTRACTORS PLANT/EQUIPMENT AT SITE**

21.1 The contractor shall furnish to the Engineer-in-Charge every morning distribution return of his plants/ equipment's on the site of work stating the following particulars: -

(i) Particulars of plants/equipment, their make, manufacturers Model No if any, Registration No if any, capacity, year of manufacture and year of purchase etc.

(ii) Total No. (Quantity) on site of work.

21.2 **LOSS OR DAMAGE ON ACCOUNT OF ENEMY ACTION :-** If as a result of enemy action, the Contractor suffers any loss or damage, the Government shall reimburse to the Contractor such loss or damage to the extent and in the manner hereinafter provided: -

(i) The loss suffered by him on account of any damage or destruction of his plant/ equipment (as defined in special condition (a) above) or materials or any part or parts thereof. (The amount of loss assessed by the Accepting Officer of the Contract or the CWE in case of contracts accepted by AGE, on this account shall be final and binding).

(ii) The compensation paid by him under any law for the time being in force to any workman employed by him for any injury caused to him or to the workman's legal successors for loss of the workman's life.

(iii) Payment of compensation for loss or damage to any work or part of work carried out (The amount of compensation shall be determined in accordance with condition 48 of General Conditions of Contracts IAFW-2249). No reimbursement shall be made nor shall any compensation be payable under the above provision unless the Contractor had taken Air Defence Precautions ordered in writing by the AGE/OC concerned or in the absence of such orders, reasonable precautions. No reimbursement shall be payable nor shall any compensation be payable for any plant/equipment or materials not lying on site of work at the time of enemy action.

22 **BLANK**

23 **CLEANING DOWN:** Refer Condition 49 of IAFW-2249, General Conditions of Contracts. The contractor shall clean all floors, walls, remove cement/lime/ paint marks/drops, etc., clean the joinery, glass panes etc., touch up all painters work and carryout all other necessary items of work in connection therewith and leave the whole premises in clean and tidy condition before handing over the building.

**24 OUTPUT OF ROAD ROLLER (REFER CONDITION 15 OF IAFW-2249)**

24.1 The contractor shall arrange road roller(s) under his own arrangements and a logbook for each road roller shall be maintained by the department for recording hours of working of the road roller. Entries in the log book shall be signed by the contractor or his authorized representative and by Engineer in Charge.

24.2 To ensure proper consolidation, roller must work for at least the number of days assessed, on the basis of output given here in after. If the roller has not worked for the number of days so assessed, recovery shall be affected from the contractor for the number of days falling short of the days assessed on the basis of output stipulated. The recovery shall be affected at the rate Rs. 1400/- per working day of eight hours for 8 to 10 ton rollers.

24.3 The above provision shall not, however, absolve the contractor of his responsibility of properly consolidating surfaces as required under the provisions of the contract.

24.4     **OUTPUT OF ROAD ROLLER PER DAY OF EIGHT HOURS**

(I)	CONSOLIDATION OF FORMATION SURFACES/SUB-GRADE.	1850 SQ. METRE
(II)	CONSOLIDATION OF STONE SOLING 23 CM THICK (SPREAD THICKNESS) WITH 8 TO 10 TONNE ROLLER	518 SQ. METRE
(III)	-DO- BUT 15 CM THICK	800 SQ. METRE
(IV)	-DO- BUT 10 CM THICK	1200 SQ. METRE
(V)	CONSOLIDATION OF WATER-BOUND MACADAM (STONE METAL) 11 CM SPREAD THICKNESS INCLUDING SPREADING AND CONSOLIDATION WITH BINDING MATERIAL	248 SQ. METRE
(VI)	-DO- BUT 7.5 CM	372 SQ. METRE
(VII)	CONSOLIDATION OF MIX SEAL OR PREMIXED CARPET INCLUDING SEAL COAT, 20 MM THICK	744 SQ. METRE
(VIII)	CONSOLIDATION OF MIX SEAL OR PREMIXED CARPET INCLUDING SEAL COAT, 25 MM THICK (CONSOLIDATED THICKNESS) OR ASPHALTIC DENSE CONCRETE 25MM THICK (CONSOLIDATED THICKNESS)	595 SQ. METRE
(IX)	SINGLE COAT SURFACE DRESSING	774 SQ. METRE
(X)	40 MM THICK (CONSOLIDATED THICKNESS) ASPHALTIC CONCRETE	372 SQ. METRE

- 25     **TESTING OF MATERIALS**
- 25.1     **DEFINITIONS:-**
- 25.1.1     **SITE LABOATORY (FOR ‘A’ LEVEL TESTS):-** A laboratory for material testing established by the contractor at site of work for all the works costing more than Rs.1crore. However, for works costing less than Rs. one crore, it will be optional for the contractor to set up his site lab or he may carry out these tests in the Zonal lab or any other lab approved by AGE (excluding private lab) for which recovery of charges shall be made as given in Appendix ‘D’ to the tender documents.
- 25.1.2     25.1.2     **ZONAL LABORATORY (FOR ‘B’ LEVEL TESTS)** :- The laboratory for material testing established by HQ CE Chandigarh Zone.
- 25.1.3     **National Test House/Engineering College/SEMT Pune /Approved Govt Labs (excluding private lab but including any lab/private labs approved by NABL) (FOR ‘C’ LEVEL TESTS):** Any of the National Test House/Engg College/SEMT Pune /Approved Govt Labs nominated by the AGE in writing for a particular contract and test.
- 25.2     Frequency of testing of materials and the charges for testing, if tested in Zonal Lab are given at Appendix ‘D’. AGE may order additional tests depending upon nature of work as required at site, for which no recovery shall be affected from the contractor’s dues and only cost of materials, labour and their transportation shall be borne by the contractor.
- 25.3     No material will be incorporated in the work unless it has been tested, found fit and approved by the AGE.
- 25.4     Levels ‘A’ tests as described in Appendix ‘D’ will be conducted in the site lab of contractor for which no charge will be recovered as the same will be done at the cost of the contractor in his site lab. However, if the contractor does not carry out these tests, the tests shall be carried out in the Zonal lab or any other lab approved by the AGE (excluding private lab but including any lab/private labs approved by NABL) and then charges for tests shall be recovered from contractor, in case these tests are carried out in Zonal Lab. Contractor shall employ a competent technical person for testing as approved by AGE and asked such tests shall be carried out in the presence of Engineer-in-Charge by the technical person.
- 25.5     Level ‘B’ tests as described in Appendix ‘D’ will be conducted in Zonal Lab and charges for tests shall be recovered from contractor.
- 25.6     If any of the Level B tests cannot be conducted in Zonal Lab for whatsoever reason, the same will be got done under the arrangements of the contractor in a laboratory other than Zonal Lab approved by the AGE (excluding private lab but including any lab/private labs approved by NABL) in writing and charges for the same shall be borne by the contractor.
- 25.7     The AGE will lay down, in writing, the approved laboratory (excluding private lab but including any lab/private labs approved by NABL) for conduct of each of level ‘C’ tests. The charges for ‘C’ level tests (when tests have been carried out in SEMT Pune) shall be recovered from contractor as actual (where charges not given in Appx) or as given in Appendix ‘D’, when these tests are carried out in SEMT Pune, recovery shall be made at the rates mentioned in Appendix ‘D’ and when these tests are carried out in labs other than SEMT Pune, no recovery shall be made and charges as per actual shall be borne by the Contractor.

**SPECIAL CONDITIONS(CONTD.)**

- 25.8 Contractor shall provide all facilities such as materials and labour, tools/equipment for moulding, casting of cubes, conveyance of test cubes and other materials to be tested, to the laboratory directed by the AGE.
- 25.9 The samples for the tests will be drawn by the AGE in the presence of the contractor/his authorised representative.
- 25.9A Irrespective of whatever is mentioned here-in-before; private labs (but excluding any lab/private labs approved by NABL) shall not be permitted even the lab approved by any Zonal Chief Engineer.
- 25.10 The Contract sum amount quoted by the contractor shall also be deemed to include: -
- a) Expenses on account of testing in zonal lab and/or in pursuance of Para 25.1.1, 25.1.2, 25.4 & 25.5.
- b) Expenses on account of testing in any laboratory approved by the AGE in pursuance of paragraphs 25.1.3, 25.6, 25.7 & 25.8 above.
- 25.11 The Accepting officer may order independent testing for which expenditure will be borne by the Govt. The charges for the independent testing will be borne by the contractor if test fails.
- 26-27. **BLANK**
28. **REIMBURSEMENT/REFUND ON VARIATION IN TAXES DIRECTLY RELATED TO CONTRACT VALUE:**
- (a) The rates quoted by the contractor shall be deemed to be inclusive of all taxes (including sales Tax/VAT on materials, Sales Tax/VAT on Works Contracts, Turnover Tax, Service Tax, Labour Welfare Cess/tax etc.) duties, Royalties, Octroi Excise Duty & other levies payable under the respective Statutes, No reimbursement /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 in sub Para (b) here-in-after.
- (b) (i) The taxes which are levied by Govt. at certain percentage rates of Contract Sum/Amount shall be termed as "taxes directly related to Contract value" such as Sales Tax/VAT on works Contracts, Turnover Tax, Labour Welfare Cess/tax and 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 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 Govt. /deducted by the Govt. 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" prevailing on last due date for receipt of tenders shall be refunded by the Contractor to the Govt. /deducted by the Govt. from the payments due to the Contractor.
- (ii) The contractor shall with 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 thereof to the AGE stating that the same is given pursuant to this Special Condition together with all information relating here to which he may be in a position to supply. The Contractors shall submit the other documentary proof/ information's as the AGE may require.
- (iii) The Contractor shall for the purpose of this condition keep such books of account and other documents as are necessary and shall allow inspections of the same by a duly, authorized representative of Govt. and shall further, at the request of the AGE furnish, verified in such a manner as the AGE may require, any documents so kept and such other information as the AGE may require.
- (iv) Reimbursement for 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 Govt. without getting the same adjusted against any tax liability or without getting the same refunded from the concerned Govt. Authority and submits documentary proof for the same as the AGE may require.
29. **FORCE MAJEURE**
- 29.1 Should any force majeure circumstances arise, each of the contracting party shall be excused for the non-fulfillment or for the delayed fulfillment of any of its contractual obligations, if the affected party within 15 days of its occurrence informs the other party in writing.
- 29.2. Force majeure shall mean fires, floods, natural calamities or other acts such as war, turmoil, strikes (as not limited to be establishment of the seller), sabotage, explosions, quarantine, restrictions beyond the control of either party.

**SPECIAL CONDITIONS(CONTD.)**

- 29.3. It is under stood and agreed between the parties hereto that the rights and obligations of the parties shall be deemed to be in suspension during the continuance of the force majeure event(s) as aforesaid and the said rights and obligations shall automatically revive upon the cessation of intervening force majeure event(s). The period within which the rights and obligations of the parties shall be in suspension due to the force majeure event(s) shall not be considered as a delay with respect to the period of delivery and/or acceptance of delivery under the contract or otherwise the determinant of either party.
- 29.4. Notwithstanding the provisions of the immediately foregoing clause(s), it is further understood and agreed between the parties hereto that in the event(s) of any force majeure persisting for an uninterrupted period exceeding 06 (six) months, either party hereto reserves the right to terminate this contract upon giving prior written notice of 30 (thirty) days to the other party of the intention to terminate without any liability other than reimbursement on the terms provided in this agreement of the goods received.

30. **BLANK**

31.	<b><u>QUALIFIED TRADESMEN : APPLICABLE FOR WORKS COSTING RUPEES ONE CRORE OR MORE)</u></b>
	In compliance with the Condition 26 of IAFW-2249 (General Conditions of Contracts), the contractor shall employ skilled/semi skilled tradesmen who are qualified and possessing certificate in particular trade from Industrial Training Institute (ITI)/National Institute of Construction Management, Research (NICMAR) National Academy of Construction (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 then 25% of total skilled/semi skilled tradesmen required in each trade. The contractor shall submit the list of such tradesmen along with requisite certificates to Garrison Engineer for verification and approval. Notwithstanding the approval of such tradesmen by AGE, 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 AGE and shall engage other qualified tradesmen after prior approval of the AGE. AGE's decision whether a particular tradesman 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.
32	<b><u>Arbitration</u></b> : The existing description of condition 70 of IAFW-2249 shall be substituted by the revised description as under:-
32.1	<b><u>Arbitration where applicability of Section 12 (5) of the Arbitration and Conciliation Act has been waived off</u></b>
32.2	<b><u>Arbitration Where applicability of Section 12 (5) of Arbitration &amp; Conciliation Act has not been waived off</u></b>
32.2.1	All disputes, between the parties to the Contract (other than those for which the decision of the CWE or any other person is by the Contract expressed to be final and binding) shall, after written notice by either party to the Contract to the other of them, be referred to the Sole Arbitrator (in case of contract concluded by CWE/GE/AGE(I)) The Officers so considered for appointment as Arbitrator, as Sole Arbitrator shall be having degree in Engineering or equivalent or having passed Final/Direct Final Examination of Sub Division II of Institution of Surveyor (India) or similar other Institutes recognized by the Government of India.
32.2.2	In case of arbitration by Sole Arbitrator, the Arbitrator shall be appointed by the authority mentioned in the contract document from the MoD Panel of Arbitrators/ Chief Engineer Western Command Panel of Arbitrators within a period of thirty days of having received the notice from any of the parties to Contract.
32.3	<b><u>Common For All Arbitration.</u></b>
32.3.1	Unless both parties agree in writing, such reference shall not take place until after the completion or alleged completion of the works or termination or determination of the contract under Condition Nos 55, 56 and 57 hereof.
32.3.2	Provided that in the event of abandonment of the works or cancellation of the Contract under Condition No 52,53 or 54 hereof, such reference shall not take place until alternative arrangements have been finalised by the Government to get the works completed by or through any other Contractor or Contractors or Agency or Agencies.
32.3.3	Provided always that commencement or continuance of any arbitration proceeding hereunder or otherwise shall not in any manner militate against the Government's right of recovery from the Contractor as provided in Condition 67 hereof.

**SPECIAL CONDITIONS(CONTD.)**

32.3.4	If the sole Arbitrator so appointed resign(s) from his/her appointment or vacate (s) his/her office or in unable or unwilling to act due to any reason whatsoever, the Authority appointed him/her will appoint a substitute Arbitrator to act in his /her place in the manner specified hereinabove.
32.3.5	The Arbitrator may proceed with the arbitration, ex-parte, if either party, inspite of a notice from the arbitrator fails to take part in the proceedings.
32.3.6	The Arbitrator may from time to time with the consent of the parties, enlarge the time for making and publishing the award subject to the limit laid down in the Arbitration & Conciliation Act 1996 as amended upto the date on which arbitration proceedings commence.
32.3.7	The Arbitrator shall make the award within the period as provided in the Arbitration & Conciliation Act 1996 (as amended upto the date on which arbitration proceedings commence) from the date of entering on the reference or within the extended period as the case may be on all matters referred to it and shall indicate findings alongwith sums awarded separately on each individual item of dispute. The Arbitrator shall give reason for the award in each and every case irrespective of the value of claims or counter claims.
32.3.8	The venue of Arbitration shall be such place or places as may be fixed by the Arbitrator in its sole discretion.
32.3.9	The Award of the Arbitrator shall be final and binding on both parties to the Contract.”

33. THE TENDERERS ARE REQUESTED TO NOTE THAT IF ANY ITEM/ITEMS IS / ARE REPEATING IN BOQ AND TENDERER HAS QUOTED DIFFERENT RATE FOR THE SAME ITEM, THE MINIMUM RATE SHALL BE CONSIDERED FOR ACCEPTANCE & PAYMENT PURPOSE

Signature of Contractor  
Dated:\_\_\_\_\_

AGE(I) Dappar  
Accepting Officer

**PARTICULAR SPECIFICATIONS****1. GENERAL**

- 1.1 Work under this contract shall be carried out in accordance with 'BOQ', Particular Specifications, drawings and general specifications and other provisions in MES Standard Schedule of Rates (here-in-after called MES Schedule), read in conjunction with each other.
- 1.2 Term "General Specifications" referred to here-in-after as well as referred to in IAFW-2249 (General Conditions of Contracts) shall mean the specifications contained in the MES Schedule Part-I.
- 1.3 General rules, specifications special conditions and preambles in the MES Schedule shall be deemed to be applicable to the work under this contract, unless specifically stated otherwise in these documents in which case the provision in these documents shall take precedence over the aforesaid provisions in the MES Schedule. The terms as specified wherever appear in tender documents and drawings related to relevant particular specifications and in its absence general specifications. All references to MES Schedule in these specifications relate to SSR Part-I of MES Schedule unless otherwise mentioned. References to some paragraphs of MES Schedule have been made in these particular specifications but other paragraphs and provisions as applicable are also to be followed for all sections/parts of 'BOQ' even though not particularly mentioned here-in-after e.g. reference to Paras pertaining to general workmanship for brickwork, iron and steel work etc. have not been made but provision therein as required for work are applicable.
- 1.4 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 as per code of practice shall be followed.
- 1.5 Any drawing, which is mentioned in the drawings forming part of the tender but not specifically mentioned in the list of drawings, shall be deemed to be forming part of the tender. The tenderer shall see such drawings/details in the office of Accepting Officer/ concerned CWE/GE/AGE(I).
- 1.6 Rates quoted for a particular item and/or Lump sum quoted by the tenderer shall be deemed to include for any minor details/items of work and/or constructions which are obviously and fairly intended and which may not have been included in these documents but which are essential for the execution and entire completion of the work. Decision of the Accepting Officer as to whether any minor details/items of work and/or construction is obviously and fairly intended to be included in the contract or not shall be final, conclusive and binding.
- 1.7 Some of the minor details/items which shall be deemed to be essential for execution and entire completion of work are detailed as under for guidance: -
  - (i) Reinforcement for any RCC member not indicated in the drawings but required in structure or code requirement.
  - (ii) Dwarf wall in situations like verandah, passage etc. not indicated in drawings.
  - (iii) Lintels over doors, windows and openings have not been shown in drawings.
  - (iv) Builder's hardware for doors/windows etc. though not indicated on drawings but is essential for usage.
- 1.7.1 In all the above and other similar cases, the details indicated elsewhere in the drawings, which are similar, or near similar to the missed out items of work shall be followed. In the absence of any other similar or near similar details, minimum essential requirement for completion of the work from structural and utility point of view shall be deemed to be included in the quoted rate of a particular item and/or lump sum. In the event of any dispute, decision of the Accepting Officer shall be final, conclusive and binding.
- 1.8 Where specifications/provisions given in these particular specifications are at variance with the provision/specifications given in MES Schedule, specifications/ provision given in these particular specifications shall be followed.



**PARTICULAR SPECIFICATIONS**

- 1.9 Various structural requirement such as strengthening measures for seismic Zones, joints in RCC and brick parapets, extra reinforcement at external angle etc. and precautions to be taken etc. & typical foundation details have been given in relevant TD drawings through notes & plans, sections elevations and details. These requirements as applicable may or may not have been specifically shown on architectural drawings but are required to be provided and the cost thereof shall be deemed to be included in unit lump sum rates of the relevant items of 'BOQ' Section-I.

2. **CEMENT**

The cement shall not be issued under Schedule 'B'. Contractor shall procure the same under his own arrangement for the entire completion of the work. Provision of condition 10 of IAFW-2249 be read in conjunction with this clause. The specifications and other provisions laid down vide section 4 Para 4.3 of MES Schedule, Part-I shall be read in conjunction with the provisions contained in the subsequent paras here-in-after.

- 2.1 **(A) TYPE OF CEMENT:** - The Cement shall be Ordinary Portland Cement (OPC) grade 43 (IS-8112-2013) or Ordinary Portland Cement (OPC) grade 53 (IS-12269-2013) or Portland Pozzolana Cement (PPC) (IS: 1489-1991 Part-I). While using the PPC, following precautions/conditions shall be met with by the contractors at site :-

(a) PPC shall meet the strength criteria as laid down in IS-1489(Part-I)-1991.

(b) Both OPC & PPC shall not be permitted for use in the same building except for plaster and mortar. Also OPC of different grade shall not be permitted to be used in single independent element/member.

(c) The contractor shall submit following test certificate from the manufacturer of the cement for every batch of cement:-

- (i) The quality of fly ash is strictly as per IS-1489(Part I)-1991.
- (ii) Fly ash is inter-ground with clinker and not mixed with clinker.
- (iii) Dry fly ash is transported in closed containers and stored in silos.  
Only pneumatic pumping shall be used.
- (iv) The fly ash received from thermal power plant using high  
Temperature combustion above 1000<sup>o</sup> C should be used.
- (v) The fly ash content in PPC shall be as per IS 1489-1999 (Part-I).

(d) **PPC will not be used for water retaining structures**

**(B) STRIPPING TIME:** Refer provision given in clause 4.11.6.3 OF MES Schedule Part-I and clause 11.3 of IS-456. However for PPC, the stripping time shall be as under :-

(i) **For members/items under sub-paras (a) & (b) of clause 11.3.1 of IS-456:**  
Period specified for the members/items by using OPC under sub-paras (a) & (b) of clause 11.3.1 of IS-456 + **01** day.

(ii) **For members/items under sub-paras (c) to (e) of clause 11.3.1 of IS-456:**  
Period specified for the members/items by using OPC under sub para (c) to (e) of clause 11.3.1 of IS-456 + **07** days.

**(C)** The contractor at the time of commencement of work shall intimate to AGE in writing regarding one type of cement, out of the types of cement mentioned in para 2.1(A) above, for incorporating in the work. Any change in use for type of cement thereafter shall only be allowed after the written approval of AGE.

**PARTICULAR SPECIFICATIONS**

- 2.2 **SOURCE OF PROCUREMENT:** - Cement shall be procured by the contractor under his own arrangement and at his own cost directly from any of the main producers of cement mentioned in relevant Appendix. For repair works, maintenance works and other works, where entire requirement of cement is less than 1200 bags, cement may be procured by the contractor either directly from one of the manufacturers mentioned in the relevant Appendix or from the authorized dealers of the manufacturer's mentioned in relevant Appendix but the contractor will have to submit test certificate of the batch issued by the main producers. The particulars of manufacturer of cement alongwith the date of manufacture shall be submitted by the contractor separately for every consignment of cement procured. Each consignment of cement procured by the contractor shall be recorded in the measurement book as "Not to be abstracted" and shall be supported with authentic original purchase vouchers highlighting the makes, batch Nos., quantity etc. The documents in support of the purchase of cement shall be recorded and verified by AGE and site staff.
- 2.3 **IDENTIFICATION:** - Marking of each cement bag shall be as per relevant IS code.
- 2.4 **SCHEDULE OF SUPPLY:** - Schedule of supply of cement shall be finalized by Contractor with the AGE and shall be incorporated in CPM chart so that supply of cement is monitored in a way to avoid any delay in completion of the work. The complete requirement of cement will be worked out before making any RAR payment. Procurement of cement by the Contractor shall be completed sufficiently in advance of the date of completion. No extension of time will be considered for non-availability of cement. Every Cement godown shall be provided with two locks on each door. The key of one lock of each door shall remain with the Engineer-in-Charge or his representative and that of other lock with the Contractor or his authorised agent at site of work so that cement is removed from the godown only according to the daily requirement with the knowledge of both the parties. Cement for purpose of accounting shall be on the basis of numbers of bags. Minor variations in cement not more than 2% by weight of cement in a bag will be permissible for purpose of accounting of cement bags. However cement shall be incorporated in the work on actual weight basis where specified without any additional cost.
- 2.5 **TESTING OF CEMENT:** - The manufacturer will carry out the inspections and testing of cement in accordance with relevant BIS provisions. The contractor shall submit the manufacturer's test certificates in Original along with the test sheet giving the result of each physical test as applicable and the chemical composition of the cement or authenticated copy thereof, duly signed by the manufacturer with each consignment. However when the cement is procured through authorised dealers as per the provisions contained in clause 2.2 here-in-before, the contractor shall submit photocopy of manufacturer's test certificates duly certified by the authorised dealer(s) in lieu of original copy of the manufacturer's test certificates. The Engineer-in-charge shall record these details in the Cement Acceptance Register as given at Appendix 'E' after due verification. The AGE shall also organize independent testing at random samples of every 250 MT of cement (If batch changes within 250 MT then testing of each batch has to be carried out) from the labs as indicated under special condition No. 25: TESTING OF MATERIALS as per IS: 3535-1986 (Method of Sampling Hydraulic Cement), IS: 4031 (Method of Physical test for Hydraulic Cement) and IS: 4032-1985 (Method of chemical analysis of hydraulic Cement). In case cement test result does not fall with-in the acceptable limits, respective consignment of cement shall be rejected and shall be removed by the contractor within 24 hours from the site. The cost of tests shall be borne by the contractor irrespective of status of the results and no claim shall be/to be entertained on this account and clause of IAFW-2249 and provisions in this regard in Para 1.7.3 of MES Schedule Part-I shall be deemed to be amended accordingly. Sample of cement from each consignment shall be collected by the Engineer-In-Charge and AGE in accordance with IS: 3535-1986.
- 2.7 **DOCUMENTATION:** - The Contractor shall submit original Vouchers and original manufacturer's test certificates from the manufacturer for the total quantity of Cement supplied under each consignment to be incorporated in the work. However when the cement is procured through authorised dealers as per the provisions contained in clause 2.2 here-in-before, the contractor shall be required to submit original purchase vouchers from the dealers alongwith photocopy of the purchase vouchers from the manufacturer's to the authorised dealer(s) (duly certified by the authorised dealers) and photocopy of the manufacturer's test certificates duly certified by the authorised dealers. All consignment received at the work site shall be inspected by the AGE and documents verified before acceptance. The Original Vouchers and the Test Certificates shall be defaced by the Engineer-in-Charge and signed by the contractor showing CA No., Year and dated signature and kept on record in the office of AGE duly authenticated and with cross-reference to the Control number recorded in the Cement acceptance register. The cement acceptance register will be signed by JE (Civil), Engineer-in-Charge, AGE and the Contractor. The Accepting Officer may order a Board of officers for random check of cement and verification of connected documents. The entire quantity of all type of cement shall be suitably recorded in the measurement Book (Not to be abstracted) for record purposes before incorporation in the work and shall be signed by the Engineer-in-Charge and the Contractor.

## **PARTICULAR SPECIFICATIONS**

### **2.8 RECORD OF CONSUMPTION OF CEMENT**

- 2.8.1 For the purpose of keeping a record of cement used, the contractor shall maintain a properly bound register serially numbered (all pages initialed against the numbering by the Engineer-In-charge) in the form approved by the Engineer-In-Charge showing daily quantity used in the work and balance in hand at the end of each day. The register shall be maintained with daily entries duly authenticated by the contractor or his authorised representative and the Engineer-in-Charge. Separate register shall be maintained for OPC & PPC indicating locations where the cement was used.
- 2.8.2 The register shall be kept at site in the safe custody of the contractor's rep and Engineer-In-Charge during the progress of the work and shall on demand be produced for verification to the inspecting officer.
- 2.8.3 On completion of the work, the contractor shall deposit the cement register with the Engineer-In-Charge for record.

#### **NOTES:**

1. In case of any dispute relating to the interpretations arising out of the above-referred provisions, the decision of the Accepting Officer shall be final, conclusive and binding.
2. The specifications and provisions here in before for cement shall be applicable for all works indicated in the scope of this contract.
3. Unless otherwise specified, for pricing of the deviations, for the items/works involving use of cement, the rates given in the MES Schedule Part-II subjected to the contractor's percentage for pricing of the D.O.s mentioned in these tender documents shall be applicable irrespective of any type of cement as per the provisions contained in clause 2.1 is used in the work.

### **3 EXCAVATION AND EARTH WORK**

- 3.1 **PREPARATORY WORK:** Before Sitting out the building and commencing the construction, the contractor shall carry out the preparatory work, such as removal of grass vegetation etc. Trimming /surface dressing of the area as per direction of Engineer-in-Charge. The "Area" referred to imply the entire area occupied by the building including plinth protection, ramp, platform steps, shaft and the like and upto 3 meter around the periphery of the buildings/structure. The cost of such work as may be necessary shall be deemed to be included in the contractor's lump sum under Sch 'A' section -I. Before starting excavation work, the contractor shall carry out, surface excavation not exceeding 30 cm deep and averaging 15 cm deep over the entire area covered by the items of 'BOQ' and **dispose off the spoil to a distance exceeding 250 metre and not exceeding 500 metre**, spread and levelled as directed by the Engineer-in-Charge. The cost of all the such works and other relevant elements shall be deemed to be included in the contractor's lump sum against 'BOQ' Section-I.
- 3.2 In case the existing ground is undulated (i.e. if the average difference in levels at different places exceeds 30 cms) it shall be excavated to a level as directed by the Engineer -- in - charge & relevant items shall be measured and paid under relevant measurable Schedule' A'. The ground level thus obtained shall be considered as average G.L. In that case the surface excavation for building/structure covered by 'BOQ' Section-1 shall be omitted through Deviation order.
- 3.3 **EXCAVATION GENERAL**
- 3.3.1 Excavation and earth work under this contract shall be considered as excavation in **soft/ loose** as specified in Para 3.2.1 (a) of MES Schedule (Part-I).

**PARTICULAR SPECIFICATIONS**

- 3.3.2 Unit lump sum rates for relevant items of 'BOQ', Section-I shall be deemed to include for excavation and earthwork for the strata as mentioned in clause 3.3.1 here-in-above. In case the strata met with actually at site is found different from that mentioned in particular specifications clause 3.3.1 here in above, necessary price adjustment for the same shall be made through deviation order (s) all as per contract provisions. Any change in soil strata notified by contractor shall be supported with relevant documentary proof viz grain size gradation, detailed soil report etc. otherwise contractors any claim on this account shall not be admissible.
- 3.3.3 The measurement of excavation shall be as given in MES Schedule (Part-II).
- 3.3.4 In case timbering to excavation is required and specifically ordered by the AGE in writing, it shall be paid separately through a deviation order.
- 3.3.5 Bailing/pumping of water where required shall be carried out as described in Para 3.17 of MES Schedule (Part-I). The cost of such work as may be necessary shall be deemed to be included in the contractor's lump sum. No additional payment as stipulated in Special Condition 3.11 of MES Schedule Part-II will be admissible. In the event of deviation no price adjustment shall be made for cost of bailing/pumping etc.
- 3.3.6 After construction and before handing over building/structure, the area around the building/structure to a width of 3 meter beyond the edges of plinth protection, ramps, steps, saucer drains etc. shall be dressed & leveled without extra cost to department. **Spoil obtained from surface dressing & leveling shall be removed outside MD land, to a place notified for dumping debris by the local administration.** The cost of such work shall be deemed to be included in the rates quoted by the contractor under respective items of 'BOQ'.
- 3.3.7 All rubbish obtained from site clearance and all unapproved spoil obtained from surface dressing shall be removed outside MD land as directed by ENGINEER-IN-CHARGE and the cost thereof shall be deemed to be included in the lump sum.
- 3.3.8 Boulder and stone obtained from excavation for the entire work shall be sorted out and neatly stacked as directed by Engineer-in-charge without any extra cost to the Govt. These boulders and stones shall be the property of contractor and recovery for the same shall be made from the contractor @ Rs 550/- per cubic metre. Further the boulders/stones so obtained after breaking of same to the required sizes may be used by the contractor for the works, provided the same meets the contract specifications and approved by the AGE. The un-used boulders, stones shall be removed by the contractor outside MOD land. Cost of all the above provisions shall be deemed to be included in contractor's quoted rates & no claims whatsoever shall be entertained on this account.
- 3.4 **FILLING IN TRENCHES, PLINTH AND UNDER FLOOR ETC. AND REMOVAL OF SPOIL & SURPLUS EARTH**
- 3.4.1 Filling excavated earth in foundation trenches, in plinth and under floors shall be carried out as per Paras 3.19.1 to 3.19.3 of MES Schedule Part-I. Earth obtained from excavation and not approved for filling or surplus to the requirement shall be removed to a distance as specified in Clause 3.1 here in before, spread and levelled.
- 3.4.2 If any additional earth is required for filling it shall be brought of approved quality approved by the AGE obtained from outside MD land and cost thereof shall be deemed to be included in the quoted lump sum against relevant items under 'BOQ', Section-I. However for pricing deviations with regards to the lead for bringing additional earth, it shall be priced based on 1,500 metre distance for all works included in 'BOQ' Section-I, what so ever may be the actual distance.
- 3.4.3 All filling will be spread in layers not exceeding 25 cm thick. Each layer will be watered and well rammed. Thickness of filling shown on drawing is after consolidation.

**PARTICULAR SPECIFICATIONS**

3.5 **HARD CORE:** Unless otherwise specified elsewhere or shown on drawings, hard core shall be of stone/ boulders (Broken to gauge) not exceeding 63mm. Hard core shall be deposited, spread and leveled in layers not exceeding 150mm thick and watered, well rammed to a true surface and compacted. The consolidated thickness of the hardcore specified or as indicated in the drawings, is the thickness after consolidation and where not specifically mentioned or shown in the drawings, it shall be considered 150mm consolidated thickness.

4. **CEMENT CONCRETE**

4.1 **MATERIALS**

4.1.1 **CEMENT:** Refer Particular Specifications clause 2 and other sub clauses here-in-above.

4.1.2 **COARSE AND FINE AGGREGATE FOR CEMENT CONCRETE (PCC & RCC):-** Refer Paras 4.4.1 to 4.4.7 of MES Schedule Part-I(2009).

4.1.2.1 Coarse aggregate for lime concrete shall be broken bricks as per Paras 4.5, 4.5.1, 4.5.2 of MES Schedule Part-I. The fine aggregate shall be natural sand as for cement concrete.

4.1.2.2 Grading of coarse aggregate (Broken/crushed stone) unless otherwise specified shall be as follows: -

(i)	For all reinforced/plain cement concrete of thickness up to 25mm or under	: 12.5mm graded
(ii)	For all reinforced cement concrete work over 25 mm thick	: 20 mm graded
(iii)	For plain cement concrete over 25 mm and under 75 mm thick	: 20 mm graded
(iv)	For plain cement concrete over 75 mm thick	: 40 mm graded

4.1.2.3 Grading of broken brick aggregate for lime concrete shall be as per Para 4.5.3 of MES Schedule, Part-I.

4.1.2.4 Grading of fine aggregate (sand) shall be as per Para 4.4.7(2) of MES Schedule Part-I for grading Zone-III. Coarse aggregate up to 20 mm shall be machine-crushed stone and aggregate of size 40 mm and above shall be manually broken or machine crushed at the option of contractor. Fine aggregate (sand) shall be obtained from natural source.

4.1.3 **WATER PROOFING COMPOUND:** Refer clause 4.8 of MES Schedule Part-I.

4.2 **WORKMANSHIP:**

4.2.1 **MIX OR GRADE OF CEMENT CONCRETE:** - Refer IS 456-2000 (fourth edition) amended up to date. Unless otherwise mentioned in the drawings or in the particular specification in any specific location, mix of concrete in various locations shall be as under:-

(i)	Lean concrete in foundation of load bearing brick walls.	1:4:8 (Type D-2) (Volumetric Mix)
(ii)	Lean concrete under non load bearing brick walls, RCC columns footings, Plinth Beams, Portal frames, dwarf walls, toe walls, steps, ramps and platforms.	1:4:8 (Type D-2) (Volumetric Mix)
(iii)	PCC benching at junction of slab/parapet walls/ facia, PCC block for fixing hold fasts/ bolts, cills, straps, PCC padding & similar work.	1:3:6 (Type C-1) (Volumetric Mix)
(iv)	Plain cement concrete in situations other than covered by (i) to (iii) above.	1:2:4 (Type B-1) (Volumetric Mix)
(v)	All RCC water retaining structures, Static water tank	Ready Mix Concrete (RMC) M-30 grade or RMC prepared at site as per clause no 4.2.5.4 here in after if approved by the Accepting Officer
(vi)	RCC work in floor/ roof slabs, floor/roof beams, footing & Plinth beams	Ready Mix Concrete (RMC) M-25 grade (Design Mix Concrete) or <b>RMC prepared at site as per clause no 4.2.5.4 here in after if approved by the Accepting Officer.</b>
(vii)	All RCC work except covered by (v) & (vi) above	M-25 grade (Design Mix Concrete)

- 4.2.2 **WORKABILITY OF CONCRETE:** - Refer clause 7.1 of IS-456: 2000.
- 4.2.3 **MIXING OF CONCRETE:** - Refer paras 4.11.5 & 4.11.5.1 of MES Schedule Part I. Concrete for all PCC/RCC design mix shall be mixed in batching plant of capacity not less than 10 cum/hour. Weigh batching plant should comply IS-4925 : 2004. However the contractor has option to use RMC as specified here after under clause 4.2.5 without any financial effect.
- 4.2.4 **FORM WORK:**
- 4.2.4.1 **Irrespective of whatever is specified elsewhere and in MES Schedule, steel formwork with fair finished surfaces and standard shuttering telescoping type steel props shall be used for all the works/structures included in this work.** However for locations like RCC Fascias, chajjas etc. where use of steel form work is not feasible, BWP plywood formwork may be used subject to approval of AGE. Steel formwork and steel props etc shall be conforming to relevant I.S. Codes However for pricing the deviations for formwork, the rates given in MES Schedule Part-II for formwork for rough finished surfaces adjusted with the contractor's percentage as per condition 62 of IAFW-2249 shall be applicable.
- 4.2.4.2 For formwork other than building work (for works other than 'BOQ' Section-I), refer to paras 4.11.6.1 to 4.11.6.5 of MES Schedule Part-I. Formwork shall be for rough finish and of steel or plywood of adequate strength at the option of the contractor. Further in lieu of wooden ballies, standard shuttering telescoping type steel props shall only be used. However for pricing of the deviations for formwork other than building work, the rates given in MES Schedule for rough finished surfaces adjusted with contractor's quoted/derived percentage shall be applicable.
5. **BRICK WORK**
- 5.1 **BURNT CLAY BRICKS:** - Refer paras 5.6.1 to 5.6.8 of MES Schedule Part-I.
- 5.1.1 **CLASS DESIGNATION:** - Irrespective of whatever is mentioned elsewhere in the tender documents and indicated on the drawings, burnt clay bricks shall be of non modular size (Sub class 'B', old size bricks) of class designation 10 all as per IS-1077-1992 (amended upto date).
- 5.1.1.1 **TESTING:** - Testing of bricks shall be carried out as per IS-3495 (Para 1to 4) of 1992.
- 5.1.2 **GENERAL QUALITY:** - Bricks shall be free from cracks, flaws and nodules of free lime, uniform in colour, smooth rectangular faces with sharp corners.
- 5.1.3 **DIMENSIONS AND TOLERANCE:** - Irrespective of whatever mentioned in MES Schedule Part-I, dimensions of bricks shall be 230 mm x 110 mm x 70 mm. The permissible tolerance on the dimensions of the bricks shall be as per IS: 1077-1992.
- 5.1.4 **PHYSICAL REQUIREMENTS:** -
- 5.1.4.1 **COMPRESSIVE STRENGTH:** -Minimum compressive strength of any one brick shall not be less than 100 kg /Sq. cm.
- 5.1.4.2 **WATER ABSORPTION:** - Not more than 20% by weight.
- 5.1.4.3 **EFFLORESCENCE:** - Slight ("The common burnt clay building bricks shall have efflorescence not more than slight i.e. not more than 10% of the exposed area of the brick is covered with a thin deposit of salts when tested as per IS -3495 (Part-3) latest version.").
- 5.2 **CEMENT:** Refer clause 2 of particular specifications and other sub clauses here in before.
- 5.3 **SAND:** - Sand for mortar shall be as specified in clause 5.4 of MES Schedule.

PARTICULAR SPECIFICATIONS

5.4 BRICK WORK WORKMANSHIP

5.4.1 **BRICK WORK WITH PULVERIZED FUEL ASH-LIME BRICKS** : Irrespective of whatever has been indicated brickwork shall be built with Pulverized fuel ash-lime bricks in cement mortar as under:-

(i)	Brick work in half brick thick walls, bricks laid on edge walls, independent brick pillars, Foundation for half brick thick or bricks laid on edge walls or independent brick pillars, reinforced brickwork, Static water tanks.	Cement mortar(1:4)
(ii)	Brick Jali work	Cement mortar(1:3)
(iii)	Brick work in all other situations including foundation	Cement mortar(1:6)

**NOTE :** In case of deviation, brickwork with Pulverized fuel ash-lime bricks shall be priced at the rates given in MES Schedule of Rates for sub class ‘B’ old size bricks having class designation 50, adjusted with contractor’s quoted/derived percentage as applicable.

5.4.2 **BRICK WORK WITH BURNT CLAY BRICKS**: Brickwork in various situation other than mentioned in PS clause 5.4.1 here-in-before and unless otherwise specified here-in-after specifically shall be built with burnt clay bricks in cement mortar as under:-

(i)	Brick work in half brick thick walls, bricks laid on edge walls, independent brick pillars, Foundation for half brick thick or bricks laid on edge walls or independent brick pillars, reinforced brickwork, Static water tanks.	:Cement mortar(1:4)
(ii)	Brick Jali work	:Cement mortar(1:3)
(iii)	Brick work in all other situations including foundation	:Cement mortar(1:6)

- 5.4.2.1 Half brick thick wall of height more than 180 cm shall be reinforced with Flat iron 25 × 3 mm horizontally at every fourth course starting from floor level & anchored in walls/ columns at junction. The anchorage length provided shall not be less than 100 mm.
- 5.4.2.2 Width of RCC lintels, beams, cills, columns and the like coming in conjunction with brick walls/pillars shall be kept to the actual width of brick work of that place unless offsets have been specifically shown in which case the width as shown on drawings shall be maintained.
- 5.4.2.3 Centerline dimensions of rooms, verandahs etc. shown in drawings shall be maintained. Internal and overall dimensions if at variance from whatever shown in drawings shall be deemed to have been amended accordingly. The dimensions for various heights shall be maintained as shown on drawings.
- 5.4.2.4 Mortar bed joints shall be such that four course of brickwork and three joints taken consecutively shall measure 3 cm to 4 cm in addition to the combined height of bricks themselves. The provision regarding above made in Para 5.27 of MES Schedule Part-I shall be deemed to be modified accordingly and no price adjustment shall be done on this account.

5.5 LAYING AND BOND

5.5.1 Bricks shall be laid and bonded all as specified in clauses of MES Schedule as applicable to old size brick (FPS convention brick).

5.5.2	In framed construction brick, panel walls not supported on plinth/grid beams shall have foundation as shown on drawings. Half brick walls up to 2100 mm high shall be erected directly supported on sub base of floors. Half brick walls above 2100 mm high and dwarf & toe walls shall be provided with foundations as shown on drawings.
5.5.3	<b>CEMENT</b> : Refer clause 2 of particular specifications and other sub clauses here in before.

PARTICULAR SPECIFICATIONS

6 STEEL, IRON & ALUMINIUM WORK

6.1 Entire steel required for use in the work shall be arranged by the contractor and shall comply with the requirements of following specifications (Test certificate shall be produced as ‘specified’ in succeeding Paras) :-

(i)	Structural Steel	:	Standard quality Fe 410-W (Gde E-250) quality A conforming to IS:2062-2006 (However for pricing of deviations, rates given in SSR for Fe-410-W (Gde E-250) quality A shall be followed)
(ii)	MS round Bars for reinforcement	:	IS:432 (Part-I) & (Part-2) - (1982) Grade-I for bars
(iii)	Hold Fasts, grills, guard bars, fencing posts, railing, gates etc. which do not constitute structural members	:	Fe-290 (Gde E-165) Steel conforming to IS: 2062-2006) unless otherwise specified or shown on the drawings.
(iv)	Reinforcement high strength deformed bars of size 8 mm & above.	:	TMT bars Fe-500D Conforming to IS:1786-2008
(v)	Galvanised Steel Sheets	:	Conforming to IS:277-2003
(vi)	Fabric reinforcement	:	Conforming to IS: 1566-1982.

**NOTE:** Where-ever in the drawings, for the reinforcement HYSD-415 grade bars/deformed bars/ twisted bars/high strength deformed bars/TMT bars Fe-415 grade/mild steel round bars 8mm dia and above are shown, in lieu of above type of bars, high strength deformed steel bars produced by TMT process **Fe-500 D** conforming to IS-1786-2006 (equal to diameter shown on drawings) shall be provided.

6.2 **GALVANISED STEEL WIRE:** Galvanised steel wire for mattress shall be as specified in Para 10.31 of MES Schedule Part-I.

6.3 **FABRIC REINFORCEMENT:** - Hard drawn steel wire fabric where shown as reinforcement shall conform to IS: 1566-1982. Wire fabric for general use such as fencing, window grills etc. shall conform to IS: 4948 all as per MES Schedule Part-I clause 10.33. The weight of expanded metal shall be 4-kg/square metre.

6.4 **STRUCTURAL STEEL WORK:** Structural steel work in various sections shall be as per the details shown in the drawings and specified.

6.5 **PROCUREMENT, TESTING, DOCUMENTATION, STORAGE & SUPPLY ETC. STEEL AND IRON WORK**

6.5.1 **GENERAL**

6.5.1.1 Steel shall not be issued under Schedule ‘B’. Contractor shall purchase the same from any of sources mentioned here in after for entire completion of work.

6.5.1.2 Reinforcement steel shall be high strength deformed steel bars produced by Thermo Mechanical Treatment Process (TMT steel bars of grade Fe-500 D) meeting all other requirements of IS: 1786.-2006.

6.5.1.3 The ordinary quality or standard quality of steel shall be used at places as defined in Para 10.4.1, 10.4.2 & 10.4.3 of MES Schedule Part-I, unless otherwise shown on the drawings.

6.5.2 **PROCUREMENT**

(a) **TMT STEEL & STRUCTURAL STEEL**

TMT steel bars of all sizes & structural steel supplied by the contractor shall be procured directly from the main producers of steel mentioned in relevant Appendix A-I.

(b) Galvanised steel sheets and Fabric Reinforcement for concrete shall procured directly from main producers i.e SAIL/RINL/TISCO and shall be ISI marked.



PARTICULAR SPECIFICATIONS

- (c) Steel section for railing, gates, fencing, guard bars, grills, steel chowkats, hold fasts etc, which do not constitute structural members, can be procured from main producers/secondary producers/ BIS marked manufacturers or their authorized dealers at the option of contractor without any minus price adjustment. Tests for such steel sections shall not be insisted by AGE.
- (d) The steel will be procured from the storage depots of the main producers/approved secondary producers (as applicable) and not from their authorized agents/dealers as the authorized agents deal with the steel manufactured by more than one manufacturer. The AGE will ensure that contractors place their demand/requisition of steel with adequate lead time.
- (e) All finished steel shall be well and clearly rolled to the dimensions, sections, and weight specified. The finished material shall be reasonably free from cracks, surface flaws, laminations rough, jagged and imperfect edges and other harmful defects and shall be finished in a workman like manner.
- (f) Tolerance in size and weight of reinforcement bars shall not be more than specified in clauses 10.17.4 & 10.17.5 of MES Schedule Part-I.

6.5.3 TESTING OF MATERIALS

- 6.5.3.1 The contractor shall submit the manufacturers test certificate in original along with the test sheet giving the result of each mechanical test as applicable and the chemical composition of the steel or authenticated copy there of duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in the Steel Acceptance Register, as given in appendix 'F' after due verification. The AGE shall also organize independent testing of random samples of steel drawn from each and every lot from the Labs as indicated under SPECIAL CONDITION NO. 25: TESTING OF MATERIALS, with following frequency-

Srl No.	Nominal Size Steel for Concrete Reinforcement	Quantity
<b>Steel for concrete</b>		
1.	Bars size less than 10 mm	1 sample (3 specimens) for each test for every 25 tonne of steel or part thereof.
2.	Bars size10 mm to 16 mm	1 sample (3 specimens) for each test for every 35 tonne of steel or part thereof.
3.	Bars size over16 mm	1 sample (3 specimens) for each test for every 45 tonne of steel or part thereof.
4.	Tensile Test	1 test for every 25 tonne of steel or part thereof.
5.	Bend Test	1 test for every 25 tonne of steel or part thereof.

- NOTES:**
- (i). For various tests acceptance criteria, tolerance etc refer to Appendix 'F' and relevant BIS Codes.
- (ii )Testing by the AGE as per above frequency is mandatory before payment is released to the contractor or steel is incorporated in the work and testing charges for the same shall be borne by the contractor irrespective of the outcome of test results. However, tests will not be insisted upon for the steel required for guard bars, holdfasts, grills, and such other allied items. Any items of steel, not meeting the requirements, shall be rejected and the particular consignment removed from the site by the contractor at his own cost. The contractor shall have no claim on this account. The contractor at his cost shall provide all facilities required for the testing and cost of materials consumed in the test and transportation charges etc. shall be borne by the contractor.

### **PARTICULAR SPECIFICATIONS**

(iii). The AGE may also increase 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 the test results.

(iv). The TMT steel received from secondary producers shall be tested by AGE, before incorporation in the work, by simple field tests also and records shall be maintained. Simple field test involves sand papering the X-Section of the TMT bar and dipping the same in chemical solution to give a clearly defined annular ring of tempered steel. The contractor at his cost shall arrange facilities for such tests.

6.5.4 **DOCUMENTATION:** - Steel Acceptance Register and Measurement Book for steel (for record purposes and not to be abstracted) shall be maintained by the Engineer-in-Charge. The contractor shall submit original machine numbered receipted paid vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. AGE shall inspect all consignments received at the work site along with the relevant documents before acceptance. The original vouchers and the Test Certificates shall be defaced by the Engineer-in-Charge and keep on record in the office of the AGE duly authenticated and with cross-reference to the Control No. recorded in the steel Acceptance Register. JE (Civil), Engineer-in-charge, AGE and contractor, will sign the steel acceptance register. The entire quantity of all steel items shall also be suitably recorded in the measurement book for record purpose as 'not be abstracted', before incorporation in the work and shall be signed by the Engineer-in-Charge. The accepting officer may order a board of officers for random check of steel and verification of connected documents.

6.5.5 **STEEL IN COILS ETC.** Any bar of any diameter for reinforcement may be procured in round bundles or rolls and the cost of straightening the same shall be borne by the contractor. When bars are procured in bundles the lengths of each bundle shall be worked out on the basis of unit weight predetermined by the GE by getting suitable length (not less than 3 metre) out of each consignment(s) received getting it straightened length measured and weighed in presence of contractor's accredited representative. The length and the weight(s) shall be recorded from which unit weight of bars worked out on the basis of unit weight determined as above shall form the basis for the purposes of calculating quantity of steel used/to be used in the work and taking payment of material lying at site. However if the unit weight works out more than the unit weight given in MES Schedule then unit weight given in MES Schedule shall be followed for computing weight of steel for the purpose of making payment of steel lying at site.

6.5.6 **STORAGE**

6.5.6.1 Steel of different sizes shall be stacked separately. For each classification of steel, separate areas shall be marked. Steel shall be marked with distinct painting.

6.5.6.2 All steel shall be stored in such a manner so that it is always at least 15 cm above the ground level. Steel shall be stored in a manner so as to prevent distortion and corrosion. Any section that has deteriorated and corroded or if considered defective by Engineer-in-Charge shall not be used in the work and shall be removed from site by contractor without any extra cost. It will be the responsibility of the contractor to make sure that all possible arrangements are made for the safe custody of the steel. In case of any loss of steel only contractor will be responsible and the loss will/shall be made good without any delay or claim whatsoever.

6.5.7 **SCHEDULING OF SUPPLY**

6.5.7.1 Schedule of supply of steel shall be finalized by contractor with AGE and shall be incorporated in CPM chart so that supply of steel is monitored in a way to avoid any delay in completion of the work.

6.5.7.2 The complete requirement of steel of various sizes will be worked out before making any RAR payment and procurement of steel by the contractor will be completed sufficiently in advance of the date of completion. No extension of time will be considered for non-availability of any section of steel.

**PARTICULAR SPECIFICATIONS****6.5.8 STEEL REINFORCEMENT:WORKMANSHIP**

6.5.8.1 Reinforcement shall be provided as shown on drawings and in the absence, provisions of IS: 456 and IS: 1786-1985 shall be followed.

6.5.8.2 Reinforcement shall be fabricated, placed in position all as shown on drawings and specified in clause 10.17 to 10.21 of MES Schedule Part-I without application of heat.

6.5.8.3 **WELDING OF REINFORCEMENT:** - Refer Para 10.22 of MES Schedule, Part-I. Welding of reinforcement is not permitted. However where due to congestion of reinforcement the welding is required, then necessary permission shall be obtained by the contractor from the AGE.

**7.3 MATERIALS**

7.3.1 **CEMENT:** Cement shall be as specified in concrete work

7.3.2 **AGGREGATE:** Coarse and fine aggregates, as specified for concrete work.

7.3.2.1 **BRICK AGGREGATE:** - Refer clause 13.6 and 13.7 of MES Schedule part-I

7.3.2.2 Stone aggregate and sand shall be as specified for concrete work, here in before

7.3.15 **INTERLOCKING TILES /PAVER BLOCKS:** Refer para 13.18 of MES Schedule part-I. Wherever interlocking tiles/paver blocks have been shown in drawings/Schedule of finishes, pre-cast PCC interlocking paving blocks of **grade M-35** Conforming to IS 15658: 2006 shall be provided. Unless otherwise shown on drawing, paving blocks shall be of shape and size as approved by AGE and **60mm thick**.

**8 PLASTERING****8.1 GENERAL**

8.1.1 Plaster (even if external wall face is pointed) and/or skirting dado returned in jambs, soffits of lintels and windows cills etc. Where plaster on concrete surfaces is shown to match the adjacent wall surfaces the mix of plaster shall be as for the brick surfaces.

8.1.2 All internal plastered surfaces shall be trowel to a smooth and even surface without using extra cement and external plastered surfaces shall be finished even and fair.

8.1.3 The thickness of plaster mentioned here in after is finished thickness exclusive of dubbing coat. Plastering & dubbing coat shall, however be done in one operation with plaster. The contractor's quoted lump sum/rates shall be deemed to include for plastering as well as dubbing.

8.1.4 All corners, angles, junction and edges shall be truly vertical or horizontal as the case may be and shall be carefully finished. Corners around jambs of opening and junction of walls shall be rounded to minimum radius to 5mm 12mm wide groove at junction of all walls and RCC slabs to the entire thickness of wall plaster shall be provided. Also trowel grooves shall be provided at junction of walls and RCC columns or any other dissimilar material i.e. wooden chowkhats etc.

8.1.5 Particular attention of the contractor is invited to take note of local practices and the local availability of materials like bricks, form work etc. and cater for any extra dubbing required for touching up properly and for smooth and even surfaces. This shall be deemed to have been included in the lump sum or the item rate quoted for plasterwork, as applicable.

**8.2 GROOVE AT JUNCTION OF RCC WORK AND BRICK WORK:**

8.2.1 **INTERNAL SURFACES:** 10 mm wide groove at junction of all walls and RCC slabs to the entire thickness of wall plaster shall be provided. Also trowel grooves shall be provided at junction of walls and RCC columns or any other dissimilar material i.e. wooden/steel chowkhats etc.

8.2.2 **EXTERNAL SURFACES:** No groove shall be provided on external surfaces of building. However, chicken wire mesh 150 mm wide (75 mm on both sides of junction) of size 0.71 mm dia wire with size of mesh 25 mm shall be provided with tinned tacks/Black shoe nails at junction of masonry and RCC Slab/ Columns/ Lintels/ Beams etc on untreated surfaces of building and then plastered as specified.

**PARTICULAR SPECIFICATIONS****8.3 MATERIALS**

8.3.1 **CEMENT:** - Cement shall be as specified in clause 2 of Particular Specification.

8.3.2 **SAND:** - Refer Para 14.5 of MES Schedule Part-I

**8.4 WORKMANSHIP:**

8.4.1 **INTERNAL PLASTERING:** - All the internal surfaces (except where otherwise specified) of masonry work including inside surfaces of CBs, ward robes and loft etc, under 'BOQ' Section-I shall be plastered with 10 mm thick cement plaster in cement mortar (1:6).

8.4.2 **EXTERNAL PLASTERING:** All external masonry surfaces under 'BOQ' Section-I except where otherwise specified shall be plastered with 15 mm thick in cement mortar (1:4) mixed with water proofing compound as per manufacturer instructions. Pattern/design of external plaster where shown/mentioned in elevation of various buildings/blocks, the same shall be made in cement mortar (1:4) and of thickness & sizes as shown on the drawings.

8.4.3 **POINTING:-** Pointing of masonry walls where shown on drawings shall be keyed pointing of cement mortar (1:3) unless any other type of pointing ting is specified or indicated on drawings

**9. PAINTING****9.1 GENERAL:**

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

9.1.3 The contractor shall when so required by the AGE produce certificate from the manufactures or their representative to establish that the brands of paint purchased by the contractor from them satisfy the requirements of the relevant Indian Standard.

9.1.4 The AGE will approve tint of paint if the same is not mentioned in Schedule of Finishes/ drawing.

9.1.5 Where painting is indicated in 'Schedule of Finishes' it shall be done in three coats i.e. three coats, i.e. two coats (under & finishing) of synthetic enamel paint over a coat of primer. Pink primer & red oxide primer shall be used for wooden / wood based surfaces and steel surfaces respectively unless otherwise specified here in after.

9.1.6 Paint and primer shall be of same make/manufacturers.

9.1.7 Wire cloth, steel for reinforcement and galvanised steelwork shall be untreated.

9.1.8 Other wood & wood based and steel surfaces exposed to view but not covered in 'Schedule of Finishes' or their finishing is not specifically indicated in other drawings or specified elsewhere shall be given two coats of synthetic enamel paint over a coat of primer of tint as directed by the AGE.

9.1.9 Other wood & wood based and steel surfaces which are not exposed to view but not covered in 'Schedule of Finishes' or their finishing is not specifically indicated in other drawings or specified elsewhere shall be given a coat of primer all as directed by the AGE.

**9.2 MATERIALS**

9.2.2 **ALUMINIUM PAINT:** - Aluminium paint shall conforming to IS: 2339.

PARTICULAR SPECIFICATIONS

- 9.2.3WORKMANSHIP
- 9.3PAINTING-WOOD OR WOOD BASED SURFACES: -
- 9.3.1SYNTHETIC ENAMEL PAINT: The wood or wood based surfaces where indicated on drawings or elsewhere to be painted with synthetic enamel paint it shall consist of two coats of synthetic enamel paint over a coat of pink primer including preparation of surfaces all as specified in clause 17.6 of MES Schedule, Part-I.
- 9.4PAINTING-STEEL & IRON WORK:
- 9.4.1SYNTHETIC ENAMEL PAINT: - The steel or iron surfaces where indicated on drawings or elsewhere to be painted with synthetic enamel paint it shall consist of two coats of synthetic enamel paint over a coat of red oxide primer including preparation of surfaces all as specified in clause 17.8 of MES Schedule, Part-I.
- 9.4.2ALUMINIUM PAINT: - Where aluminum paint is indicated on drawings it shall be done in two coats over a coat of red oxide primer including preparing the surface.
- 9.5TARRING: - Refer clause 17.12 of MES Schedule Part-I. The back of pressed steel/wooden chowkats in contact with brick work/plaster etc. and also wooden/steel surfaces embedded in walls shall be given two coats of tar. Lugs/ holdfasts shall be given two coats of tar and sanded.
- 10FLOORING
- 10.1MATERIALS
- 10.2.1CEMENT: Cement shall be as specified in Clause 2 of Particular Specifications.
- 10.2.2AGGREGATE
- 10.2.2.1BRICK AGGREGATE: - Refer clause 13.6 and 13.7 of MES Schedule part-I.
- 10.2.2.2STONE AGGREGATES AND SAND: Stone aggregates and sand shall be as specified for concrete work, here in before. For source of snad refer PS clause 4.1.2.2 here in before.
- 10.2.3KOTA STONE SLABS: Refer clause 13.47.1 of MES Schedule part-I.
- 10.2.4MARBLE STONE SLAB AND TILE: Refer clause 13.12.1 of MES Schedule part-I.
- 10.2.5CERAMIC TILES FOR FLOORS AND SKIRTINGS: Refer clause 13.14.2 of MES Schedule part-I.
- 10.2.6CERAMIC WALL TILES FOR DADO: Refer clause 13.14.1 of MES Schedule part-I.
- 10.3WORKMANSHIP:
- 10.3.1PCC FLOORS: Refer Clauses 13.25 and 13.32 of MES Schedule, Part-I.
- 10.3.2CERAMIC, VITRIFIED TILES
- 10.3.2.1GENERAL:
- (a) The surface on which the tiles are to be laid shall be free from dirt, dust and not be smooth.
- (b) Tiles shall be soaked in water before laying as recommended by the manufacturers.
- (c) The size and shade variation is inherent characteristics of ceramic tiles. To achieve pleasant & natural effect of shade tiles of various boxes shall be mixed before laying.
- (d) Provide adequate gap as recommended by the manufacturers between the tiles to allow floor base moisture to escape.
- (e) Joints should be leave open for 1 to 3 days depending upon the humidity before grouting. The sealing of joints should not be carried out before 24 hrs, after fixing of tiles.

PARTICULAR SPECIFICATIONS

- 10.3.2.2BEDDING, LAYING, JOINTING & FINISHING : Refer clause 13.40 of MES Schedule, Pt-I.
- 10.3.3VITRIFIED PORCELAIN TILES: Refer clause 13.41 of MES Schedule part-I.
- 10.3.4KOTA STONE FLOORING: Refer clause 13.47 of MES Schedule part-I.
- 10.3.5KOTA STONE FLOORING: To have a granite type finish of Marble/Kita stone flooring 7 cutting method is to be used. Grit blocks of 0, 1, 2, 2 ½, 3, 4, 5 and 6 number are used for this finish. Water shall be used as lubricant during cutting operations. The first four operations are known as cutting and grinding while the next three operations are for polishing of floors. After the first cutting, wash the surface thoroughly and cover it with cement grout of appropriate colour to fill pinholes appearing after first cutting. Cure it for three days and then allow second cutting. Apply the repair again after the second cutting. Further cutting may be done if pinholes are still noticed.
- 10.4PLINTH PROTECTION Plinth protection shall be laid in 1:20 slope. The concrete shall be laid at stretch not exceeding 3.00 metre in length. Joints/gaps between adjoining slabs, at corners and along junction of walls shall not exceed 10 mm in width and shall be sealed with bituminous sealing compound. Top surface of concrete shall be finished even and smooth. Joints shall be provided at not more than 3.00 metre interval and also along corners and at junctions of walls.
- 11WATER SUPPLY, PLUMBING, WORKMANSHIP, SANITARY AND TOILET FITTINGS
- 11.1MATERIALS: MATERIALS:
- 11.1.1MILD STEEL GALVANIZED TUBES AND FITTINGS: Refer clause 18.1 of MES Schedule Part-I. Tubes and fittings shall be ISI marked.
- 11.1.2CAST IRON SOIL, WASTE, VENT PIPES, FITTINGS AND ACCESSORIES: Refer clause 18.23 of MES Schedule Part-I. These shall be of cast iron centrifugally cast (spun pipes) conforming to IS-3989-1984, ISI marked, spigot and socket ends.
- 11.1.2.1WORKMANSHIP: Refer relevant clause of MES Schedule Part-I
- 11.1.2.2TESTING: Cost of testing as specified above shall be deemed to have been included in the rates/amount quoted by the contractor and nothing extra shall be paid for carrying out tests. If any pipe burst during testing the same shall be replaced & made good by the contractor without any extra cost to Govt.
- 11.2PVC PIPES FOR POTABLE WATER: Refer clause 18.7 of MES Schedule Part-I.
- 11.2.1PVC PIPES FOR SOIL WASTE & DRAINAGE PURPOSE: Refer clause 18.27A of MES Schedule Part-I.
- 11.3WATER STORAGE TANKS: Storage capacity of tanks shall be all as mentioned in Schedule A. Water storage tank shall be of rotational moulded, HDPE, ISI marked double layered and as per clause 18.60 and 18.60.A of SSR Part-I.
- 11.3.1WORKMANSHIP: Refer relevant clause of MES Schedule Part-I
- 11.3.2TESTING: Cost of testing as specified above shall be deemed to have been included in the rates/amount quoted by the contractor and nothing extra shall be paid for carrying out tests. If any pipe burst during testing the same shall be replaced & made good by the contractor without any extra cost to Govt.
- 11.3.3TESTING OF SOIL WASTE & VENT PIPES: - All soil waste & Vent pipes and all fittings shall be tested as specified in Clause 18.67.7 of MES Schedule.
- 11.3.4TESTING OF GI PIPES: - Refer Paras 18.50.4 and 18.55 of MES Schedule Part-I.
- 11.4STAINLESS STEEL SINK WITH OR WITHOUT DRAINAGE BOARD: Refer clause 18.100 of MES Schedule Part-I.
- 11.4.1WORKMANSHIP: Refer relevant clause of MES Schedule Part-I

## **PARTICULAR SPECIFICATIONS**

11.4.2 **TESTING:** Cost of testing as specified above shall be deemed to have been included in the rates/amount quoted by the contractor and nothing extra shall be paid for carrying out tests. If any pipe burst during testing the same shall be replaced & made good by the contractor without any extra cost to Govt.

### 11.5 **SANITARY APPLIANCES**

11.5.1 **General** : Sanitary appliances shall be of vitreous China, unless otherwise indicate and shall conform to IS-2556 (Part-I) 1974 specification for vitreous sanitary appliances, part-I, General requirements and shall be approved make. Appliances shall be strong of high grade and shall be coated of all exposed surface with an impervious white vitreous glaze. The glaze shall be uniform, free from craze and discolouration and shall posses an impervious surface.

11.5.2 Sanitary appliances shall be of one piece construction. Water closets shall have an integral flushing rim. Inside of the pans shall be regular and smooth in order to ensure efficient flush

## 12 **ELECTRIFICATION WORKS**

### 12.1 **GENERAL REQUIREMENT**

12.1.1 General rules, special conditions and preambles to various parts given in MES Standard Schedule of Rates shall be applicable to the work under this contract. Materials and workmanship required to be incorporated in these works and services shall be as given under "Specification and workmanship" in the various trade sections of MES Schedule, Part-I duly modified by the Particular Specifications and notes on the drawings.

12.1.2 Particular specifications given here in after are only to particularize, amend or to emphasis the aforesaid specifications in the MES Schedule Part-I and relevant shall be read in conjunction.

12.1.3 These particular specifications shall be read in conjunction with MES Schedule Part-I and relevant clauses therein. In case of any discrepancy, the provisions given in particular specification shall take precedence.

12.1.4 The term "General Specifications" referred to/mentioned in IAFW-2249 and in other documents means specifications including other provisions given in MES Schedule Part-I .

12.1.5 The location and distribution of various items in the drawing is tentative. The AGE as per the site requirements can make alternations and there shall be no price adjustment on this account.

12.1.6 Good workmanship is an essential requirement for compliance with their specifications. The work shall be executed in the manner as directed by the Engineer-in-Charge.

12.1.7 The material and the equipment to be supplied and installed under this contract shall be of indigenous make. In case tenderer offers any imported materials, he may do so out of his existing stock. No foreign exchange will be given by the department to the tenderer for importing any equipment for this job.

12.1.8 **SAMPLE APPROVAL:** The contractor after obtaining written approval of samples from the AGE shall obtain material and equipment from the approved firms or through their authorized agents only. As a proof that a particular material obtained from the firm/their authorized agents the contractor shall produce such evidence to the satisfaction of AGE when asked for. With regard to quality the materials shall be brought to the site with maker's original packing with seal intact.

12.1.9 **MAKES & MANUFACTURERS:** For makes and manufacturers for various items of this section refer Appendix 'B' and Schedule 'A'.

12.1.10 **TESTING:** General- Refer Para 19.2.5 of MES Schedule part-I.

12.1.11 **SAFETY(Procedure & Practice):**- Refer Para 19.2.7 of MES Sch Part-I.

20.1.12 **FIRE SAFETY:** Refer Para 19.2.8 of MES Schedule Part-I.

12.2 All electric works shall be carried out in conformity with the requirements of the Indian Electricity Act 1910 and Indian Electricity Rules 1956 framed there under and fire insurance act as applicable and else the relevant regulations of electric supply authorities concerned as amended from time to time.

12.3 Unless otherwise exempted under the rules of the Indian Electricity Rules all electrical works shall be carried out under the supervision of person holding a certificate of competency issued by the recognized authority. The workman shall also hold certificate of competency.

**NOTE FOR PSS-II CLAUSE 20.2 & 20.3:** Provisions mentioned elsewhere in this regard shall be deemed amplified to the extent mentioned above.

**PARTICULAR SPECIFICATIONS**

13.       **DEMOLITION/DISMANTLING:** Refer section 21 of MES Schedule Part-I.
- 13.1       During demolition or dismantling, every precaution shall be taken by the contractor to prevent damage to any part of the structure and also to any adjacent structures which are to be left in tact. Any damage caused to the structures, due to the carelessness and negligence of the contractor shall be made good by him at his own expense.
- 14.2       The workmanship and other specifications of the work not covered above shall be as specified in the relevant Para of MES Schedule or otherwise if the same is not available in SSR, then the same shall be at par with the relevant latest Indian standards all as directed by the AGE.

Signature of Contractor  
Dated:\_\_\_\_\_

AGE(I) Dappar  
Accepting Officer



APPENDIX ‘A’  
APPROVED CEMENT MANUFACTURERS FOR MES WKS ON PAN INDIA LEVEL

1. **SOURCE OF PROCUREMENT:** - Cement shall be procured by the contractor under his own arrangement and at his own cost from any of the main producers of cement mentioned as mentioned below:-

SE R N O	NAME OF MANUFACTURER	BRAND	TYPE OF CEMENT
1	THE ASSOCIATED CEMENT COMPANIES LTD	ACC	ALL
2	ULTRA TECH CEMENT LTD	ULTRATECH	ALL
3	THE INDIA CEMENT		ALL
4	DALMIA CEMENT(BHARAT) LTD	DALMIA CEMENT	ALL
5	CENTURY CEMENT	CENTURY	ALL
6	SAURASHTRA CEMENT	SAURASHTRA	ALL
7	THE RAMCO CEMENTS LTD (Formerly Madras Cement)	RAMCO	ALL
8	MANGALAM CEMENT LTD	MANGALAM	ALL
9	BIRLA CORPORATION LTD	BIRLA	ALL
10	ORIENT CEMENT	ORIENT	ALL
11	NUVOCO VISTAS CORPORATION LIMITED (Formerly Lafarge Cement.)	NUVOCO	ALL
12	SHREE CEMENT	SHREE	ALL
13	J K CEMENT	J K	ALL
14	JK LAKSHMI CEMENT LTD	JK LAKSHMI	ALL
15	JAYPEE REWA CEMENT	JAYPEE	ALL
16	AMBUJA CEMENT LTD	AMBUJA	ALL
17	M/S SHREEGURU KRIPA CEMENT (PVT) LTD	SARTAJ	OPC – 43, PPC
18	PARASAKTI CEMENTS LTD	PARASAKTI	OPC – 43, PPC
19	M/S MY HOME INDUSTRIES LTD	MAHA CEMENT	PSC OPC 43, PPC
20	M/S CHETTINAD CEMENT CORPORATION LTD	CHETTINAD CEMENT	OPC-43, PPC
21	M/S JSW Cement Ltd A P	JSW OPC 43 JSW OPC 53 JSW PSC	PPC OPC 43 & OPC 53
22	M/S Sagar Cements Ltd	SAGAR	OPC 43, OPC -53 PPC PSC
23	M/S Sanghi Industries Ltd	SAGAR	OPC 53 PPC
24	M/S Wonder Cement Ltd	Wonder Cement	OPC 43 OPC 53 PPC

APPENDIX ‘A-I’  
APPROVED TMT STEEL MANUFACTURER FOR MES WK

SE R NO	DESCRIPTION		MAKE	
1	2		3	
1	(a) <u>PRIMARY PRODUCERS OF TMT BAR &amp; STRUCTURAL STEEL</u>			
	Ser No.	Make	Brand	Type of steel
	(i)	Rashtriya Ispat Nigam Limited, Visakhapatnam Steel Plant, Visakhapatnam -530 031	RINL	
	(ii)	Tata Iron & Steel Company, Bombay House -2, 4 Homi Modi Street , Mumbai -400001 (India)	TATA	
	(iii)	Steel Authority of India Limited, Central Marketing Organisation, Northern Region, 17 <sup>th</sup> Floor, Scope Minar, Laxmi Nagar, District Centre Delhi -110092	SAIL	
	(iv)	M/s JS W Steel Ltd, JSW Centre Bandra Kurla complex, Bandra (East), Mumbai – 400051	NEOSTEEL	TMT Bars of Gde Fe-500, Fe-500D (for 8 to 40mm dia only)
	(v)	Concast Steel & Power Ltd. Kolkata, 21 Hemant Basu, Sarani, Suit Nos 511 & 512, 5 <sup>th</sup> Floor Kolkata – 700 001.	CONCAST MAXX	TMT Bars of Gde Fe-500 (for 8 to 32mm dia only)
	(vi)	Electrosteel Steels Ltd, Bokaro, Jharkhand, GK Tower 2 <sup>nd</sup> & 3 <sup>rd</sup> Floor , 19 Camac Street, Kolkata (WB) -700017	ELECTROSTEEL	TMT Bars of Gde Fe-500D (for 8 to 36mm dia only)
	(vii)	M/s BDG Metal and Power Ltd, HMP House 4 Fairlie Place, 5 <sup>th</sup> floor Kolkata	BDG-6	TMT Bars of Gde Fe-500, Fe-500D, Fe-550D (for 8 to 32mm dia only)
	(viii)	M/s Rashmi Metaliks Ltd, Prem Lata Building 39, Shakespeare Sarani, 6 <sup>th</sup> Floor Kolkata – 700017	RASHMI TMT	TMT Bars of Gde Fe-500, Fe-500D, Fe-550D (for 8 to 25mm dia only)
	(ix)	M/s Supper Smelters Ltd Kolkata, Prem Lata Building 39, Shakespeare Sarani, 3 <sup>rd</sup> Floor Kolkata - 700017	SUPER SHAKTI	TMT Bars of Gde Fe-500, Fe-500D, Fe-550, (for 8 to 32mm dia only)
	(x)	Shri Bajrang Power & Ispat Ltd, Village – Borjhara, Urla Industrial Area Raipur-4933221(Chhattisgarh)	GOEL TMT	TMT Bars of Gde Fe-500, Fe-500D (for 8 to 32mm dia only)
	(xi)	Shyam Steel Industries Ltd, Shyam Towers EN-32, Sector V, Salt Lake, Kolkata -700091	SHYAM TMT	TMT Bars of Gde Fe-500, Fe-500D & CRS
	(xii)	SRMB Srijan Pvt Ltd, SRMB House 7, Khetra Das Lane Kolkata – 700012.	SRMB	TMT Bars of Gde Fe-500, Fe-500D, Fe-550, Fe-550D (for 8 to 32mm dia only)
	(xiii)	SPS Steel Rolling Mills Ltd, Elegant Towers 68A, Ballygunge Circular Road, Kolkata -700091.	ELEGANT TMT	TMT Bars of Gde Fe-500, Fe-500D, Fe-550
	(xiv)	Steel Exchange India Ltd, My Home Laxminivas, Apartment, Ameerpet Hyderabad-500016 (AP).	SIMHADRI TMT	TMT Bars of Gde Fe-500, Fe-500D
	(xv)	M/s Jindal Steel & Power Ltd, OP Jindal Road, Hissar, Haryana – 125005	JINDAL PANTHER	TMT Bars of Gde Fe-500, Fe-500D, Fe-550 & Fe-550D
	(xvi)	M/s Shyam Metallics & Energy Ltd, Viswakarma 1 <sup>st</sup> floor 86C, Topsia Road, Kolkata -700046	SEL	TMT Bars of Gde Fe-500, (for 8 to 32mm dia only)
	(xvii)	M/s Kamachi, Sponge & Power Corporation Ltd, ABC Trade Centre, 3 <sup>rd</sup> Floor (Inside Devi Theatre Complex), Old No. 50, New No.39, Anna Salai Chennai -600002	KAMACHI	TMT Bars of Gde Fe-500, Fe-500D, Fe-550 & Fe-550D, HCRM (for 8 to 40mm dia only)
	(xviii)	M/s Jai Balaji Industriwes Ltd , 5 Bentek Street, Kolkata-700001	BALAJI SHAKTI	TMT Bars of Gde Fe-500, Fe-500D,
	(xix)	M/s Real Ispat and Power Ltd, Vrindavan, Near IDBI Bank, Civil Lines, Raipur - 492001	G K TMT	TMT Bars of Gde Fe-500, Fe-500D FOR 8 TO 36MM dia only)
	(xx)	M/s Gallantt Metal Ltd, Ward 10 BC, Plot No. 123, Ground Floor, Gandhi Dham, Kutch , Gujrat – 370201	GALLANTT TMT	TMT Bars of Gde Fe-500, Fe-500D, CRS (for 8 to 32mm dia only)
	(XXI)	Jindal Steel and Power Ltd, Jindal Centre, Plot No 2, Sector - 32, Gurgaon-122001	JINDAL	Structural Steel(Angle, Beam, Column, Channel & Plate)

APPROVED STRUCTURAL STEEL MANUFACTURER FOR MES WK

Ser No.	Make	Brand	Type of steel
1	Rashtriya Ispat Nigam Limited, Visakhapatnam Steel Plant, Visakhapatnam -530 031	RINL	Structural Steel (Angle, Beam, Column, Channel, Plate).
2	Tata Iron & Steel Company, Bombay House -2, 4 Homi Modi Street , Mumbai -400001 (India)	TATA	-do-
3	Steel Authority of India Limited, Central Marketing Organisation, Northern Region, 17 <sup>th</sup> Floor, Scope Minar, Laxmi Nagar, District Centre Delhi -110092	SAIL	-do-
4	Jindal Steel and Power Ltd, Jindal Centre, Plot No 2, Sector - 32, Gurgaon -122001	JINDAL	-do-

(b) SECONDARY PRODUCERS OF STRUCTURAL STEEL

- (i) KL Steel Pvt Ltd, Post Box No. 61, Lal Kuan, Bulandshahar Road, Ghaziabad (U.P)  
(Tele : 0120-2867911, 2867915, Fax : 0120-2867917)

(ii) Shri Badrinarain Alloys & Steels Ltd, 95, Stephen House, 4 BBD Bag, Kolkata – 700 001  
(Tele : 033-2220 5381 / 2248 1601, Fax : 033-2248 8664)

(iii) Pushpak Steel Industries Pvt Ltd, Gate No 119, Alandi Market Road, Dhanore, Tah Khed, Pune (Tele-Fax : 020-26444700/070)

(iv) Supreme Alloys Pvt Ltd, AN-28 to AN-33 & CN-132, Masoori Gulaoti Road, Ghaziabad UP (Ph : 0120-3244225-27, 3244429, 3291349, Fax : 0-120-280077)

(v) SRMB udyog Ltd, 46, BB Ganguli Street, Kolkata – 700 007 (Tele : 2236 9999)

(vi) Shree Parashnath Re-RollingMill Ltd, 4 C Maharshi Devendre Road, 3<sup>rd</sup> Floor, Kolkata 700 007) (Ph : 033-2274 0045/4475, Fax : 0332274 0039)

(vii) Tata Steel Struicture, Tata Steel Tube Division, Jeevan Tara Building, 1<sup>st</sup> Floor, 5 Sansad Marg, New Delhi – 110001 (Tele : 991112334, 264601734, 309983, 309986)

(viii) KL Concast Pvt Ltd, Z-18, Naraina, New Delhi.

(ix) Karam Steel Corp, Nasrali Road, PO Box No. 56, Mandi Gobindgarh

3	ALUMINIUM WORKS		
	(i)	For aluminum section for doors, windows frame, fixed glazing, partition.	HINDALCO, JINDAL, FENESTA, INDALCO, <b>INDAL, VALCO INDUSTRIES LTD CHANDIGARH, BANCO ALUMINIUM LTD VADODARA GUJRAT.</b>
	(ii)	Aluminum composite panel	ALCO BOND, ALUMINIUM CLAD, ALSTRONG, ARMSTRONG, <b>ALSTONE.</b>
	(iii)	EPDM gasket for Aluminum section	MAHAVIR ALUMINIUM LTD DELHI. HYDRO ALUMINIUM EXTRUSION BUILDING SYSTEMINDIA LTD (HAEBSIL), DELHI SUPERIOR ENTERPRISES, GURGAON.
4	ROOFING		
	(a)	APP Sheet & Bitumen Primer	ARMOURSHIELD, BENGAL BITUMEN, TEXSA INDIA LTD, TORCHTAR MEMBRANES & BITUMEN PRODUCTS PVT LTD, STP, PIDILITE INDUSTRIES LTD, IWL INDIA LTD, TIKI TAR, <b>M/S SIKA INDIA PVT LTD., SUPERSHIELD.</b>
	(b)	Integral Liquid Water Proofing Compound/ <b>Chemicals.</b>	M/S SIKA INDIA PVT LTD, CICO , M/S STP, M/S FOSROC, M/S ROFF CHEMICALS, M/S PIDILITE, M/S WATER SEAL, M/S IMPERMO, M/S ACCOPROOF, <b>M/S MARUTI BIYUMEN PVT LTD.</b>
	(c)	Galvanised corrugated and Plain Sheet, Colour Coated galvanized steel sheet	TATA, JINDAL, SAIL, <b>CRIL, PRESTAR, BHUSHAN, AONE INDUSTRIES, JSW.</b>
	(d)	Pre Engineered /Pre-painted Galvalume Sheets	<b>JSW,TATA,JINDAL,DYAN ROOFING PVT LTD.</b>
	(e)	AC Sheets/Board	CHARMINAR, EVEREST, RAMCO, UP ASBESTOS LTD, SWASTIK, <b>M/S ETERNIT EVEREST LTD.</b>
	(f)	Polycarbonate sheets	DUROTUFF, LEXA, SUNLITE (VMI PLASTIC), COXWELL DOMES ENGG PVT LTD, <b>FIBREWAYS.</b>

APPENDIX ‘B’

MAKES OF PRODUCTS

	(g) PVC Rain Water Pipes with fitting	DIPLAST, FINOLEX, KISSAN, PRINCE, RELIANCE, SUPREME, KPT, VECTUS.
5	CEILING,LININGS & JOINERY	
	(a) Medium Density Fibre (MDF) & MDF Pre-laminated Board	MYSORE CHIP BOARD LTD, MANGALAM TIMBER PRODUCTS, KOLKATA,KITPLY, BHUTAN BOARD. NOVAPAN, RAMCO INDUSTRIES, DECO,GREEN PANEL MAX, PDE COR,CENTURY PLY (Prowud MDF Board olny),PIONEER PANEL PRODUCT.
	(b) Plain /Veneered/Pre-laminated Particle Board.	KITPLY, ARCHID PLY, DURA BOARD, BHUTAN BOARD, MYSORE CHIP BOARD LTD, GREEN FLY, NOVAPAN, BAKELITE HYLAM LTD, PDE COR,
	(C) Ply Wood	ARCHID PLY,DURA PLY,BHUTAN BOARD, ARCHID BOARD, CENTURY, MYSORE CHIP BOARD LTD, SWASTIK PLY, MERINO PLYWOOD INDUSTRIES, JAYNA PLYWOOD, DURIAN,NATIONAL PLYWOOD, PVT LTD KOLKATTA, M/S JANARDHAN PLY BOARD INDUSTRIES VENUS ,MAGNUS, VIRGO AND WROWN.
	(d) Gypsum Board	INDIA GYPSUM, LAFARGE, SON INDUSTRIES KANPUR, HI-STEEL, GYPROC, DEXUNE, GYPCORE.
	(e)Decorative laminates(for switch board of internal wiring also)	MERINO LAM, ARCHID LAM, GREEN LAM, SUNMICA, MYSORE CHIP BOARD LTD, BAKELITE HYLAM, FORMICA, SUNGLOSS, FORMICA, ECOLAM,
	(f) False ceiling frame and Tiles/Board (Gypsum Board/POP/Mineral Fibre)	ANCHOR, ARMSTRONG, GYPBOARD, DEXUNE, HI-STEEL, GYPROC, DIAKEN ,LLOYDS, LAFARGE BORAL, RELIANCE BIG SYSTEM,BPB INDIA LTD, SHREE NEPAL BOARDS, BHUTAN BOARDS, DURATUFF, V-BOARD (CEILING TILE & FIBRE CEMENT BOARD ONLY), GYPCORE.
	(g) Prefab Panel Board/Wall lining/Celing tiles.	LAFARGE, BORAL GUPSYM BOARD, SHRI NEPAL BOARD, AEROLITE CEILING SYSTEM, HILUX, ARMSTRONG, DEXUNE, V-BOARD, HI-STEEL.
6	FLOORING	
	(a) GLAZED CERAMIC/NON SKID WALL/FLOOR TILES.	AGL, SOMANY, QUTONE, ORIENT BELL, NITCO, JOHNSON, VITERO TILES.
	(b) VITRIFIED TILES (NORMAL/ANTI SKID)	AGL, VITERO, QUTONE, CERA, ORIENT BELL, SUNHEART CERAMIK, SOMANY, NITCO.
	(c)Acid proof Tiles	SOMANY, JOHNSON ENDURA
	(d) Tile Adhesive &Grout	BAL ENDURA, LATICRETE, WEBER (SAINT-GOBAIN), DR. FIXIT.
	(e)INTERLOCKING TILES, TEXTERIOR TILES/PAVER BLOCKS.	SURYA KIRAN, SOMANY, SITCO, POOJA CONCRETE, MOHINDRA INDUSTRIES,KB SPUN, SARAL IMPEX, HARIOM TILES & PAVERS.
	(f)PVC Tiles/Sheets(for floor)	WONDER FLOOR ,ARMSTRONG, PRIMER POLYFILM LTD, KRISHNA TILES, POLYFIN NEW DELHI, FIXOPEN MACHINERIES, RIKVIN FLOOT LTD NEW DELHI.
	(g) Glass Mosaic tiles	JOHNSON, ITALIA, CORAL MOSAIC, NITCO, ARIHANT, MRIDUL, UNISTONE, ACCURA, PALADIO, BISAZZA.
	(b)TERRAZZO TILES/PPC TILES CHEQUERED/TILES	SURYA KIRAN, SITCO, MOHINDRA INDUSTRIES.
7	FINISHES	
(A)	WHITE CEMENT BASED WALL PUTTY	ASIAN, BIRLA, JK.
(B)	CEMENT BASED PAINT	ASIAN PAINTS, BERGER, DURACEM, JENSON & NICHOLSON, BRITISH, BSC-CEM, SNOWCEM ACQUOLAC PAINTS, GODAVARI PAINTS, RAJDOOT PAINTS, CLASSIC PAINTS, ACROPAINTS, BSC, DULUX.

APPENDIX ‘B’

MAKES OF PRODUCTS

(c)	Oil Bound Distemper	ASIAN PAINTS, BERGER, NEROLAC, BSC, BRITISH.
(D)	Acrylic Distemper, washable distemper.	ASIAN PAINTS, BERGER ,NEROLAC, AKZONOBEL DULUX, JENSON & NICHOLSON, BRITISH, BSC MAX ACRYLIC, ICI DULUX,BRITISH ACRI SILK, SHALIMAR PAINTS, GODAVARI PAINTS, ACRO PAINTS, BRITISH 20-20 ACRYLIC.
(E)	PLASTIC EMULSION PAINT	ASIAN (ROYALE), BERGER (SILK), BSC, ACRO PAINTS, BRITISH.
8	GLASS	MODIGUARD, SAINT GOBAIN, TIRVENI.
9	LOOKING MIRROR	MODIGUARD, SAINT GOBAIN.
10	<u>PAINTING</u>	
(A)	<u>Primer (Red Oxide Sand Pink)</u>	ASIAN PAINTS, BERGER PAINTS, GOODLASS NEROLAC, JENSON & NICHOLSON, AKZONOBEL, DULEX.
(B)	Synthetic enamel paint	ASIAN PAINT (APCOLITE), BERGER PAINTS (LUXOL), GOODLASS NEROLAC (NEROLAC), JENSON & NICHOLSON (BOROLAC), AKZO NOBEL, ICI DULUX (DULUX), BSS AMERLLA ENAMEL, BRITISH (GLO HIGHGLOSS, YAK), AQUOLAC PAINTS, SHALIMAR PAINTS, ACRO PAINTS, BSC.
(c)	Exterior acrylic emulsion	ASIAN PAINTS (APEX ULTIMA, APEX WEATHER PROOF), AKZO NOBEL (WEATHER SHIELD MAX, WEATHER SHIELD), DULUX (WEATHER SHIELD MAX EXTERIOR), BERGER (WEATHER COAT SMOOTH, WEATHER COAT ALL GUARD), GOODLASS NEROLAC (NEROLAC EXCEL 100% EXTERIOR, EXCEL TOTAL, SURAKSHA ADVANCED), BRITISH (EXPA-7 ADVANCED, EXPA COOL), BSC.
11	<u>MISCELLANEOUS</u>	

(a)	KITCHEN SINK WITH WITHOUTDRAINING BOARD/STAINLESS STEEL , PLATE RACK	DIAMOND, NIRALI, SHAKTI, PRAYAG, JAINKO, CERA.
(b)	BITUMEN	HINDUSTAN PETROLEUM, INDIAN OIL CORPORATION & BHARAT PETROLEUM.
(c)	HDPE & LLDPE STORAGE WATER TANKS	SINTEX, PLASTO, VECTUS, SUPRAME.
(d)	Autoclaved Aerated Concrete Masonary Blocks (AAC Blocks)	AEROCON (M/S HIL TD), INSTA BLOCK (M/S INDO BHUTAN SOLUTION), ACE (M/S BILTECH BUILDING ELEMENTS), MODCRETE, CLAVECON.
12	<u>SANITARY,WS &amp; PLUMBING WORKS</u>	
(a)	CI spun pipes	M/S JAYASWALS NECO LTD, HINGNA ROAD,NAGPUR-440016,ASHUTOSH CASTING LTD, NAGPUR,M/S ANAND FOUNDERS & ENGINEERS, UTSIDE HANDARI GATE,BATALA (PUNJAB), M/S BINAY UDYOG PVT LTD, VEETUS INDUSTRIES LTD, M/S BENGAL IRON CORPORATION.
(b)	CP BATH FITTINGS	CERA, PRAYAG, HINDWARE, KOHLER, AP ROYAL, BATHSENSE.
(c)	Vitreous China Sanitary Appliances	CERA, PRAYAG, HINDWARE ,KOHLER, AP ROYAL, BATHSENSE.
(d)	PVC FLUSHING CISTERN	PARRYWARE, SHAKTI, PRAYAG ,HINDWARE, SUPREME.
(e)	TOILET SEAT COVER	PRAYAG, PRARYWARE, CERA ,JAINKO.
(f)	BLANK	
(g)	Bathroom cabinet with mirror	CERA, JAQUAR, PARRYWARE, COMMANDER, PRAYAG, PEARL, ALPINA.

APPENDIX ‘B’

MAKES OF PRODUCTS

(h)	BRASS VALVES	PRAYAG, ZOLOTO, &T VALVES, AMCO, VIP VALVES.
(i)	PTMT BATH FITTING, PVC CONNECTION	PRAYAG, POLYTUFF, SHAKTI, SANITUFF, CENTURY, PEARL, MILLENNIUM AJANTA POLYMERS.
(j)	WC Seat & Solid Bakelite Thermostat moulded seat cover	JAQUAR, PARYWARE, SOMANI, COMMANDER,CERA,NYCER, PRAYAG, MILLENNIUM, SUPREME, POLYTUFF
(k)	Sealing compound for pipe joints and sanitary itmes	MC BOUCHIME, ROOFEX, FORRE, CHOUKSEY CHEMICALS LTD, DR BECK & COY,FOSROC.
(l)	CI PIPES/ FITTINGS (for Sewerage/ Rain Water)	HEPCO (BINAY UDYOG), NECO (JAYASWAL), SKF, SRIF, HINDUSTAN ENGINEERING PRODUCTS, JINDAL SAW, ELCTROSTEEL, KESORAM, BIC, ASHUTOSH CASTING LTD, M/S BANGAL IRON CORPORATION, SINGHAL IRON FOUNDRY,VEETUS INDUSTRIES LTD,ANAND FOUNDERS &ENGINEERS, BIC,NFL.
13	<b>E&amp;M ITEMS</b>	
(c)	PVC WIRES & CABLES- 650/1100 VOLTS	KEI, HPL, ANCHOR, GEMSCAB,CRYSTAL, ULTARCAB, DYNAMIC CABLES, ATC, GM&G, CMI, POLYCAB, STANDARD, HAVELLS, BENLO GLOSTER, GRANDLAY, FINOLEX, ELEKTRON, PARAGON.
(d)	Piano type Switch & Socket, lamp holder, Ceiling Rose, Electric Bell/Fan Regulator	SSK, LEGRAND, CRABTREE, SCHNEIDER, PHILIPS, ANCHOR, BAJAJ KINJAL.
(e)	Fluorescent tube light fittings, T-5 fittings, Ceiling/down/spot lights, domestic lights & lamps	BAJAJ, CROMPTON GREAVES, PHILIPS, WIPRO, HALONIX, HAVELLS.
(f)	TUBE LIGHT/ STREET LIGHT FITTINGS & ACCESSORIES	POLYCAB, HALONIX, HPL, SURYA, C&S ELECTRIC, HAVELLS.
(g)	MCCBS	C&S ELECTRIC, INDO ASIAN, STANDARD, HPL, HAVELLS, ANCHOR, BENLO.
(h)	MODULAR SWITCH/SOCKETS/FAN REGULATORS	INDO ASIAN, LEGRAND CRABTREE, SCHNEIDER, C&S ELECTRIC, HAVELLS, HPL, POLYCAB, ANCHOR, SSK, GM&G, BENLO, PHILIPS.
(i)	CFL Lamp & FITTINGS	PHILIPS, CROMPTON GREAVES, BAJAJ, WIPRO, HIGHTECH, EON, HALONIX, OSRAM, SURYA, HPL, HAVELLS, C&C ELECTRIC.
(j)	LED LAMPS	CCLAIR, EVEREADY, POLYCAB, PHILIPS, CROMPTON, OSRAM, BBAJAJ, HALONIX, BENLO.
(k)	CFL FITINGS	PHILIPS, CROMPTON GREAVES, OSRAM, BAJAJ, HALONIX, WIPRO, C& S ELCETRIC, HAVELLS, HPL, ANCHOR.
14	MCB/ELCB/RCCB/RCBO/ISOLATORS/MCB DISTRIBUTION BOARD	IINDO ASIAN, C&S ELCTRIC, HAVELLS, BENLO, HPL AANCHOR, CRYSTAL, SSK, GM&G Legrand ABB SCHENIDER.
15	STEEL TUBULAR DECORATIVE POLES OCTAGONAL/HIGH MAST LIGHT AND POLE	C & S ELECTRIC, CROMPTON GREAVES, HAVELLS. BAJAJ, FINOLEX,HOMEDec, KEI, RALLISON, SURYA, NICCO, PARAGON, GEMINI, GRANDLAY, POLYCAB, PLAZA, ESTANDARD,KALINGA GOLD, GEMSCAB,INDO ASIAN, HPL, SHALABH, LBEE, VRONICA, EON, PARUTHI ELECTRICALS.
16	WATER COOLERS	VOLTAS, BLUE STAR, SHRIRAM, USHA, SIDHWAL.

APPENDIX ‘B’  
MAKES OF PRODUCTS

17	RIGID PVC CONDUIT PIPES	VPL, KALINGA, PLAZA.
18	LAMP HOLDER	PHILIPS, SSK, LEGRAND, WIPRO, HAVELLS, ANCHOR CONA, MDS
19	LED LIGHTS, PANEL & LUMINARIES INDOOR	PHILIPS, OSRAM, CROMPTON GREAVES, HAVELLS, BAJAJ, SURYA ROSHNI, WIPRO, JAQUAR, BENLO, ELEKTRON, SYSKA LED, HPL, C&S ELCTRIC, KALINGA PREMIUM, HALONIX, POLYCAB, INSTA POWER, ORISON, EON, HIGHTECH, IMPERIAL, CELLS KI, PYROTECH, CLAIR, RR ELECTRIC, OPULUS, ORIENT, SSK, FIEM, ATC, IB LED, KESELEC, HPL.
20	SMART/TAMPER PROOF ENERGY METERS (DIGITAL TYPE)	NEPTUNE, HPL, L&T, SECURE.
21	FANS (CEILING, EXHAUST, WALL, TABLE & PEDESTRAL FANS)	BAJAJ, CROMPTON GREAVES, HAVELLS, POLYCAB, ANCHOR, RR ELECTRIC, KHAITAN, USHA, ORIENT.
22	STORAGE, WATER HEATER GLS	CROMPTON GREAVES, BAJAJ, BAMCO, USHA. RR ELECTRIC, AO SMITECH.
	GI PIPE/MS CONDUIT/ERW CONDUIT PIPE	VPL, AKG, BEC, BHARAT STEEL TUBE, JINDAL.
23	<u>WATER SUPPLY ITEMS</u>	
24	GI PIPES /MS PIPES / GI FITTINGS	VPL, JINDAL, TATA, OSWAL, BST.
25	DI PIPES / CI PIPES & FITTINGS	JINDAL, TATA, TATA METALIKS, TATA KUBOTA.
26	HDPE / UPVC/ PPR PIPES	VPL, DUTRON, FINOLEX, SFMC, PRINCE, SUPREME.
27	SLUICE VALVE/ NON RETURN VALVE/ FOOT VALVE/ REFLEX VALVE/ AIR RELEASE VALVE/ HYDRANT VALVE/ GATE VALVE.	PRAYAG, SHAKTI, KIRLOSKAR, ZOLOTO, LEADER , L & T (AUDCO)
28	GUN METAL GATE VALVE/GLOVE VALVE/VALVE/HORIZONTAL & VERTICAL CHECK VALVE	KRILOSKAR, LEADER, L&T (AUDCO) AINN.
29	FLOAT VALVE	PRAYAG, SHAKTI, AIRAEURO, AGROTECH, TELEFLO, TECHNO INTERNATIONAL.
30	PPR / PVC PIPES AND FITTINGS	KPT, VECTUS, DIPLAST.
31	HDPE & LLDPE STORAGE WATER TANKS	SINTEX, PLASTO, VECTUS, SUPEREME.

**MAKES/ BRANDS OF B/R ITEMS**

<b>S No</b>	<b>Product</b>	<b>Makes/Brand</b>
1	Pressed Steel Door Frames / Chowkhats for Doors / Cupboard and Window frames	M/s SK Steel Fabricators Ludhiana, M/s Sehgal Doors, New Delhi, M/s Bhawani Steel Fabrication, Gaziabad, M/s India Mart Intermesh Ltd, Hyat Interiors, Ashish Industries, Shivam Metal Shapers
2	Steel Windows / Vents	Agew Steel Manufacturer Pvt Ltd, Ahmedabad, Multiwyn Industrial Corp Kolkata, Satkar Industries, Pathankot Rd Jalandhar, Arcat, Ashish Industries, Shivam Metal Shapers.
3	Rolling Shutters & Rolling Grills	Swastik Rolling Shutters & manufacturing works, Mumbai, Hercules Rolling Shutters Bangalore, Standard Industries Pune
4	Factory made Panelled Door Shutters	M/s MP Wood Product Indore, M/s Jainwood Industries (Jayana Board) Delhi, M/s Jain Doors Pvt Ltd, Sonipat.
5	Factory made Flush Door Shutters	M/s Green Ply Industries,, M/s Century Ply, M/s Dura Ply Mysore Chip Board, Archid, Swastik Ply Wood, M/s Jain Wood Industries.
6	PVC Door Frame / Shutters	Sintex, Rajshriplastiwood Ltd, M/s Dura Plast Extraction Pvt Ltd, M/s Fenesta
7	UPVC Windows/Doors	Fenesta, Veka Industries Pvt Ltd Mumbai, Kundli Industries Estate Sonipat, H2O Solutions
8	Iron Mongery	Mowjee, M/s Kitch Architectural Product Pvt Ltd, RS Industries.
9	Standard Mortice lock	Godrej, Harrison, Link
10	Hydraulic Door Closer	Everest, Universal, Godrej
11	Anodised Aluminium Doors / Windows/Frames / Partitions	Fenesta, Jindal, Indal, Hindalco
12	Aluminium Section	Hindalco, Jindal, Indal.
13	Aluminium Sheets	Nalco Pvt Ltd, CRIL, Jindal, BALCO
14	Aluminium Composite Panels	ALCO Bond, Aluminium Clad, Alstrong, Armstrong
15	Particle Board (Veneered &Univeneered Laminated)	Kitply, Nova Pan Industries, New Delhi, M/s Green Ply Industries Ltd, Archid Ply, Bhutan Board, Dura Board Mysore Chip board Ltd.
16	Plywood for General Purposes	Dura Ply, Archid Ply, Bhutan Board, Archid Board, Century, Durian, Mysore Chip Board Ltd
17	Decorative Laminates	Archid Lam, Sunmica, Meriono, Lam, Mysore Chip Board, Greelam
18	Fibre Board (Medium Density)	Novapan, Bhutan Board, Kit Ply, Mysore Chip Board Ltd, Green Panel Max (plain exterior Grade MDF/Prelam / Veneered MDF / Green Floormax Laminated)
19	Pre Fab Panel Boards / Wall lining ceiling tiles	Lafarge, Boral Gypsum Board Pvt Ltd, Shri Nepal Board Ltd, Aerolite Ceiling System Pvt Ltd, Hilux, Armstrong, V Board
20	Galvanised steel sheets & colour coated galvanized steel sheets	SAIL, TATA, Jindal, Bhushan
21	Galvalume Sheets	Indian Ispat, TATA Blue scope, JSW, BhushanGalvacolor



S No	Product	Makes/Brand
22	AC Sheets/AC Boards (Corrugated, Semi Corrugated)	Charminar, Ramco, Everest
23	Gypsum Board	India Gypsum, Lafarge, Son Industries, Kanpur
24	PVC Tiles/Sheet	Primer Polyfilm Ltd, Wonder Floor, Armstrong
25	Terrazzo Tiles / PPC Tiles / PPC Chequered tiles	NTC, NITCO, Eurocon, Duracrete
26	Interlocking Tiles / Exterior Tiles / Paver Blocks	Unistone, NTC, NITCO, Ultra, Johnson, Surya K
27	Glazed Earthen Ware Tiles	H&R Johnson, Somani
28	Glazed Ceramic / Non Skid Wall / Floor Tiles	H & R Johnson, Cera, Unistone, Somani, NITCO, Eurotiles, Spartek, Cengres, Simpolo, Sunheart, Varmora
29	Vitrified Tiles (Normal / Anti Skid)	Somani, Johnson, Orient Bell, NITCO, Cengres, Simpolo, Sunheart, Varmora
30	HDPE Storage Water Tanks	Sintex, Polycon, Sheetal
31	Sanitary Appliances / fittings (Chinaware)	Hindustan Sanitary Ware, Parryware, Cera, Jaguar, Neycer, Simpolo, Somany
32	Water Closet seats and cove (Solid Bakelite) Thermostat Moulded toilet seat cover	Parryware, Jaguar, Somani, Commander, CERA, Neycer
33	PVC Flushing Cisterns	Hindustan Sanitary Wares, Commander, Parryware, Cera, Jaguar, Johnson, Pedar, Neycer
34	CI Flushing Cistern	Hindustan Sanitary Ware, Parry ware, Orient Sanitary Ware
35	Stainless steel kitchen sink with or without Draining Board, Plate Rack.	NIRALI, Kobra, Neelkanth, Jayna, Blue Star
	Stainless steel plate rack	SPC
36	Ball Valves (Horizontal Plunger Type)	Dripless Faucets India, Flowjet, Ball Valves India
37	Shower Roses Chromium Plated (Swivel Type)	GEM , Jaguar, Jal
38	Bath Room Fancy Fittings	Jaguar, GEM, MARC, Jalangi
39	Bib Taps and stop taps (CP) Fancy fittings	JAGUAR, PARKO, GEM, Marc, ESS ESS, Jalangi
40	Ready Made Bathroom Cabinets	Jaguar, Cera, Commander, Parryware
41	Salt Glazed Stone Ware Pipes / Glazed Stone Ware Pipes	Devraj Industrial, Buran, Perfect Sanitary Pipe, Supreme Pipe and fittings.
42	Concrete Hume Pipes	Indian Hume Pipe Company
43	AC Pipes	Hyderabad Asbestos, Everest, Ganga Asbestos, Konark Cement and Asbestos
44	PVC Rain Water Pipe / sewage pipes	Supreme, Finolex, Reliance

45	GI Pipe / fittings	Jindal, TATA, NECO, UNCO Steel Industries, Bharat Steel Tube Delhi, Bhushan, APL Applo.
46	CI Pipes fittings (for Sewarage/Rainwater)	SKF, SRIF, Singhal Iron Foundry, Hindustan Engineering Products, Jindal Saw, NECO (Jayaswal), HEPCO (BinayUdyod)
47	Soil Waste Pipes fittings/steel manhole cover	SKF, Singhal Iron Foundry, NECO, SILC
48	PPR Pipes	SFMC, SAFE, WETFLOW
49	HDPE Pipes/SNR Pipes (Water/Sewage)	Gamson India, Dustron, Rex Polyextrusion Ltd, SRIF, SKF
50	Sand Cast Iron Spigot & Socket Soil Waste, vent pipes & fittings	SRIF, RIF (Gola Castings), NECO (Jayaswal), HIF
51	Cement Based Paints	Snowcem, Asian, Jenson & Nicholson, Berger, Duracem, British Xtracem
52	Dry Distemper/Oil Bound Distemper/Plastic Emulsion/Exterior emulsion/Silicon Paints & Coating	Goodlass, Nerolac Paints, Jenson & Nicholson, Berger Paints, ICI Dulux, Asian Paints, British Acri Silk
53	Plastic Emulsion Paint	Berger (Silk, Rangoli easy clean), Asian (Royale, Apcolite advance), Akzo Nob el (Velvet touch), Nerolac (Impression ecoclean, impression 24 carat), British (Splendor Luxury)
54	Paint Exterior	Berger (Weather Coat all guard), Asian (Apex Ultima), Akzo Noble (Weather shield max), Nerolac (Excel total), British (Expa-7 Advanced)
55	Synthetic Enamel Paint	GoodlassNerolac Paints, Jenson & Nicholson, Berger Paints, ICI Dulux, Asian Paints, British (GloHighgloss)
56	False Ceiling Tiles / Board (Gypsum Board/POP/Mineral Fibre)	Lafarge Boral, Gyproc, Armstrong, Diaken, Lloyds, Luxalong, Dexune V-Board,
57	Drapery rods	Vista Levalor
58	Mirror looking	Saint Gobain, Modi Float, Triveni Float Glass
59	False Ceiling /Metal False Ceiling	Gypboard Armstrong , Anchorlam, Anchor, Hi Steel, Dexune
60	PTMT fitting	PRAYAG, Shakti, Polytuf
61	Rolled Frames GI Section windows (Pre painted / colour coated)	Ashish Industries
62	PVC Wall Panelling	HR
63	HDF/PVC Door frame shutter	HR
64	MS Pipes	APL Appolo, Bhushan
65	Window Blinds	Wintree
66	APP	IWL,ShivaBitumen,Bengal bitumen.

NOTES : -

- (i) In case of conflict of stipulated makes in different parts of bid/tender documents, then the order of precedence is as under : -
- Schedule 'A'/BOQ
  - Particular Specifications
  - Appendix i.e MAKES OF PRODUCTS TO BE INCORPORATED IN WORK

**SIGNATURE OF CONTRACTOR**

**DATED:**\_\_\_\_\_

**AGE(I) DAPPAR**

**ACCEPTING OFFICER**

**SOURCES OF MATERIALS**

SRL No	NAME OF MATERIALS	SOURCES/QUALITY
1	2	3
1.	SAND FOR PLASTERING, POINTING AND MORTAR FOR MASONRY	SAND FROM GHAGGAR RIVER NEAR MUBARAKPUR, CHANDIGARH
2.	SAND FOR PLAIN CONCRETE AND FOR SUB BASE OF FLOOR AND COARSE SAND FOR REINFORCED CONCRETE.	-DO-
3.	SAND FOR FILLING UNDER FLOOR.	-DO-
4.	COARSE AGGREGATES FOR PLAIN AND REINFORCED CONCRETE.	BROKEN/CRUSHED STONE AGGREGATE OUT OF BOULDERS OBTAINED FROM GHAGGAR RIVER AND CRUSHED ZONE LOCATED NEAR CHANDIMANDIR AND ZIRAKPUR.
5.	AGGREGATE FOR SOILING AND WBM.	BROKEN STONE AGGREGATE
6.	HARD CORE	-DO-
7	AGGREGATE FOR PREMIX	CRUSHED STONE AGGREGATE
8.	BRICKS/BRICK TILES	LOCAL (SUB CLASS 'B' BRICKS), OLD SIZE, BEST AVAILABLE OF SPECIFIED STRENGTH.

**NOTE:** SOURCE OF MATERIALS SHALL BE AS GIVEN IN COL 3 ABOVE OR IN VICINITY THEREOF. THE TENDERER SHALL ASCERTAIN THE ACTUAL POSITION/LOCATION OF SOURCE BEFORE SUBMITTING HIS TENDER. THE CONTRACTOR SHALL BE DEEMED TO HAVE ASCERTAINED THE LOCATION/ACTUAL POSITION OF SOURCE. WHETHER THE CONTRACTOR ACTUALLY ASCERTAINS THE AVAILABILITY AND ITS DISTANCE FROM THE SITE OF WORK OR NOT, NO CLAIM SHALL BE ENTERTAINED ON THIS ACCOUNT FOR ANY REASONS WHATSOEVER.

**SIGNATURE OF CONTRACTOR**  
**DATED:\_\_\_\_\_**

**AGE(I) DAPPAR**  
**ACCEPTING OFFICER**

Appendix ‘D’

TESTING OF MATERIALS									
Srl No.	Materials	Test	Method of testing	Frequency of tests			Level of test	Rate per test Rs. Ps.	Remarks
1	2	3	4	5			6	7	8
1.	Bricks	i. Compressive strength	IS-3495 (Part-II)	As per IS-5454 as given under:			A	330/-	Checks for visual and dimensional characteristics shall also be carried out as per IS-5454.
		ii. Water absorption	IS-3495 (Part-II)				A	330/-	
		iii. Efflorescence	IS-3495 (Part-I)	Lot size	Sample size	Permissible No. of defective bricks			
				1001 to 10000	5	0			
				10000 to 35000	10	0			
		35001 to 50000	15	1					
2.	Coarse aggregate	i. Sieve Analysis	IS-2386 (Part-I)	One test for every 15 Cum of aggregates or part thereof brought to site.			A	660/-	<b>LEGEND:</b> A – Site Lab B – Zonal Lab C – National test house/ SEMT wing, Pune/ Engg. College
		ii. Flakiness Index	IS-2386 (Part-I)	-do-			A	250/-	
		iii. Estimation of deleterious material	IS-2386 (Part-I)	One test for every 100 Cum of aggregates or part thereof brought to site.			A	600/-	
		iv. Organic impurities	IS-2386 (Part-I)	One test for source of supply			B	275/-	
		v. Moisture Content	IS-2386 (Part-II)	Regularly as required			A	330/-	
		vi. Specific Gravity	IS-2386 (Part-II)	One test for each source of supply			B	330/-	
3.	Fine aggregate	i. Sieve analysis	IS-2386 (Part-I)	One test for every 15 Cum of aggregates or part thereof brought to site.			A	660/-	
		ii. Test for clay, silt and impurities	IS-2386 (Part-II)	-do-			A	330/-	
		iii. Specific gravity	IS-2386 (Part-II)	One for each source of supply			B	330/-	
		iv. Moisture content	IS-2386 (Part-II)	Regularly as required subject to 2 tests per day when being used.			A	330/-	
		v. Test for organic impurities	IS-2386 (Part-II)	One test for each source of supply.			B	275/-	

APPENDIX 'D' (Contd..)  
TESTING OF MATERIALS

1	2	3	4	5	6	7	8										
4	Cement	(i) Setting time	IS: 4031-63 Affirmed 1980	One for each consignment as and when required	‘B’	500.00											
		(ii) Soundness	-Do-	-Do-	‘B’	550.00											
		(iii) Compressive strength	-Do-	-Do-	‘B’	550.00											
		(iv) Fineness (By Blaine Air Permeability Method)	-Do-	-Do-	‘B’	275.00											
5	Structural Concrete (M-15 Grade & above)	(i) Slump test or compacting factor test or vee-bee time	IS:1199-1959	<table><tr><td colspan="2">The minimum frequency of sampling of concrete of each grade shall be as under:-</td></tr><tr><td>Qty of concrete in the work</td><td>No. of Samples</td></tr><tr><td>1 to 5 cum</td><td>1</td></tr><tr><td>6 to 15 cum</td><td>2</td></tr><tr><td>16 to 30 cum</td><td>3</td></tr></table>	The minimum frequency of sampling of concrete of each grade shall be as under:-		Qty of concrete in the work	No. of Samples	1 to 5 cum	1	6 to 15 cum	2	16 to 30 cum	3	‘A’	300.00	(i) Random sampling shall be carried out to cover all mix units. (ii) Refer IS 456-2000 clause 14 for frequency of sampling
The minimum frequency of sampling of concrete of each grade shall be as under:-																	
Qty of concrete in the work	No. of Samples																
1 to 5 cum	1																
6 to 15 cum	2																
16 to 30 cum	3																

APPENDIX ‘D’ (Contd..)  
TESTING OF MATERIALS

1	2	3	4	5	6	7	8						
				<table><tr><td>31 to 50 cum</td><td>4</td></tr><tr><td>51 cum &amp; above</td><td>4 plus 1 additional sample for each 50 cum or part thereof.</td></tr><tr><td colspan="2">* Clause 15.2 of IS-456-2000</td></tr></table>	31 to 50 cum	4	51 cum & above	4 plus 1 additional sample for each 50 cum or part thereof.	* Clause 15.2 of IS-456-2000				
31 to 50 cum	4												
51 cum & above	4 plus 1 additional sample for each 50 cum or part thereof.												
* Clause 15.2 of IS-456-2000													
		(ii) Compressive Strength	IS: 516-1959	-Do-	‘A’	900.00	-Do-						
6	(a) PCC block for walling (Hollow blocks)	(i) Compressive strength	IS:2156-1984 ( Appendix 'B' )	8 block out of 14	‘A’	900.00	Samples:14 blocks for consignment of every 5,000 blocks or part thereof.						
		(ii) Water absorption	IS:2156-1984 ( Appendix 'E' )	3 blocks out of 14	‘B’	330.00	3 blocks shall be reserved for retest as per IS: 2185 – 1979						
		(iii) Density	IS:2156-1984 (Appendix 'A' )	3 blocks out of 14	‘B’	330.00							
	(b) PCC solid block for walling	(i) Compressive strength	IS: 2185-1979 (Part II)	12 blocks out of 18	‘A’	900.00	Sample :18 blocks from each Consignment of every 1,000 blocks or part thereof.						
		(ii) Water absorption	-Do-	3 blocks out of 18	‘B’	330.00	These blocks to be checked for dimension and weight						
		(iii) Density	-Do-	3 blocks out of 18	‘B’	330.00							
7	Cement Flooring tiles/ Terrazzo tiles	(i) Water absorption	IS:1237-1980 (Appendix 'D' )	6 tiles out of 18	‘B’	330.00	Samples of 18 tiles from each source of supply selected at random.						
		(ii) Wet transverse strength	-Do- (Appendix 'E' )	-Do-	‘B’	660.00							
		(iii) Resistance to wear	-Do-(Appendix 'F' )	-Do-	‘C’	1000.00							

**APPENDIX 'D' (Contd..)**  
**TESTING OF MATERIALS**

1	2	3	4	5	6	7	8
8	Burnt clay roofing tiles (Hand made)  As per IS:2620 (Part II) Length 150 mm to 250 mm Width 100 mm to 200 mm Thickness 35 mm to 50 mm	(i) Water absorption	IS:3495-1992 (Part-II)	6 tiles out of 12	'B'	216.00	Sample : 12 tiles from each source of supply selected at random
		(ii) Compressive strength	-Do-	-Do-	'A'	180.00	
9	Mangalore Pattern roofing tiles	(i) Water absorption	IS: 654- (Appendix 'A')	6 tiles out of 32	'A'	-	Sample: 32 tiles from each consignment of 3,000 tiles or part thereof. These tiles shall be checked for dimension
		(ii) Breaking Load	IS: 654- (Appendix 'C')	-Do-	'B'	180.00	
10	Timber	(i) Specific gravity and weight	IS:1708-1986 (Part II)	Minimum 3 samples from lot of 4 Cum or 250 pieces of seasoned timber.	'B'	120.00	
		(ii) Moisture content	-Do- (Part I)	-Do-	'A'	120.00	
11	Water for construction purposes	(i) Test for Acidity	IS:456, 3015	Once at the stage of approval of source of water.	'B'	500.00	Also refer clause 4.3 of IS:456 and its subsequent sub clauses regarding suitability of water
		(ii) Test for Alkalinity	-Do-	-Do-	'B'	500.00	
		(iii) Test for solid contents	-Do-	-Do-	'B'	500.00	
12	Welding of steel work	Visual inspection test	IS-822-1970 Clause 7.1	100% by visual inspection	Work site	360.00	Specialised tests their method & frequency to be decided on consideration of their importance by the Accepting Officer.

APPENDIX 'D' (Contd...)  
TESTING OF MATERIALS

1	2	3	4	5	6	7	8
13	Timber panelled and glazed door/ window and shutters	(a) Dimensions ,sizes, workmanship and finish	IS:1003 (Part-I)	<b>Lot Size</b>	<b>Sample Size</b>	'A'	180.00
				26 to 50	5		
				51 to 100	8		
				101 to 150	13		
				151 to 300	20		
				301 to 500	32		
				501 and 1000	50		
				1001 and above	80		
				<u>As per Table 1 of IS:4020-1998</u>			
	(b) STRENGTH TEST (i)Slamming (ii) Impact indentation (iii) Shock resistance (iv) Edge loading	IS:1303	From each lot, 5% of the factory made shutters shall be manufacturer tested for strength tests		'C'	As per actual rate	
14	Plywood (IS:303)	(i) Moisture Content	IS:1734-1983 (Part-I)	<b>Six test pieces cut from each of the boards selected as per table shall be subject to tests.</b>		'C'	-



APPENDIX ‘D’ (Contd..)  
TESTING OF MATERIALS

1	2	3	4	5	6	7	8
15	Wood Particle Board (Medium density IS: 303)	(i) Density	IS:2360 (Part-III)	Three test specimen from each sample (size 150mm x 75 mm)	‘A’	60.00	Sampling shall be as per IS: 3487 with moisture meter
		(ii) Moisture content	-Do-	-Do-	‘A’ & ‘B’	60.00	
		(iii) Water absorption	-Do- (Part-16)	-Do- (Size 300 mm x 300 mm)	‘A’	60.00	
		(iv) Swelling due to surface absorption	-Do- (Part-17)	-Do- (Size 125 mm x 100 mm)	‘A’	60.00	
		(v) Swelling in water	-Do-	-Do- (Size 200 mm x 100 mm)	‘A’	60.00	
		(vi) Modulus of rupture	-Do- (Part-4)	Three tests specimen as per IS-2380	‘B’	90.00	
		(vii) Screw and nail withdrawal strength	-Do- (Part-4)	As per IS-2385	‘C’	120.00	
16	Reinforcement Steel	(i) Physical tests upto 16 mm dia (Normal mass, tensile elongation, bend and rebend)	IS:2360 (Part-4)	As per IS-2385	‘B’	2500.00	
		(ii) Physical test More than 16 mm dia (Normal mass, tensile elongation, bend and rebend)	-Do-		‘B’	2750.00	

Notes : 1.Please refer Clause 25 of Special Condition.

.....  
SIGNATURE OF CONTRACTOR  
DATED:

AGE (I) Dappar  
ACCEPTING OFFICER

APPENDIX 'E'  
CEMENT SUPPLY & ACCEPTANCE REGISTER

1. CA NO & Name of work :  
2. Control No\* :  
3. Name of Manufacturer/Brand/Gde of Cement (A) Manufacturer \_\_\_\_\_ (B) Brand \_\_\_\_\_ (C) Grade :  
4. Qty of cement & Lot No/Week No (in bags) : (A) (Qty \_\_\_\_\_) (B) Lot No/Week No \_\_\_\_\_  
5. Manufacturer's test certificates no \_\_\_\_\_  
6. Random Test details (a) Physical test report from \_\_\_\_\_ vide their letter No \_\_\_\_\_ (Name of approved Lab/Engg College)  
(b) Chemical test report from \_\_\_\_\_ vide their letter No \_\_\_\_\_ (Name of approved Lab/Engg College)  
7. Details of Physical & Chemical properties :

	Specific Surface Area (m <sup>2</sup> per Kg	Soundness by Le Chatellar	Soundness by Auto Clave	Initial Setting Time (Minutes)	Final Setting Time (Minutes)	Compressive strengths			Temp during testing °C	Standard consistency (%)	Lime Saturation (Ratio)	Aclumina Iron Ratio	Insoluble ratio (%)	Magnesium (%)	Sulphuric Anhydride (%)	Loss on ignition (%)	Alkalies (%)	Chlorides (%)
						03 days	07 days	28 days										
As per relevant IS																		
As per manufacturer's test certificate																		
As per random test certificate																		

Remarks with Signature :

Accepted/Rejected

Contractor

Junior Engineer

Engineer-in-Charge

Asst Garrison Engineer

Remarks of BOO/Inspecting Officer/CWE  
\* To be allotted serially by AGE(I) consignment wise

APPENDIX 'F'

STEEL SUPPLY AND ACCEPTANCE FORM

1. Contract No. and Name of Work :
2. Name of manufacturer's T.C. No. :
3. Manufacturer:
4. Random Test Details

(a) Physical test report from .....vide their letter no. .... (Name of NABL approved Lab/Govt. Engg College)

(b) Chemical test report from ..... vide their letter no. .... (Name of NABL approved Lab/Govt. Engg College)
5. Type pf Steel, dia and Quantity :

(a) Type : TMT/CRS

(b) Dia : mm

(c) Actual wt. : MT

(d) Conversion Wt.: MT

			Chemical Test					Mechanical Test						
	Carbon %	Sulphur %	Sulphur + Phosphorous %	Phosphorous %	Manganese %	Silicon %	Corrosion resistant element	Wt per metre	Stress (N/mm²) 0.2% proof	Tensile Strengt h (N/mm²)	Elongation %	Bend Test	Rebend Test	Remarks
As per IS 1786														
As per manufacturer's test certificate														
As per independent test														

Remarks with Signature :Accepted/Rejected

ContractorJunior EngineerEngineer-in-ChargeAsst Garrison Engineer

Remarks of BOO/Inspecting Officer/CWE

\* To be allotted serially by GE consignment wise

