

MILITARY ENGINEER SERVICES**NAME OF WORK : REPAIR / REPLACEMENT TO JOINERY, CUPBOARD, WALL PANELLING
AND MISC ITEMS IN CERTAIN BLDGS AT JOSHIMATH.****INDEX**

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Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

Tele -6060

Garrison Engineer
871 Engineer Works Section
Military Engineer Services
Pin-913871
c/o 56 APO

No.8792/ 03 /E8

06 Jan 2024

M/s _____

NAME OF WORK : REPAIR / REPLACEMENT TO JOINERY, CUPBOARD, WALL PANNELLING AND MISC ITEMS IN CERTAIN BLDGS AT JOSHIMATH.

Dear Sir (s),

1. Tender documents in respect of above work are uploaded on the site www.defproc.gov.in . The tender is based on single stage two cover e-tendering system. The contents of Cover 1 & Cover II are specified in NOTICE OF TENDER.
2. Bids will be received online by ACCEPTING OFFICER (Garrison Engineer 871 EWS) up to the date and 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.
3. Bid will be opened online on a due date fixed for opening as per critical dates given in the portal. Cover 1 will be opened first. Tenderers may see the result of the opening of Cover 1 on the tender portal. Date of opening of Cover 2 shall be decided after technical evaluation of Cover 1 keeping in view the various eligibility criteria given in the NIT and the same will be intimated to the tenderers while uploading the technical evaluation on the tender portal.
4. Your attention is also drawn to instruction on filling and submission of tender attached herewith. You may forward your points on tender documents through e-mail and/or depute your technical representative for discussion on tender/drawings and to clarify doubts, if any, before the bid submission starts. You are requested not to write piece meal points and forward your points duly consolidated in one go. You may also attend the pre bid meeting on the date given in the tender.
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 mentioned above and submit the physical documents in the office of Garrison Engineer 871 EWS 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. 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 Garrison Engineer 871 EWS before date and time fixed for this purpose.
7. The contractor must ensure that the tender / bid is uploaded on the tender portal using the authorized DSC 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.

Contd.../-

8. Keeping in view delays due to system failure or other communication related failures, it is suggested that tender / bid may be uploaded sufficiently in advance of the last due date and time fixed on the portal.

9. 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 Garrison Engineer 871 EWS and this office. Tenderer is also requested to keep the copy of these documents with him as same are available in the market.

10. **PERFORMANCE SECURITY DEPOSIT** After acceptance of the Tender, the contractor will be required to lodge with the Accepting Officer **PERFORMANCE SECURITY DEPOSIT @ 5 % of contract amount**. The amount is required to be lodged within **28 (Twenty eight) days** of the receipt by the contractor of notification of acceptance of tender/bid, failing which action as stipulated in Condition 19 of GCC shall be taken.

11. 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.

12. This letter alongwith 'Instructions to tenderers' shall form part of tender documents.

13. Your attention is invited to 'Instruction to tenderers' attached herewith for strict compliance

Yours faithfully,

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

INSTRUCTIONS TO THE TENDERER (S)
(INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS
TO BE COMPLIED WITH BY THE TENDERER (S))

1. EARNEST MONEY DEPOSIT (EMD)

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

(a) **Deposit at Call Receipt from a Scheduled Bank in favour of GE / AGE (I) concerned.**

(b) Receipted Treasury Challan, the amount being credited to the Revenue Deposit of GE / AGE (I).

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

NOTES:- Earnest Money Deposit (EMD) in the form of cheque / Bank Guarantee etc will not be accepted. **Non-Submission of Earnest Money Deposit (EMD) (scanned copy along with Technical Bid & hard copy before the date & time fixed for opening of BOQ) will render the bid disqualified for opening of Cover -II (finance bid).**

2. GENERAL INSTRUCTIONS FOR COMPLIANCE

- 2.1 The bids received only in the electronic form will be considered. All bids shall be submitted on defproc.gov.in portal. Documents should be scanned and forwarded in 'pdf' format and 'xls' form as indicated. Bids 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 date email/fax/by hand/through post will be considered.
- 2.2 The bid shall be DIGITALLY signed using authorised DSC. All pages of tender documents, drawings, corrections/alterations shall be signed/initialed by the lowest bidder after acceptance of tender for making original and CTC of the contract.
- 2.3 Digital signatory of the bid/tender shall ensure that he is competent to bind the contractor (through partnership deed, general power of attorney or Memorandum and Article of Association of the Company) in all the matters pertaining to the contract with Union of India including arbitration clause. A scanned copy of the documents in confirmation of such authority shall be attached with the tender/bid in 'pdf' form in Cover 1. It shall be ensured that power of attorney shall be executed in accordance with the constitution of the company as laid down in its Memorandum & Article of Association.
- 2.4 Drawings, if issued in physical form, must be returned duly initialled by the tenderer/bidder in separate envelope indicating his name and address.
- 2.5 The tender shall be signed, dated and witnessed at all places provided for in the documents after acceptance. All corrections shall be initialled. The Contractor shall initial every page of tender and shall sign all drawings forming part of the tender. Any tender/bid, which proposes alterations to any of the conditions whatsoever, is liable to be rejected.

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INSTRUCTIONS TO THE TENDERER (S)
(INSTRUCTIONS FOR COMPLETION OF TENDER DOCUMENTS
TO BE COMPLIED WITH BY THE TENDERER (S))

3. BOQ

- 3.1 The tenderer shall quote his rates on the BOQ EXCEL FILE only as per guide line of e-procure web portal. No alteration to the format will be accepted and such bid will be disqualified.
- 3.2 In case any tenderer wishes to revise/modify the rates quoted in the BOQ file, he can do so only in the BOQ files before uploading the tender through <https://defproc.gov.in> site only before closing date & time.
- 3.3 After the uploading of tender, Department may upload the errata/ amendment through corrigendum. The tenderer/bidder should submit their offer considering the errata/amendment carried out through corrigendum issued from time to time.
- 3.4 While uploading the bid, the tenderers/bidders should specifically check whether any **revised BOQ** has been uploaded by department through corrigendum prior to **Bid submission start date**. Tenderers/bidders attention is specifically drawn to the fact that they should submit their offer on revised BOQ only. In case any tenderer/bidder submits offer on pre-revised BOQ in lieu of Revised BOQ, **it will be considered as a willful negligence by the tenderer/bidder and quotation shall be considered non-bonafide**.
4. Tenders/bidders who uploaded their priced tenders/bids and are desirous of being present at the time of opening of the tenders/bids, may do so at the appointed time.
5. Hard copies of all above documents shall be sent by the contractor to the Tender issuing authority well in advance to be received before the date & time fixed for the same.
6. The contractor shall employ Indian Nationals after verifying their antecedents and loyalty. Attention is also drawn to relevant provisions in Special Condition referred here-in-after and also Conditions 24 & 25 of IAFW-2249 (General Conditions of Contract).

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

MILITARY ENGINEER SERVICES
NOTICE OF TENDER

1. A tender is invited for the work as mentioned in Appendix 'A' to this Notice of 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 a rough guide and if the work costs more or less, a tenderer will have no claim on that account.
3. The work is to be completed within the period as indicated in aforesaid Appendix 'A' in accordance with the phasing, if any, indicated in the tender from the date of handing over the site, which may be on or about two weeks after the date of acceptance of the tender.
4. Contractors whose names are on the MES approved list and within whose financial category the estimated amount would fall and un-enlisted contractors may submit tender / bid subject to other criteria mentioned in Appendix A. However in case of term contracts, enlisted contractors of Class SS to E may submit tender .Not more than one tender shall be submitted/ uploaded by one contractor/ firm. Under no circumstances will a father and his son(s) or other close relations who have business dealing with one another be allowed to tender/bid for the same contract as separate competitors. Two firms shall be deemed to have business dealing if any of the partners/ proprietor/ director is common among both of them. A breach of this condition will render the tenders/ bids of both the parties liable for rejection.
5. The **Garrison Engineer 871 EWS** will be the Accepting Officer hereinafter referred to as such for the purpose of this contract.
6. Not more than one tender/bid shall be submitted /uploaded by one bidder firm. Under no circumstances will a father and his son(s) or other close relations who have business dealing with one another be allowed to tender/ bid for the same tender as separate competitors. A breach of this condition will render the tenders/ bids of both the parties liable for rejection.
7. The Technical Bid and Financial Bid (Cover-1 and Cover-2) shall be uploaded by the contractor on or before the date & time mentioned in **NIT**. A scanned copy of DD with enlistment details and other documents as specified in Appendix A shall be uploaded as Cover-1 (Technical bid) of the tender on e-tendering portal. DD is refundable in case the contractor is not considered eligible in technical evaluation of Cover 1 resulting in non-opening of Cover-1. The applicant contractor shall bear the cost of bank charges for procuring and encashment the DD including revalidation of DD and shall not have any claim from Government whatsoever on this account.
8. Tender forms and conditions of contract and other necessary documents shall be available on **website defproc.gov.in** for download and shall form part of contract agreement in case the tender/bid is accepted.
9. In case of MES enlisted contractor who has not executed the Standing Security Bond and un-enlisted contractor, the Cover 1 shall be accompanied by Earnest Money for the amount mentioned in Appendix 'A' in the form of deposit at call receipt in favour of GE mentioned in aforesaid Appendix 'A' by Scheduled Bank/or receipted treasury challan. The amount being credited to the revenue deposit of the GE. The GE will returned the Earnest Money, wherever applicable, to all unsuccessful tenderers /bidders by endorsing an authority on the deposit at call receipt for it's refund, on receipt of intimation from the Accepting Officer to do that.
10. In case of successful contractor i.e. the lowest contractor having submitted EMD, he shall have the option of converting the EMD instrument into part of the performance Security to be deposited by him within 28 days from the receipt of intimation acceptance of tender from Accepting Officer.
11. Sample of materials and stores to be supplied by the contractor will also be available for inspection by the bidder at the office of concerned GE during working hours. The bidder is advised to visit the site of work by making prior appointment with GE , who is the Execution Agency of the work (see Appendix 'A'). The bidder shall be deemed to have full knowledge of all relevant documents , samples, site etc whether he has inspected them or not.

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MILITARY ENGINEER SERVICES
NOTICE OF TENDER

12. Any bid which proposes any alteration to any of the conditions laid down or proposes any other new condition whatsoever, is liable to be rejected.
13. The uploading of bid by a bidder 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 (as applicable) etc will be issued to him and local conditions and other factors having bearing on the execution of the work.
14. The bidder must be in possession of a copy of **MES Schedule of Rates Part-I 2009 and Part-II 2020** including errata/amendments thereto.
15. Accepting Officer does not bind himself to accept the lowest or any tender/bid or to give any reason for not doing so.
16. The Accepting Officer reserves his right to accept a tender submitted by a public undertaking/ Small & Medium Enterprises (SMEs), giving a price/purchase preference over other tender(s)/bid(s) 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.
17. This **Notice Inviting Tender (NIT)** including Appendix 'A' and Annexures thereto, if any, shall form part of the contract agreement.

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

APPENDIX 'A' TO NOTICE OF TENDER

1	Name of Work	:	REPAIR / REPLACEMENT TO JOINERY, CUPBOARD, WALL PANELLING AND MISC ITEMS IN CERTAIN BLDGS AT JOSHIMATH.															
2.	Estimated Cost	:	Rs 25.00 Lakhs (At Par Market)															
3	Period of completion	:	180 Days															
4.	Cost of tender documents	:	Rs. 500/- in the shape of DD/Bankers Cheque from any Nationalized Bank/Scheduled Bank in favour of GE 871 EWS, c/o 56 APO and payable at Joshimath (Note : In case of re-tendering, the contractor who had quoted in the previous call is not required to submit the cost of tender)															
5.	Website/ portal address	:	www.defproc.gov.in and www.mes.gov.in															
6	Type of contract	:	The tender item rate contract shall be based on IAFW-1779 & 1779-A and IAFW-2249 with Schedule 'A'(list of works) to be priced by the tenderers															
7.	Information & Details	:																
	(a) Bid submission start date	:	Refer critical dates															
	(b) Last date of bid submission	:																
	(c) Date of bid opening	:																
8.	Eligibility criteria	:																
	(a) For MES enlisted contractors	:	Contractor enlisted with MES in Class 'E' and above and category a (i) subject to satisfactory remarks 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 contractors not enlisted with MES	:	<p>(i) Contractors not enlisted with MES shall meet the enlistment criteria of Class 'E' MES contractors & 'a (i)' category contractor with regard to satisfactorily completion of requisite value works with Central /State Government/ Central / State PSUs/ AWHO/ AFNHB/CGEWHO/DGMAP, annual turnover , bank solvency, working capital and other requirements given in Para 1.4 & 1.5 of Section 1 of MES Manual of Contracts 2020 as available in all MES formations as well as MES website (www.mes.gov.in).</p> <p>(ii) Not carrying adverse remarks in Work Load Return (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 dealings 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 formats:-</p> <table border="1" data-bbox="479 1549 1360 1707"> <thead> <tr> <th>Srl No</th> <th>CA No. & Name of work</th> <th>Amount of CA</th> <th>Date of Commencement</th> <th>Date of Completion</th> <th>Extended Date of completion</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table> <p>(v) Un-enlisted Contractors who have secured two works in MES should get themselves registered in MES with appropriate designated class with any Registering Authority, the firm will not be eligible for participation in the tender unless until the firm will be enlisted with MES.</p>				Srl No	CA No. & Name of work	Amount of CA	Date of Commencement	Date of Completion	Extended Date of completion						
Srl No	CA No. & Name of work	Amount of CA	Date of Commencement	Date of Completion	Extended Date of completion													
9	Tender issuing and Accepting Officer	:	GE 871 EWS															
10.	Executing agency	:	GE 871 EWS															
11.	Earnest Money	:	Rs. 50,000/- in favour of GE 871 EWS in the form of deposit at call receipt, FDR not acceptable															

NOTES :

1. In case after opening of Cover1, 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 MES contractors of one class or two classes (in case of remote and difficult areas to be decided as per list circulated by CE Command/ADG) below the eligible class shall also be considered subject to fulfillment of other eligibility criteria given in the NIT. Therefore, MES contractors one class below (two classes below in case of remote and difficult areas) may also bid for this tender. Such contractors (contractors of one/two classes below the eligible class) shall not be considered in case their present residual work in hand is more than FIVE TIMES their present tendering limit. However, in case such contractors fulfil the criteria of up-gradation to the stipulated eligible class based on past experience of completed works (individual work experience and/or average 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-1 bid details related to residual work in hand like details of works in hand showing names of work, names of Accepting Officers, Contract amounts, dates of commencement and completion (stipulated) and progress as on bid submission date. Such contractors, if claim to fulfill the criteria of up-gradation shall also upload the requisite information/ documents in support of upgradation. These details shall be verified by the Tender Issuing Authority from concerned formations in case bids of such contractors are considered for evaluation.
2. In case after opening of Cover 1, the number of MES enlisted contractors of eligible class as well as un-enlisted contractors, if any, fulfilling the other eligibility criteria given in NIT, are 7 (Seven) or more, applications of only those one class below the eligible class bidders shall be considered, who have previously completed similar works satisfactorily and are meeting the criteria of up-gradation 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/documents in the Cover-1.
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 nationals staying abroad / Indian national having taken foreign citizenship, as director(s) shall be considered subject to security clearance from the concerned authorities.
4. Contractors enlisted with MES will upload following documents in Cover 1 for checking eligibility :-
 - (a) Application for tender on Firm's letterhead.
 - (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 case SSD bond is not signed at the time of registration.
 - (d) Any other document required as described in this Appendix.
5. Contractors not enlisted with MES will be required to upload following documents in Cover 1 for checking eligibility.
 - (a) Application for tender on Firm's letterhead.
 - (b) Scanned copy of DD/ Bankers cheque toward cost of tender and Earnest Money Deposit (EMD) instrument.
 - (c) Copy of Police Verification Report/Police Clearance Certificate/ Character Certificate from the Police Authority of the area where the registered office of the firm is located/notarized copy of valid passport of Proprietor/each Partner/each Director.
 - (d) All documents required for enlistment in MES for the class mentioned in Para 8(b) above as per Para 1.5 of Section 1 of MES Manual on Contracts 2020.
 - (e) Details of works being executed in MES, if any.
 - (f) Any other document required as described in this Appendix.

Contd/...

APPENDIX 'A' TO NOTICE OF TENDER Contd...

6. Tenders not accompanied by scanned copies of requisite DD/Bankers Cheque towards cost of tender and earnest money (as applicable) in Cover 1 shall not be considered for validation of 'T' bid and their Financial Bids will not be opened.
7. Contractors should ensure that their original physical DDs and Earnest Money Deposit (EMD) instruments (as applicable) reach the office of Accepting Officer within 5 days of bid submission end date (*The number of days to be mentioned shall be as decided by the Accepting Officers, but it shall not be less than 5 days) failing which following action shall be taken.
- (a) In case of tenders from an enlisted contractor of MES, where scanned copies of requisite DD/ Bankers Cheque towards cost of tender have been uploaded in Cover 1 but physical copies are not received within the stipulated period, their financial bids (Cover 2) will be opened. However non-submission of physical copies of cost of tender shall be considered as willful negligence of the tenderer with ulterior motives and such tenderer shall be banned from bidding for a period of six months commencing from the date of opening of Financial Bid (Cover 2).
- (b) In case of tenders from un-enlisted contractor, where scanned copies of requisite DD/Bankers Cheque towards cost of tender have been uploaded in Cover 1 but physical copies are not received within the stipulated period, their financial bids (Cover 2) will not be opened. Name of such contractors along with complete address shall be circulated for not opening of their bids for a period of six months commencing from the date of opening of Financial bid (Cover 2).
- (c) In case of tenders from enlisted and un-enlisted contractors, where scanned copies of instruments for Earnest Money Deposit (as applicable) have been uploaded in Cover 1 but the same are not received in physical form within stipulated period, such tenders shall not qualify for opening of financial bid (Cover 2).
8. 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/daughters/ 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 name as Proprietor/Partner/Director.
9. After opening of Cover 1 and during its technical evaluation, in case any deficiency is noticed in the documents required to be uploaded by the tenderer 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 Technical bid and subsequent opening of financial bid of any applicant/bidder merely by virtue of enclosing DD. Accepting Officer reserves the right to reject the Technical bid and not to open the financial bid of any applicant/bidder. Technical bid validation shall be decided by the Accepting Officer based on eligibility of the firm as per criteria given in this Appendix. Tenderer/bidder will be informed regarding non-validation of his Technical bid assigning reasons therefore through tender evaluation report which shall be uploaded on the website. Such tenderer, if desires, may appeal to the next higher Engineer Authority (NHEA) viz **CWE (Hills) Pithoragarh** on email id **pithoragarhengrs@gmail.com** copy to the Accepting Officer on email before the scheduled date of opening of Cover 2. NHEA shall decide the matter within a period of seven working days from the date of receipt of appeal. The decision of the NHEA shall be final and binding. The tenderer/bidder shall not be entitled for any compensation whatsoever for rejection of his bid.
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 tendering limit of the MES Class of contractor for which it is eligible. For this purpose, details of the works being executed by such a contractor shall be uploaded in the Cover -1 of the bid and shall be checked/verified by the Accepting Officer.
12. In case the BOQ is revised through the corrigendum and the bidder has failed to quote on revised BOQ (ie 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 OF TENDER Contd...

13. Revoking the offer or revising the rates upward or offering voluntary reduction by the lowest tenderer after opening of Cover 2 shall be considered as a willfull default. For this default a penalty of an amount equal to Earnest Money shall be levied. In case of an un-enlisted 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.

APPENDIX 'A' TO NOTICE INVITING TENDER (NIT)**CRITICAL DATES**

(i)	Publishing date and time of tender documents	08 Jan 2024, 1100Hrs
(ii)	Starting date and time of tender documents download	08 Jan 2024, 1100Hrs
(iii)	Starting date and time of bid submission (Cover 1 & 2)	22 Jan 2024, 1100 Hrs
(iv)	Bid documents download end date and time	29 Jan 2024, 1800 Hrs
(v)	Closing date and time of bid submission (Cover 1&2)	29 Jan 2024, 1800 Hrs
(vi)	Date and time of bid opening (Cover No.1)	On or after 05 Feb 2024, 1100 Hrs
(vii)	Date and time of bid opening (Cover No 2)`	Will be intimated online after completion of evaluation of tech bid (Cover No.1)

(Signature of Contractor)

AGE (Contracts)
For Accepting Officer

Dated : 06 Jan 2024

Internal file :-

8792/E8

**In lieu of IAFW-1779 & 1779-A (Revised 1955)
To be used in conjunction with General Conditions of Contract
IAFW-2249 (1989 Print)**

MILITARY ENGINEER SERVICES

Tele -6060

Garrison Engineer
871 Engineer Works Section
Military Engineer Services
Pin-913871
c/o 56 APO

No.8792/03 /E8

06 Jan 2024

**NAME OF WORK : REPAIR / REPLACEMENT TO JOINERY, CUPBOARD, WALL PANELLING AND
MISC ITEMS IN CERTAIN BLDGS AT JOSHIMATH.**

1. Shri/ M/s _____ of _____ is/are hereby authorised to tender for the above mentioned work.
2. The tender (Quoted Financial Bid) is to be uploaded by the tenderer on website www.defproc.gov.in by **1800 HOURS on the DAY 29th JAN of 2024.**
3. All correspondence must be returned to this office whether or not the tender has been submitted.
4. All correspondence concerning to this tender shall be addressed as indicated on the top of this letter quoting the reference as given.

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

Signature of Contractor)

Signature of officer issuing the documents _____
Appointment
For Accepting Officer

Dated:

Contd.....

SCHEDULE 'A' NOTES
(LIST OF ITEMS AND WORKS)

NOTES :-

1. **SCOPE OF WORK** : This contract caters for “**REPAIR / REPLACEMENT TO JOINERY, CUPBOARD, WALL PANELLING AND MISC ITEMS IN CERTAIN BLDGS AT JOSHIMATH..**”. The Maint work contract area is contained within the boundaries as demarcated on the plan, which is not attached with the tender documents but may be kept in the office concerned Engineer-in-Charge under GE 871 EWS. No work shall be ordered on the contractor outside the limits of these boundaries.
2. Quantities shown in column 3 are approximate and are inserted as a guide only. These shall, however, not be varied beyond the limits laid down in condition 7 of IAFW-2249 (General Conditions of contracts).
3. The rates in respective column 5 shall be filled in figures only and rates in words shall automatically filled and the amount will be extended in respective column accordingly.
4. **PERIOD OF COMPLETION:**
 - (i) The entire work under this contract (including testing) is required to be completed within **180 days** from the date of commencement as mentioned in work order No.1 and in accordance with CPM Chart agreed upon between. The work under this contract shall be carried out in co-operation with user/users.
 - (ii) The date of completion for the purpose of issue of completion certificate by GE under condition 49 of IAFW-2249 (General condition of contract) shall be the date of taking over entire work complete in all respect.
5. The rates quoted by the contractor shall include Materials and Labour or Supplying and Fixing all as described in MES Standard Schedule of rates except where specifically mentioned otherwise in these documents. General rules special conditions method of measurements, etc given in MES schedule of rates shall apply to the contract as modified by the provisions of this contract.
6. The total amount of column 7 is not firm but shall be treated as the contract sum referred to in IAFW-2249.
7. The rates quoted by contractor shall be deemed to be inclusive of all taxes/ duties i.e. GST, GST on Works Contracts, excise duty, custom duty, octroi duty, CESS, Labour CESS, EPF, income tax and any other taxes / duties as applicable. Form 3D, 31 & 32 or any other form shall not be issued by MES. This is an express condition of this contract that no claim of the contractor shall be entertained by MES on this account.
8. Special conditions in MES schedule Part II (Rates–2020) and preambles to items given in MES schedule Part II (Rates–2020) under respective trades shall be applicable, If any provision in the description of items of schedule A and/or particular specifications of this tender documents is at variance with the provisions given in special conditions in MES schedule Part II and preambles to MES schedule part II (Rates–2020), provisions in schedule 'A' and /or particular specifications shall take precedence there over.
9. Rates quoted by the contractor shall be deemed to include for all items of works as described in Schedule 'A' and specified in particular specifications.
10. Unit rates quoted by the contractor shall be deemed to include for all minor details of construction and accessories which are not specifically mentioned in Sch of works or given in particular specification but which are essential for execution of works/services like sound engineering practice. In case of difference of opinion between contractor and GE as to whether or not a certain item of work constitutes 'Minor details of construction and accessories included in contractor's prices, the decision of the Accepting Officer shall be final, conclusive and binding.

Contd...

SCHEDULE 'A' NOTES (Contd...)
(LIST OF ITEMS AND WORKS)

11. The work shall be executed on locations as directed by the GE/Engineer-in-Charge.
12. IS whosoever mentioned will be latest IS upto last due date of receipt of tender. In case wrong IS mentioned, the specifications given in respective IS shall be followed without any extra cost to the Govt.
13. Measurements of work done shall be as per items of units in Sch of works and this mode of measurement shall take precedence over MES Schedule wherever at variance with the later.
14. Complete site for work may not available at the time of placing of work order and as on the stipulated date of commencement of work. In such case the contractor may have to start the work on part site. The contractor while preparing the phased schedule of work shall take this into consideration and schedule his programmed accordingly. No claim whatsoever for not handing over the entire site on acceptance of contract/ placing of work order and for giving the site gradually shall be tenable.
15. Rates quoted against all items of Schedule of works shall be inclusive of costs towards materials, labour, T&P, taxes as applicable, insurance charges, freight charges, transportation, loading, unloading, testing charges as applicable, fixing in position as described in the respective items and all other ancillaries items of work required for the satisfactory execution of the items of work as per description given in the Schedule 'A' and as specified in the particular specification. No extra cost shall be admissible to the contractor.
16. "M & L", "S & F" and "S&F in repairs" terms wherever mentioned in tender documents, shall mean "Material and labour", "Supply and fixing" and "Supply and fixing of new one material /item prior to taking out / taking down/ dismantling / demolition of old existing unserviceable materials / item" respectively. The cost of taking out / taking down/ dismantling / demolition of old existing unserviceable materials / item shall be deemed to be included in quoted unit rates in BOQ here-in-after. Therefore, while quoting their unit rates in BOQ, this aspect should be kept in mind and nothing extra shall be admissible on this account.
17. Demolition/dismantling of work as required under this contract shall be done in workman like manner without causing any damage or injury to the other portion of building etc. Any damage or injury shall be made good by the contractor at his own cost to match with the existing portion to the entire satisfaction of the Engineer-in-Charge.
18. Material obtained from demolition/dismantling for which credit is recovering from contractor as per credit schedule shall become contractor's property balance material shall remain Govt property & shall be removed by the contractor from site of work & deposited as directed by Engineer-in-Charge without any extra cost to the Govt.
19. The whole work under this contract lies in Un-Restricted Area.
20. Excavations and Earth Work
- 20.1 The excavation work for relevant items covered under the scope of work subject of subject contact agreement require prior written approval from GE concerned. The GE must have the prior intimation, where the excavation working side the cantonment is about to be undertaken. The GE has to keep liaison/intimation with the signal unit w.r.t location for excavation.
- 20.2 Any damage caused to OFC/JFC cables laid by signal unit during excavation or earth work shall get rectified by the contractor within 48 hrs of reported damage. In case of the concern contractor failed to rectify/replace defects with 48 hrs, GE has liberty to get the defective cables rectified/replaced at risk & cost of contractor without any notice or communication. No claim from the contractor is entertained by the department in this regard.

Contd...

SCHEDULE 'A' NOTES (Contd...)
(LIST OF ITEMS AND WORKS)

21. PERFORMANCE SECURITY

21.1 The performance security shall be in favour of the Accepting Officer and shall be in any of the forms mentioned below. **Work order No. 1 shall be placed only after submission of performance security of an amount equivalent to 5 % of the contract sum 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.

- (a) A Bank Guarantee in the prescribed form.
- (b) Government Securities, FDR or any other Government Instruments stipulated by the Accepting Officer.

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

21.3 Failure of the contractor to comply with the requirements of sub clause 21.1 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.

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

21.5 In the event of contract being cancelled, under Condition 52, 53 & 54 of General Conditions of Contract, the Performance Security shall be forfeited in full and shall be credited into consolidated fund of India.

22. The number of civilian work people so employed by the Garrison Engineer under provision of Condition 4-A (e) (ii) of IAFW-2249 shall not exceed on average of 20 person per day in any one calendar month.

23. The date of completion for the purpose of issue of completion certificate by GE under condition 49 of IAFW-2249 (General condition of contract) shall be the date of taking over entire work complete in all respect.

24. Defect Liability period shall be of "**Twelve calendar months**" after the works handed over to Government.

25. Building will be handed over to the contractor on the basis of availability of vacated buildings from users, therefore in this regard, contractor's attention is invited that the buildings for execution of work will be handed over in piece meal and the contractor's no claim whatsoever on this account will be entertained by the Department.

Contd...

SCHEDULE 'A' NOTES (Contd...)**(LIST OF ITEMS AND WORKS)**

26. **Makes:-** The rates quoted by the contractor shall be include for incorporation of materials as per makes mentioned in BOQ, if makes of particular items are not mentioned in BOQ then Group-II makes as per list of approved product given in Appx 'B' and 'C' of particular specification shall be incorporated in the work.

27. **Refund of Performance Security.** The Performance Security Deposit in any form submitted by contractor may be refunded to the contractor after the expiration of defect liability period, provided always that the contractor shall first have been paid the final bill and have rendered no demand certificate (IAFE-451).

28. **E-PAYMENT :**

Refer Condition 64 of IAFW-2249. The Contractor may opt for E-Payment system for receiving the payment for this work. If the contractor opt for E-payment, he shall provide the following details to the GE within 15 days from the commencement of the work:-

- (a) Accounts Name.
- (b) Bank Account No.
- (c) Bank IFSC Code

29. **The work consisting of the fwg Jobs:-**

(TPP; SUPPLEMENTARY MAINT PROG 2023-24):

- (a) **REPAIR / REPLACEMENT TO JOINERY, CUPBOARD, WALL PANELLING AND MISC ITEMS IN CERTAIN BLDGS AT JOSHIMATH.**

PRICED BOQ

Sr1 Page No. 17-20

SCHEDULE OF CREDIT

1. The quantities shown in columns (4) are approximate and are inserted as guide only.
2. The actual amount of credit to be allowed will depend on the items/ quantities of materials obtained on the basis of note here given in before after adjustment for the quantities being reused if a works as per Schedule 'A'.
3. The rate given under column (5) is firm, no variation in the rate will be allowed. The credit worthiness of the materials for which the credit is to be offered by the contractor shall be deemed to have been ascertained by him before quoting the tender. Any claim whatsoever later shall not be entertained on this account.
4. The method of measurements will be same as applicable for dismantling/ demolition/ taking over of respective item given in Schedule 'A'.
5. All the materials obtained from demolition/ dismantling/taking down (except those credited to the contractor) etc shall become Government property and shall be removed and deposited in MES store by the contractor and receipt to this effect shall be obtained except the worthless materials which shall be disposed off at a distance not exceeding 50 metre as directed by Engineer –in – Charge without any extra cost to Government
6. Item/ Qty obtained from demolition/dismantling over & above the Item/ Qty mentioned in the Schedule of Credit shall remain Government Property & shall be deposited in Store Yard of GE 871EWS c/o 56 APO without any extra cost
7. The credited material shall become contractor's property. The contractor shall be allowed to remove the credited material only after realization of credit in running payments.

SCHEDULE OF CREDIT

Ser No	Brief Specification of item	Unit	Qty	Rate	Amount
1	2	3	4	5	6
1	Old wooden fillets 13 Sqm but not exc 25 sqm	Rm	315.00	13.00	4095.00
2	Old plywood/ceiling board of any description	Sqm	540.00	15.00	8100.00
3	Old iron scrap	kg	60.00	20.00	1200.00
4	Old wooden scantling	Cum	0.20	5500.00	1100.00
5	Old shutter with chowkhats exc 1.50 Sqm but not exc 4.00 sqm including iron mongaries	Each	10.00	550.00	5500.00
6	Old shutter with chowkhats not exc 1.50 sqm including iron mongaries	Each	10.00	330.00	3300.00
7	Old shutters exc 1 Sqm but n.exc 2.Sqm	Each	65.00	275.00	17875.00
8	Old shutters n exc 1Sqm	Each	5.00	220.00	1100.00
9	Old curtain rod with brackets	Rm	60.00	4.00	240.00
10	Aluminium scrap	kg	73.80	50.00	3690.00
				TOTAL	46,200.00

SUMMARY

1.	Total amount of BOQ of works B/F from page No. 20	=Rs	
2.	Less/deduct amount of Sch of credit B/F from Srl page No 21	=Rs	46,200.00
3.	Net contract sum	=Rs	

Signature of Contractor

AGE (Contracts)
For Accepting Officer

SCHEDULE 'B'
ISSUE OF MATERIAL TO THE CONTRACTOR
(See Condition 10 of IAFW-2249)

Sl.No.	Description of items	Unit	Rate	Place of issue by Name	Remarks
1	2	3	4	5	6

-NIL-

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

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

Ser No	Particulars	Details of MES Crew supplied	Hire Charges per unit per day	Stand by charges per unit per day	Place of issue by Name	Remarks
1	2	3	4	5	6	7

-NIL-

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Date :

SCHEDULE 'D'
TRANSPORT TO BE HIRED TO THE CONTRACTOR
(See Condition 16 & 35 of IAFW-2249)

Ser No	Quantity	Particulars	Rate per unit per working day	Place of issue by Name	Remarks
1	2	3	4	5	6

-NIL-

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Date :

T E N D E R**The President of India**

Having examined and perused the following documents:-

1. Specifications signed by Garrison Engineer/AGE (Contracts) GE 871 EWS Military Engineer Services, C/o 56 APO.
2. Drawings detailed in the list of drawings/specifications.
3. Schedule 'A','B','C' and 'D' attached hereto.
4. MES Standard Schedule of Rates Part-I specification (2009) and MES Standard Schedule of Rates Part-II Rates (2020) together with amendment No. 1 to 3 to SSR (Part I) and 1 to 122 to SSR (Part II) (here-in-after and in IAFW-2249 referred to as the MES Schedule).
5. General Conditions of contracts IAFW-2249 (1989 Print) together with amendments No.1 to 49 and errata No.1 to 20.
6. **Water Condition 31 of IAFW-2249 (General Condition of Contracts)**. Water will be supplied by MES on payment @ Rs. 3.75 per one thousand worth of work done priced at contract rate.
7. Should this tender be accepted, I/we agree,

*(a) that the sum of Rs _____ (**Rupees** _____) forwarded as earnest money shall either be retained as a part of security deposit or to be refunded by the Government on receipt of the appropriate amount of 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/ referred to therein and as detailed in the General Summary here-in-after and to carry out such deviations as may be ordered vide condition 7 of IAFW-2249 up to a maximum of **10% (TEN PERCENT)** and further agree to refer all disputes as required by condition 70 of IAFW-2249 to the sole Arbitration of a serving officer 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 Chief Engineer Central Command Lucknow in his absence the officer officiating as Chief Engineer Central Command Lucknow, whose powers specifically delegated in writing by Chief Engineer Central Command Lucknow, whose decision shall be final, conclusive and binding.

* To be deleted where not applicable

Contd.....

TENDER (CONT D.....)

Signature _____ in the capacity of _____

duly authorised to sign the tender for and on behalf of _____
(IN BLOCK LETTERS)

dated _____

Witness _____

Postal Address _____

Address _____

Telegraphic address _____

Telephone _____

ACCEPTANCE

“ _____ alterations have been made in these documents and as evidence that these alterations were made before the execution of the Contract Agreement, they have been initialed by the CONTRACTOR and ASST. GARRISON ENGINEER (CONTRACTS), 871 ENGINEER WORKS SECTION, MILITARY ENGINEER SERVICES, PIN-913 871, C/O 56 APO”.

The above tender has been accepted by me on behalf of the President of India for the uniform at the item Rates contained in Schedule ‘A’ For Rs _____ (Rupees _____ only)

on _____ day of _____.

Signature on. Day of..... 2023.

Appointment: Garrison Engineer
871 Engineer Works Section
Military Engineer Services
Pin- 913 871
c/o 56 APO
(For and on behalf of the President of India
ACCEPTING OFFICER

GENERAL CONDITIONS OF CONTRACTS (IAFW-2249: PRINT - 1989)

FOR

MEASUREMENT CONTRACTS (IAFW 1779 & 1779A)

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 containing 33 pages (Serial page Nos. 26 to 58) with errata 1 to 20 and amendment Nos. 1 to 49 (Serial page Nos. 59 to 83) shall form part of these tender documents.

* DELETE WHICHEVER IS NOT APPLICABLE

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

SCHEDULE OF MINIMUM WAGES

It is, hereby, agreed that the “Schedule of Minimum wages” as published by Government of India/State Govt./Govt. Local authorities whichever is highest and which specifies minimum rates of wages for various categories of workmen as applicable on the last due date of receipt of this tender shall form part of these tender documents.

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

Signature of Contractor

Dated :

AGE (Contracts)
For Accepting Officer

SPECIAL CONDITIONS**1. GENERAL.**

The following special Conditions shall be read in conjunction with the general Condition of Contracts, IAFW-2249 and IAFW-1779A 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. The term General specification used in any of the documents forming part of the contract refers to the specification contained in the MES Schedule.

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

(a) The tenderers shall contact the GE 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 tenders shall be deemed to have visited the site(s) before quoting rate and made themselves familiar with the working conditions, whether they actually inspect the site(s) or not.

3. CONDITIONS FOR WORKING IN UNRESTRICTED AREA

3.1 (a) The work lies in **UNRESTRICTED AREA**. However, the contractor, his agents, working 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 to control their admission to the site of work or any part thereof. The contractor shall on demand by the Engineer-in-Charge submit a list of personnel, etc. concerned and shall satisfy the Engineer-in-Charge as to the bonafide of such people having been checked. Passes shall be returned at any time on demand by the Engineer-in-Charge and in any case on completion of work.

(b) The contractor and his agents, employees and work people shall observe 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 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 whatsoever and the contractor shall have no claim on this account, Nothing shall be admissible for any man hours lost on this account.

3.2 **WORK ON HOLIDAY.** The contractor shall not carryout any work on Gazetted holidays, weekly holidays and other non-working days except when he is specifically authorized in writing to do so by GE. The GE may at his sole discretion declare any day as holidays or non working day without assigning any reason for such declaration.

3.3 RECORD OF CONSUMPTION OF CEMENT

3.3.1 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 the 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 the 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.

3.3.2 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).

3.3.4 On completion of the work the contractor shall deposit the cement register with the Engineer-in-Charge for record

Contd.....

SPECIAL CONDITIONS (CONTD.....)**4. MINIMUM WAGES PAYABLE (REFER CONDITION 58 OF IAFW-2249)**

4.1 Refer condition 58 of IAFW-2249. The contractor shall not pay wages lower than minimum wages including allowances for labour as fixed by Govt. of India/State Govt. OR Union Territory whichever is higher.

4.2 The fair wages referred to in condition 58 of IAFW-2249 will deemed to be the same as the minimum wages payable referred to above.

4.3 **ROYALTIES.** Refer condition 14 of general condition of contracts (IAFW-2249). Quarries on defence land are not available.

5. **LAND FOR TEMPORARY WORKSHOP, STORES ETC.** Delete the following form lines 5 to 9 of sub para 1 of condition 24 of IAFW-2249 reading “in the event of area of land land allotted to him” and insert as under :- “Separate land will not be allotted to the contractor for the storage of materials, temporary workshop and offices. The land for these purposes shall be arranged by contractor at his own and the lump sum cost quoted in the tender shall deemed to be included for the same.”

6. WATER

6.1 Refer condition 31 of General Condition of Contracts IAFW-2249. Water will be supplied by MES to the contractor on payment at the point, marked on the layout plan as decided the GE, which shall be ascertained by the contractor before submission of his tender. The contractor shall make arrangement for the conveyance and storage of water required for the work and for his labour/workmen necessary, at his own expense. Water will be supplied at the tender rates.

6.2 The supply of water may not be continuous. The contractor shall be deemed to have ascertained the hour of availability before submitting his tender. MES do not guarantee the output of water supply or break down in the system. If the supply is not sufficient, the contractor shall make his own arrangements to supplements the water supply at his own cost.

6.3 If the contractor desires to make his own arrangement for supply of water/supplement the MES supply of water required for the work and his labour/workman employed on the work by way of digging/boring tube well or hand pump on defence land at the site(s) of works, he would be allowed to do so at his own expanses and without any extra cost to Govt, the pump and other connected items such as pipes etc required for the same shall be procured by the contractor under his own arrangements. No charges will be levied for allowing the contractor to dig tube well/hand pump on defence land.

6.4 Where the contractor arranges water under his own resources by way of digging/boring tube well or hand pump or otherwise, it will be ensured by him that the water is free from injurious quantities of acids, alcohol, silt, oil organic matters or other impurities specified in the relevant IS and water is clean, potable and suitable for mixing mortar, for washing aggregate for curing concrete and plaster etc. In such cases water shall be got tested under contractor’s own arrangements form Govt approved test laboratories and the test report shall be kept on GE’s record.

6.5 The wells/hand pumps dug/bored by the contractor shall become the property of Govt.

Contd.....

SPECIAL CONDITIONS (CONTD.....)

- 6.6. The contractor at the time of submission of his tender shall exercise his option for making his own arrangement or buying water from the MES. In the event contractor fails to exercise his option in the tender at the time of submission, it shall be deemed that the contractor will buy water from MES.
- 6.7. In the event contractor makes his own arrangement for supply of water in addition to buying water from MES, recovery at stipulated rates will be made for the entire work.
7. **COOPERATION WITH OTHER AGENCIES.** The contractor shall permit free access and generally afford reasonable facilities to other agencies or departmental workmen engaged by the Govt. to carryout their part of the work, if any, under separate arrangements.
8. **ELECTRIC SUPPLY.** Electric supply required for the work up to a maximum 5 KW single phase/three phase shall be made available by the MES at point(s) shown on site plan. The exact location of the electric points(s) will be shown by the GE. KWH meters to register the electric energy supplied and main switch shall also be provided and installed by the MES. Contractor shall provide all necessary cables, fitting etc. from the tapping point in order to ensure a proper and suitable supply of electricity for execution of work. The contractor will be charged for the electric energy consumed for execution of work at the following rates :-
- (a) At Rupees Nine and Ninety seven Paise per unit for lighting.
 - (b) At Rupees Nine and Ninety seven Paise per unit for power.
- 8.1 MES do not guarantee continuity of supply and no compensation whatsoever shall be allowed for supply becoming intermittent or for break down in the system.
- 8.2 GE 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 GE shall be disconnected from the supply, if so directed by him.
9. **NET WORK ANALYSIS**
- 9.1 The time and progress chart to be prepared as per condition 11 of General Conditions of Contracts (IAFW-2249) shall consist of detailed network analysis and a time Schedule. The critical path net work will be drawn jointly by the GE and the contractor soon after acceptance of tender. The contractor so as to finish the work within the stipulated time will do the time scheduling of the activities. On completion of the time Schedule, a firm calendar date Schedule will be prepared and submitted by the contractor to the GE who will approve it after due scrutiny. The Schedule will be submitted in four copies within two weeks from the date of handing over of site.
- 9.2 During currency of the work, the contractor is expected to adhere to the time Schedule and this adherence will be a part of his/their performance under the contract. During the execution of the work, the contractor is expected to participate in the reviews and updating of the net work undertaken by the GE, either as a periodical appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation orders or amendments. Any revision of the time Schedule as result of the review will be submitted by the contractor to the GE within a week for his approval after due scrutiny.
- 9.3 The contractor shall adhere to the revised time Schedule thereafter. In case of contractor disagreeing with revised Schedule, the same will be referred to the Accepting Officer, whose decision shall be final, conclusive and binding. GE's approval to the revised Schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to 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.

Contd.....

SPECIAL CONDITIONS (CONTD.....)

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

10. SAMPLE OF MATERIALS

10.1 Refer condition 10 of IAFW-2249 and clause 1.6 & 1.7 of MES SSR Part II.

10.2 Materials provided by the contractor for incorporation in the works, unless otherwise specified in the particular specifications, shall be ISI marked. IS means Indian Standards as issued by the Indian Standard Institute. Wherever in the specifications I.S is referred to, it means the edition with all amendments, current on the due date of receipt of the tender documents. The materials listed in Appx 'B' shall be of the makes as specified therein.

10.3 The tenderer is advised to inspect other materials, which are displayed in the office of GE, 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 (not listed in Appendix 'A' and 'B') to be incorporated in the work by the contractor shall be I.S marked or shall be equal or superior in quality to sample displayed and shall comply with the specifications given hereinafter.

10.4 The contractor shall not procure materials unless GE 871 EWS first approves the samples.

10.5 The cost of testing of materials shall be born by the contractor. While quoting their lump sum, this aspect should be kept in mind and nothing extra shall be admissible on this account.

11. **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.

12. ADVANCE ON ACCOUNT OF MATERIALS WHICH DO NOT LOOSE IDENTITY (APPLICABLE TO CONTRACTS OF VALUE Rs 50 LAKHS AND ABOVE).

The contractor may be paid advance on account of the full value of the under mentioned materials only, brought on the site, on his furnishing guarantee Bonds from a Scheduled Bank for the amount of retention money which should otherwise be recoverable from him under the contract.

(a) - NIL -

The Bank Guarantee Bonds shall be executed for a period of twelve months 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. It should 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.

Contd.....

SPECIAL CONDITIONS (CONTD.....)**13. SECURITY OF CLASSIFIED DOCUMENTS.**

Contractor's special attention is drawn to conditions 2-A and 3 of IAFW-2249 (General Condition of Contracts). The contractor shall not communicate any classified information regarding the work either to sub contractors or another person without the prior approval of the Engineer-In-Charge. The contractor shall 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 termination 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).

14. **OFFICIAL SECRETS ACT.** The contractor shall be bound by the Official Secret Act-1923.

15. RECORD OF MATERIALS

15.1 The quantity of materials such as paints, water proofing compound, chemicals for anti-termite treatment and the like, as directed by the Engineer-in-Charge (the quantity of which can not 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.

15.2 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.

15.3 The contractor shall, on demand, produce to the GE, original receipted vouchers/invoices in respect of the supplies. The vouchers/invoices shall be defaced and stamped by Engineer-in-Charge indicating contract no, 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.

15.4 Contractor shall produce vouchers/invoices from the manufacturers and/or their authorised agents for the full quantity of the material, 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.

16. RELEASE OF PERFORMANCE SECURITY DEPOSIT

16.1 Refer conditions 19 and 68 of IAFW-2249.

16.2 The contractor has to deposit performance security for the contract as mentioned in condition 19 as per amendment No 47 of IAFW-2249. The performance security shall be released in accordance with amendment No 45 of IAFW-2249 of condition 68 of IAFW-2249.

17. CLEANING DOWN.

Refer Condition 49 of IAFW-2249, General Condition 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 clean and tidy before handing over the completed work.

18. SAFETY PRECAUTION

18.1 The contractor shall take every precaution to control traffic on road keeping danger boards, necessary lighting arrangement, fencing and watchman to avoid any damage. In case due to excavation or others the road is to be blocked the contractor shall, without any extra cost to the Govt, provide separate by pass so that normal traffic is not disturbed.

SPECIAL CONDITIONS (CONTD.....)

- 18.2 Any damage to the existing road/building etc, shall be made good by the contractor with the same pacifications as per existing work, without any extra cost to the Govt. In the event of contractor not fully complying with the above provisions to the satisfaction of the GE, the GE may provide the same for which the expenses incurred will be recovered from the contractor.
19. **ADVANCES ON ACCOUNT.** Refer condition 64 of IAFW-2249 (General Condition of Contract).
20. **RECOVERY CHARGES FOR TESTING OF MATERIALS**
- 20.1 The types of tests and frequency of test to be carried out in site laboratory are attached as Appendix 'D'. However keeping in view nature of work, Garrison Engineer may add additional test checks to this list or modify the list as required.
- 20.2 The charges for the tests carried out in site laboratory of the contractor shall not be recovered, as the tests shall be carried out by the contractor at his own cost in his site laboratory. However, the charges for tests shall be recovered from the contractor only if he does not carry out the tests catered for in the contract and these are got done at MES laboratory.
- 20.3 Where testing of contractor's materials is carried out in Zonal/Command Testing Lab (CTL) Lucknow/Site Lab/National Test House/SEMT Wing/Engineering College, the contractor shall be liable to pay the testing charges as stated in Appendix 'D' to specifications and shall be recovered from the contractor's running payment/final bill as the case may be.
- 20.4 A percentage/selected checks as decided by the Accepting Officer, shall be got done independently in the Zonal/ Command Testing Lab (CTL) Lucknow /Govt laboratory/NABL accreditation lab and expenditure for such tests shall be borne by the contractor.
- 20.5 In case the tests are carried out in Zonal/ Command Testing Lab (CTL) Lucknow or any other laboratory, the recovery shall be made at rates applicable i.e. as given in Appendix 'D'.
- 20.6 In case requisite No. of applicable tests catered in Appx `D' are not carried out by the contractor and GE is satisfied about the quality of material, the same is in accordance with the contract specification, he may dispense with the tests and in that event the contractor shall be liable to bear the recovery for not carrying out the tests at the panel rate which will be three times the rate given in the Appx `D'. In case GE is not satisfied about the quality of material, he will get the test done in the MES Zonal Lab/Command Testing Lab (CTL) Lucknow/SEMT Wing Pune/National Test House/ Govt approved lab/Engineering college and in that event contractor shall bear the recovery for such tests carried out at panel rate of three times the rate given in Appx `D' or twice the actual expenditure whichever is higher.
21. **VERIFICATION ANTECEDENTS.** Verification of antecedents of Contractor's representative/labour deployed at site in connection with execution of work under the contract, as per security requirement of user unit/installation shall be the responsibility of the contractor and all expenses in connection with verification of antecedents by Police Authority/Security Agency shall be borne by the Contractor.
22. **RE-IMBURSEMENT/REFUND ON VARIATION IN "TAXES DIRECTLY RELATED TO CONTRACT" :-**
- (a) The rates quoted by the Contractor shall be deemed to be inclusive of all taxes (including Sales Tax/VAT/GST on materials, Sales Tax/VAT/GST on Works Contracts, Turnover Tax, labour Welfare cess/tax etc.), duties, Royalties, Octroi & other levies payable under respective Statutes, No re-imburement/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- below.

Contd.....

SPECIAL CONDITIONS (CONTD.....)

(b) 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/GST 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.

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

(d) The Contractor shall, for the purpose of this condition keep such books of account and other documents as are necessary and shall allow inspection of the same by a duty authorized representative of Govt, and shall further, at the request of the GE furnish, verified in such a manner as the GE may require, any documents so kept and such other information's as the GE may require.

(e) Re-imburement for increase in percentage rates imposition of "taxes directly related to Contract value" shall be made only of the Contractor necessary and properly pays additional "taxes directly related to Contract value" to the Govt., without getting the same adjusted against any other tax liability or without getting the same refunded from the concerned Govt. authority and submits documentary proof for the same as the GE may require.

(f) The rate quoted by the contractor shall be deemed to be inclusive GST as applicable.

Signature of Contractor

AGE (Contracts)
For Accepting Officer

Dated :

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

1. GENERAL

(a) Work under this contract shall be carried out in accordance with Schedule 'A' particular specifications, drawings and general specifications and other provisions in MES Standard Schedule of Rates (here-in-after called MES Schedule) Part I 2009 and Part II 2020 read in conjunction with each other.

(b) The term "General Specifications" referred to hereinbefore as well as referred to in IAFW-2249 (General Conditions of Contract) shall mean the specifications contained in the MES Schedule Part I.

(c) General Rules, specifications, special conditions and all 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 provisions in these document shall take precedence over the aforesaid provisions in the MES Schedule. The term "as specified" wherever appears in tender documents and drawings, relates to relevant particular specifications and in its absence general specifications. All references to MES Schedule (Standard Schedule of Rates) in these specifications relate to Part I of MES Schedule unless otherwise mentioned. References to only 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 Schedule 'A' even though not particularly mentioned hereinafter.

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

(e) Any drawing which mentioned on the drgs forming part of the tender but not specifically mentioned in the list of drgs shall be deemed to be forming part of the tender. The tenderer shall see such drgs/details in the office of Accepting officer/concerned GE.

(f) Rate 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 work. Decision of the Accepting officer as to whether any minor details of work and/or construction is obviously and fairly intended to be included in the contract or not shall be final, conclusive and binding. However, some of the minor details/item which are deemed to be essential for execution and the completion of work are detailed as under for guidance :-

(i) Reinforcement for any RCC member not indicated in the drawings but is structural or codal requirement.

2. CONCRETE WORK

2.1 CEMENT

2.1.1 GENERAL : Cement required for the entire work under the concrete shall be procured, supplied and incorporated in the works by the contractor under his own arrangement. Cement shall be of tested quality and shall comply with the requirements mentioned in the drawings, MES Schedules, IS specifications as amended and particular specifications given here in after.

2.1.2 Type of cement for the subject work shall Ordinary Portland cement of Grade 43 (Forty Three) in accordance with IS-8112 of 1989 or Portland Pozzolona Cement (IS: 1489-1991) as mentioned in notes of Structural drawings. Mixing of OPC & PPC shall not be allowed in the work.

Contd....

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

2.1.3 While using the PPC, following requirements shall be met by the contractor :-

- (a) PPC shall meet the strength criteria of 43 grade OPC as laid down in IS : 8112-1989.
- (b) The minimum period before striking formwork given in clause 11.3.1 of IS : 456 of 2000 shall be increased at site by 03 days. The contractor shall not claim any thing extra on this account.
- (c) Wet curing shall be done for a period of 14 days, wet curing of columns shall be done through Hessians cloth wrapped on the columns.
- (d) The contractor shall submit the following certificates from the manufacturer of the cement for every batch of cement :-
- (i) The quality of fly ash is strictly as per IS : 14989 (Part-I) 2002.
- (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 has used.
- (iv) The fly ash is received from thermal power plant using high temperature consumption above 1000°C has only been used.
- (e) The compressive strength of cement at 03 days, 07 days and 28 days shall not be less than 23 Mpa , 33 Mpa and 43 Mpa respectively. The GE before acceptance shall test each lot of cement brought at site for compliance.

3. **SOURCES OF PROCUREMENT**

3.1.1. (a) Cement shall be procured by the contractor directly from any of the following main producers of cement:-

Srl No	COMPANY NAME	BRAND NAME	ADDRESS	MARKETING SET UP	REMARKS
1	2	3	4	5	6
1.	M/s Cement Manufacturing Company Ltd	"Star Brand"	Mayur Garden, 2 nd Floor, Opp-Rajuv Bhawan, GS Road, Guwhati-781005 Ph-0361-2462215/216/513 Fax :0361-2462217 Email:cmclghy@cml.co.in	-	OPC 43, 53 Gde & PPC
2.	M/s OCL India Ltd	"Konark Cement"	Rajgangpur, Dist-Sundargarh Orissa, Pin-770017 Ph-0361-2668504, Fax-2662131 Website :www.calcom.co.in	Orissa, W.B. JH, Bihar	OPC 43 Gde & PPC
3.	M/s Dalmia Cement (Bharat) Ltd	Dalmia	Dalmiapuram, Disttiruchirappalli, Tamil Nadu – 621651	Tamil Nadu, Karnataka, Kerala, AP & A&N	OPC 43 Gde & PPC

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PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

Srl No	COMPANY NAME	BRAND NAME	ADDRESS	MARKETING SET UP	REMARKS
1	2	3	4	5	6
4.	M/s Nuvoco Vistas Corporation Ltd (Formerly Lafarge Cenment)	Nuvoco	Equinox Business Park Tower-3, East Wing , 4 th loor , LBS Marg , Kurla (West), Kurla Mumbai, Maharastra-400070		OPC 43GR, PPC
5	M/s Ultra Tech Cement		'B' Wing, 2nd Floor, Mahakali Caves Road Andheri (East), Mumbai-400093		OPC 43 Gr & PPC
6.	M/s Saurashtra Cement		Gala No A-1, Ground Floor, Udhyog Sadan No 3 MIDC, Central Road, Andheri (East), Mumbai-400093 Ph 022 32955557/67 MO 9320290081		OPC 43 Gr & PPC
7.	M/s Wonder Cement Ltd		17, Old Fatehpura Sevamandir Road, Udaipur-313004, Rajasthan(India) Tele +91-294-33991133 Fax-+91-294-30063333		OPC 43 Gr OPC 53 Gr & PPC
8.	The Associated Cement Companies Ltd		414/421, Splendor Forum (4th Floor), 3, Distt Centre, Jasola,New Delhi-110044 Ph-011-46583600		OPC 43 Gr & PPC
9.	Grasism Industries Ltd		Birlagram, Nagda, Madhya Pradesh, Pin-456331 Ph-07366246760/246766		OPC 43 Gr & PPC
10.	The India Cement		Dhun Building, 827, Anna Salai, Chennai-600002		OPC 43 Gr & PPC
11	Andhra Cement Ltd		Durga Cement Works Durgapuram, Dechepalli Guntur, AP, Pin-522414 Ph-0863257429		OPC 43 Gr & PPC
12.	Century cements		Industry House, 159 Chruch gate Reclamation, Mumbai-400020 Ph-022-22023936		OPC 43 Gr & PPC
13	Binani cement Ltd		Mercantile Chambers, 12 J.N Heredia Marg, Ballard Estate, Mumbai-400001 022-22690506/10		OPC 43 Gr & PPC
14.	Mangalam Cement Ltd		PO dityanagar,Morak,Dist-Kota, Rajasthan-326520 Mob-9351468076		OPC 43 Gr & PPC
15.	Birla Corporation Ltd		Birla Building (3rd & 4th Floor) 9/1 R.N Mukherjee Road Kolkata-700001 Ph-033-30573700		OPC 43 Gr & PPC

Contd/...

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

Srl No	COMPANY NAME	BRAND NAME	ADDRESS	MARKETING SET UP	REMARKS
1	2	3	4	5	6
16	Orient Cement		5-9-22/57/D, 2nd and 3rd Floor, GP Birla Centre, Adarsh Nagar, Hyderabad-500063 Ph-04423688600		OPC 43 Gr & PPC
17	Shree Cement		Bangur Nagar, Beawar, Distt-Ajmer, Rajasthan-305901 Ph-01462228101/06		OPC 43 Gr & PPC
18	JK Cement	JK Cement	Kamla Tower Kanpur-208001		OPC 43 Gr & PPC
19	JK Lakshmi Cement Ltd		Jaykaypuram, Dist-Sirohi, Rajashthan Ph-02971 244409/10		OPC 43 Gr & PPC
20	Jaypee Rewa Cement	Jaypee	Japee Nagar P.O. Japee nagar, Rewa-486450 (M.P.)		OPC 43 Gr & PPC
21	Ambuja Cement Ltd		Kodinar, PO-Ambujanagar, Taluka-Kodinar, Distt-Junagadh,Gujrat-362715 Ph-02795237000		OPC 43 Gr & PPC
22	M/S My Home Industries Ltd	1.Maha Brand for OPC43 2. Maha Shakti for PPC	9 th Floor,Block-3,My Home Hub,Madhapur,Hydrabad-500081		OPC 43 Gr & PPC
23	M/S Sanghi Industries		10 th Floor,kataria Arcade Off SG Highway,PO-Makarba,Dist-Ahmedabad,Pin-380051,Ph-079-26838000		OPC 53 Gr & PPC

Note:

(i) Contractor can procure Cement from those makes/ brands approved by the AHQ E- in-Cs Branch even during currency of the contract work.

(ii) Any other make approved by E-in-C's Branch including subsequent to receipt of tender but after approval from accepting officer can be procure during currency of the contract work.

(b) However, where the quantity of cement required is **less than 1200 bags**, same may be procured from authorised distributors/dealers of approved manufacturer's, if so, permitted by GE in writing. Testing of cement shall in variably be got done before incorporation in work. The contractor shall submit test certificate for each batch of cement issued by the manufacturer.

(c) The contractor shall furnish the particulars of the manufacturer of cement along with the date of manufacture to the GE for every lot of cement separately. The cement so brought shall be fresh and in no case older than 90 days from the date of manufacture. The GE shall verify the document in support of the purchase of cement. Before placing order for supply of cement by the contractor, he shall obtain written approval from the GE regarding name of manufacturer, quantity of cement etc. Cement shall be procured for minimum requirement of one month and not exceeding the requirements of the same for more than two months at a time. The cement shall be consumed in the work within three months after receipt. Cement shall conform to the requirement of IS specification and each bag of cement shall bear relevant ISI mark. The weight of each consignment shall be verified by the GE and recorded. The content of cement shall be checked at random to verify the actual weight of cement per bag. However the content of cement per bag shall be 50 Kg only subject to tolerance given in Clause 9.2.1.1 and Annexure 'B' of IS-8112 and Clause 10.2.1.1 and Annexure 'B' of IS-1489 for OPC and PPC respectively.

Contd/...

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

3.1.2 TESTING OF CEMENT

3.1.3 (a) The contractor shall submit the manufacturer's test certificate in original alongwith test sheets giving the results for each physical test as applicable in accordance with relevant IS provisions and the chemical composition of the cement or authenticated copy thereof, duly signed by manufacturer with each consumption as per, as per the following IS provisions :-

- (i) Method of sampling hydraulic cement as per IS : 3535-1986.
- (ii) Method of physical test of hydraulic cement as per IS : 4031.
- (iii) Method of chemical analysis of hydraulic cement as per IS : 4032 – 1985.

(b) The test certificate and test sheet shall be furnished with each batch of cement. The Engineer in Charge shall record these details in cement acceptance register to be maintained by him which will be signed by JE (Civil), Engineer in Charge, GE and the Contractors as given in the format here in after for verification.

(c) The contractor shall however, organize setting time and a compressive strength test of cement through designated laboratory on samples collected from the lot brought at site before incorporation in work. The contractor will allow using the cement only after satisfactory compressive strength of seven days. To meet this requirement contractor is required to keep minimum 10 days stock before any new lot is brought at site. Which can be used, in the work. The contractor shall be required to remove the cement not meeting the requirement from the site within 24 hours. Seven days strength test will be relied upon to accept the lot of cement to commence the work. 28 days compressive strength test will be the final criteria to accept/reject the lot.

(d) The random samples, as per relevant IS shall be selected by GE before carrying out testing. The record of such samples selected by GE for testing shall be property maintained in the cement testing register giving cross reference to relevant consignment of cement and quantity received etc.

(e) Cost of transportation of samples to the approved laboratory/test house and all testing charges including cost of sample shall be borne by the contractor.

(f) The contractor shall be required to set up adequate testing facilities at site to the entire satisfaction of GE for conducting setting time test and compressive strength test as per IS codes referred to here in before for the samples collected from the lot brought at site. Those tests shall be carried out within 07 days of receipt of cement at site. The tests can alternatively be carried out at the Zonal Laboratory or any other recognized laboratory so designated by GE.

(g) The GE shall carryout independent testing as per the tests mentioned in the 'CEMENT SUPPLY AND ACCEPTANCE REGISTER' (as per Annexure-I) of random samples of cement drawn from various lots, if sample fails in 7 days compressive strength. The testing shall be carried out through National Test House, SENT, CWE, Regional Research Laboratories, Govt. approved Laboratories, Zonal Laboratories/IIT Kanpur 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) referred to above. The decision as to where the testing of cement is to be done shall be taken by GE. In case the cement is not requisite standard despite manufacturers test certificate, the contractor shall remove the total consignment from the site at his own cost after written rejection order of the consignment by GE. The cost of test shall be born by the contractor irrespective of the results of testing.

Contd....

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

(h) The contractor shall submit original purchase vouchers for the total quantity of cement supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the GE alongwith the relevant documents to ensure the requirements as mentioned here in before, before acceptance the original purchase vouchers and the test certificates shall be verified for subject contract and defaced by the Engineer in charge and kept on record in the office the GE duly authenticated and with cross reference to the consignment/control number recorded in the 'Cement Acceptance Register'. The cement Acceptance Register shall be signed by the JE (Civil), Engineer in Charge, GE and the contractor. The contractor shall maintain schedule of supply of cement for each consignment.

(j) The Accepting officer may order a board of Officers for random check of cement and verification of connected documents during the currency of contract.

3.1.4 STORAGE/ACCOUNTING/PRESERVATION OF CEMENT

(a) Cement shall be stored in covered go-down over dry platform at least 20 cm high in such a manners as to prevent deterioration due to moisture or intrusion of foreign matter. In case of store room the stack should be at least 20 cm away from the floors and 60 cm from the walls. The stacking of cement shall be done as specified in relevant IS. The storage accounting and preservation of cement supplied by the contractor shall be done as per standard Engineering practice till the same is incorporated in the work and the cost of the same shall be deemed to be included in the unit rate/amount quoted by the tenderer. The Engineer in charge shall inspect once a day to verify that cement lying at site is stored, accounted, preserved and maintained as per the norms. The cement shall be a store so as to differentiate each tested and untested consignment separately with distinct identification. If the GE is not satisfied with the storage/preservation of cement, he may order for any test (s) of cement as applicable for that consignment to ensure its conformity to the quality mentioned in the manufacture's test certificate. The contractor shall bear the cost of necessary testing (s) in this regard and no claim whatsoever shall be entertained.

(b) Stacking of cement shall be done as per relevant IS and as under :-

- (i) Each cement consignment shall be stacked separately and removal shall be made on the basis of First in First out.
- (ii) Adequate top cover will be provided.
- (iii) Stacks in no case shall be higher than 12 bags. The maximum width of each stack be 3.0m. If stack is more than 07 or 08 bags high, the bags shall be arranged in header and stretcher fashion, i.e. alternatively length wise and crosswise so as to pile together and avoid topping over.
- (iv) Adequate space shall be kept between two stacks.

(c) Cement godown shall be provided with two locks on each door. The key of one lock at each door shall remain with Engineer in Charge or his representative and that of the other lock with the contractor's authorized agent at site of works so that cement is removed from the godown only according to daily requirement with the knowledge of both the parties. During the period of storage, if any cement bag (s) is found to be in damaged condition due to whatsoever reason, the same shall be removed from the cement godwon on written orders of GE and suitable replacement for the cement bag (s) so removed shall be made and no claim whatsoever shall be admissible on this account.

Contd....

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

(d) In case more than one type of cement is used in the work i.e. Ordinary Portland cement or Portland Pozzolana cement, both type of cement shall be stored separately as directed by the Engineer in Charge to avoid mixing of those type of cement. Separate record shall be maintained including the location/items where this type of cement is used.

(e) Cement shall be removed from the store only according to daily requirement with the knowledge of both the parties and the Engineer in Charge and the contractor shall record daily consumption of cement in cement consumption register, which shall be signed. Cement constants given in Appendix 'A' to E-in-C's Branch letter No.19280/E8 dated 03 May 1976 shall form the basis of consumption of cement for various items of works unless specifically indicated otherwise.

(f) In case the consumption of cement as per cement consumption register is found to be more than the estimated quantity of cement due to whatsoever reason, the contractor shall not have any claim whatsoever for such excess consumption of cement.

3.1.5 SCHEDULE OF SUPPLY

The contractor shall procure the cement timely as required in accordance with CPM chart agreed between GE and the contractor. The contractor will forfeit his right to demand extension of time if the supply of cement got delayed due to his failure in placing order in time to manufacturer.

3.1.6 MEASUREMENTS AND PAYMENT OF CEMENT

(a) The entire quantity of cement shall also be suitably recorded in the measurement book for record purposed as 'Not to be abstracted' before incorporation in the work and shall be signed by the Engineer in Charge and the contractor.

(b) The payment shall only be allowed after production of original purchase voucher, certified copies of test certificates from the manufacturer for each consignment and results of testing carried out in the laboratory on receipt of cement (07 days compressive test) are found satisfactory after testing as at stie as per condition 64 of IAFW-2249. Rate of payment given in SSR shall be applicable for cement irrespective of type and grade of cement specified for use in the work.

Contd....

PARTICULAR SPECIFICATIONS
BUILDING WORKS (Contd..)

Annexure 'I'

CEMENT SUPPLY AND ACCEPTANCE REGISTER

1. CA No. & Name of work :
2. Control No. :
3. Name of manufacturer/Brand Name/Grade of Cement :
 - (i) Manufacturer :
 - (ii) Brand :
 - (iii) Grade :
4. Qty of cement & Lot No./Week No. (in Bags) :
 - (i) Quantity :
 - (ii) Lot No./Week No. :
5. Manufacturer's Test Certificate No. :
6. Random Test Details :
 - (a) Physical test report from _____ vide letter No. _____
(Name of approved Lab/Engineering College)
 - (b) Chemical test report from _____ vide letter No. _____
(Name of approved Lab/Engineering College)

7. Details of Physical & Chemical properties :-

	Physical Requirements (as per IS 4031)							Chemical Requirements (As per IS 4032)										
	Specific Surface area	Soundness by Le Chatelier	Soundness in Auto Clave	Initial Setting Time (Minutes)	Final Setting Time (Minutes)	Compressive Strengths (Mpa)			Temp during testing OC	Standard Consistence (%)	Lime Saturation Factor	Alumna Iron Ratio (Ratio)	Insoluble Residue (%)	Magnesium (%)	Sulfuric Anhydride (%)	Loss on ignition (%)	Alkalis (%)	Chlorides (%)
03 days						07 days	28 days											
As per relevant IS																		
As per manufacturer test certificate																		
As per random test certificate																		

Remarks with Signature
Accepted/Rejected

Contractor Junior Engineer Engineer-in-Charge Garrison Engineer

Remarks of BOO/Inspecting Officer/CWE
*To be allotted serially by GE consignment wise

Contd....

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

3.2. Fine Aggregate. Fine aggregate for concrete work shall conform to material specifications and gradings within the limits of Grading zones II to III all as specified in clause 4.4 of MES Schedule.

3.3. Coarse Aggregate. Refer Clause 4.4 of MES Schedule Part I Coarse aggregate for all plain cement concrete shall be graded shingle/broken stone/crushed stone at contractor's options. For all RCC work the coarse aggregate shall be graded crushed stone.

3.3.1. Grading of Coarse Aggregate. Graded Aggregate of nominal sizes given hereunder, shall be used, unless specified otherwise, hereinafter : -

(a) Plain or reinforced cement concrete except in foundation of Brick or stone Walls/Pillars, Floors and Sub base to Floors.

(i) For structural elements of depth/thickness more than and including 50 mm. - 20mm

(ii) For structural elements of depth/thickness less than 50 mm - 12.5mm

(b) Plain Cement concrete in Foundation of Brick/stone Walls, Pillars, Floors and Sub Base to Floors.

(i) Under 30 mm thickness : 12.5 mm

(ii) 30 to 80 mm thickness : 20 mm

(iii) Exceeding 80 mm thickness : 40 mm

3.4. Water. Water shall be conformed to the requirement stipulated in IS 586 and as per clause 4.9 of MES Schedule.

3.5. Important Requirement of Reinforced Cement concrete/plain cement concrete.

3.5.1. All the materials, workmanship, inspection and testing for the cement concrete of Grade M-25/M-30 design mix concrete shall be as per the requirements given in IS-456 (2000). It is an express condition of the contract that the design mix M-25/M-30 shall be executed with weigh batchers with weight proportion based on mix design Volumetric conversion shall not be acceptable. The weigh batchers shall be maintained in clean and serviceable conditions and their accuracy shall be checked by the GE periodically.

3.5.2 The contractor shall provide all facilities and equipments for casting, curing and conveyance of test cubes of cement concrete of Grade M-25/M-30 (As applicable) (design mix) and other cubes to site . MES laboratory or other laboratory or other Laboratory approved by the GE. The lump sump amount/rate quoted by the contractor for the respective item shall deem to include this aspect nothing extra shall be admissible to the contractor on this account. Testing of test cubes shall be carried out in MES laboratory in presence of contractor or his authorised representative. In case the contractor representative does no remain present during the time of testing of the cubes, the testing shall invariably be done by officer-in-charge of the laboratory. The testing of concrete cubes if undertaken in the site lab maintained by the contractor and as approved by the GE, the contractor shall ensure testing of cubes as described at clause 24 of special conditions here in before. The test reports shall be signed by the Engineer-in-charge and the contractor and the same shall be maintained on record.

3.5.3. The contractor shall prepare a trial mix and get the same tested from SEMT WING CME, Govt Engineering Colleges/ IIT / Polytechnics, Govt/ National Test Houses, Testing laboratories / Pvt Engineering Colleges as approved by Chief Engineer Zone Bareilly at his own cost and bring the requisite report from them and shall produce to the GE for his reference and record. The work with design mix concrete will progress only on approval of mix design by GE.

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PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

3.5.4. All cement concrete, both plain and reinforced shall be mixed in mechanical mixer of approved type conforming to IS-1719. However, in case of small quantity (i.e the quantity of concrete required being less than one batch of mix). The contractor may, after obtaining written permission of the Garrison Engineer, be allowed hand mixing. Where hand mixing is permitted, it shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the concrete is uniform in colour and consistency.

3.5.5 All concrete for RCC work shall be consolidated/ compacted by mechanical vibrators of approved type. Pre-cast – in-situ, plain cement concrete may however, be rammed and consolidated by tamping and rodding as specified in MES Schedule.

3.5.6 All RCC member i.e including plinth beam shall be cast using form work on sides and bottom.

3.6. **FORM WORK.**

3.6.1. Form work shall comply with requirements of clause 4.11.6, 4.11.6.1 to 4.11.6.5 and 7.15 of MES Schedule Part I.

3.6.2. Form work shall be of steel or plywood of adequate strength, at the option of the contractor, However, deformed steel sheet shall not be permitted for use as form work. In case of any deviation involving form work to surfaces exposed to view, the pricing shall be done at the rates of timber form work for fair finish.

3.7. **Exposed surface of concrete Refer clause 4.11.16 of SSR Part I.**

3.7.1. Exposed surfaces of concrete after striking of form work shall be plastered with cement and sand mortar 1:3 , 5 mm thick and finished fair and even as specified in clause 4 .11 16.2(b) of SSR Part –I.

3.7.2. Exposed surfaces of lintels, beams, columns etc. which are continuous with plastered surfaces of wall shall be plastered, in the manner specified for the walls.

3.8. **Precast Concrete Articles.** Cement concrete lintels with or without integrally cast chajjas upto 1.5 m clear span, shelves, bed blocks/plates, covers slabs, fencing posts, fins and jalli and the like may either be precast or cast in situ. at the contractor's option, unless otherwise shown on drawings. If pre-cast, these shall be set in cement mortar (1:4). In case of deviation involving these items, pricing shall be done on the basis of cast-in-situ work. In case of continuous lintels even spanning less than 1.5 m shall be considered as if it is exceeding 1.5 m for the purpose of deviation orders.

3.9. **RCC Chajjas with fins/RCC chajja.**

3.9.1. RCC chajjas with fins/RCC chajja shall be provided as per details shown on drawings. Thickness of the finished fins after application of rendering in cement mortar (1:3) on both sides shall be 50 mm, unless otherwise shown on drawings.

3.9.2. RCC Chajjas (whether cast integral with the lintel or precast embedded in the wall) shall be provided with a coved fillet of radius 50 mm in PCC (1:2:4) type B-O, preferably cast when concrete is green.

3.9.3. The top surface of chajjas/fins and the coved fillet shall be finished with 15 mm thick cement plaster in cement mortar 1:3 with mix ture of approved water proofing compound as per manufacturer" instructions subject to minimum of 2% by weight of cement, while the concrete is green viz just after the initial setting has taken place.

Contd...

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

3.10. Drip course/throating/weathering :-

(a) The following works shall be executed by the contractor without any extra cost to department whether shown on drg or not :-

(i) The projection of chajjas, roofs, cills, coping and the like shall be provided with proper drip and/or throating and weathering.

(ii) All flat surfaces exposed to weather shall be weathered with a imperceptible slope for smooth run of rain water.

3.11. PCC Cills : These shall be extended in walls at both sides by 75 mm. However, the projection/drip shown in drawing shall be provided only in external walls cills.

3.12. Concrete Padding. Where the required height of walls, openings, is not obtained with adequate size of bricks the same shall be obtained by providing PCC 1:2:4 type B-O padding. Cut bricks shall not be allowed and the cost of complete padding shall be deemed to be included in lump-sum cost quoted by the contractor.

4. **BRICK WORK-**

4.1. Common Burnt clay building brick:- The nominal size of brocks shall be 230mm x 115mm x 75mm the tolerance shall be not more than (+) (-) 10% water absorption not exceed 20% where ewer in schedule A or else where class A or subclass 'B' is specified/mentioned the shall be applicable.

4.1.2. Unless mentioned otherwise brick wall 230mm thick and more shall be in cm 1:6.

4.1.3 Unless mentioned otherwise halt brick wall should be fail in cm 1:4

4.2 Stone masonry- Stone masonry shall be carried per all as specified in Sch 'A' and specified in P-S clause 6.1 to 6.22 SSR Part I 2009 on SSR page No 107 to 123.

4.2.1 Sand. Sand for Mortar shall be as specified to Clause 5.4 on sl page No 88 of MES SSR Part I (2009)

5. **Panelled Door Shutters.**

5.1. Panelled door shutters shall be factory made conforming to IS-1003 (Part-I). Styles and rails shall be kiln seasoned and chemically treated (under vacuum pressure). Panel inserts shall be 12 mm thick veneered particle board BWR conforming to IS-3097 exterior grade (Grade-I) solid core, general purpose commercial veneered on both sides. The thickness of shutter shall be 35 mm irrespective of whatever is shown on drawings. Before placing the bulk order, the contractor shall produce samples of shutters for approval of GE. GE shall get the sample tested in the Govt approved test laboratory. This sample shall be approved only, if the test results are satisfactory. All charges of transportation and tests etc shall be borne by the contractor.

5.1.1. The size of styles and rails etc shall be as shown in drawings. The wood for styles and rails of factory made panel shutters/gauge shutters shall be of 1st class hard wood shisham.

5.1.2. Glazed skeleton shutters These shall be factory made and provided in locations as shown in drawing and shall be as specified in clause 8.17 of SSR Part I except that the sizes of style/rails/mullions/sash bars etc shall be as shown in drawings. In case of deviation the rates given in MES Schedule shall however, be applicable to the joinery for second class hard wood as specified. Two sash bars of 25 x 12 mm of 1st class hard wood shall be provided in fly proof shutter to protect damage.

5.1.3 Shutters shall be as of one of the makes given in Appendix 'B' here-in – after.

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

6. BUILDER'S HARD WARE.

6.1. All articles of builders hardware shall bear ISI marking. In case any item/fitting with ISI mark is not manufactured then it shall conform to the relevant IS specifications and the specifications given in the MES schedule for the relevant item.

6.2. Screws used for fixing items of builders' hardware shall be as specified in Clause 9.2.6 of MES Schedule.

Articles :-

6.2.1. Hinges

6.2.1. Butt Hinges. Butt hinges shall be of cold rolled mild steel of medium weight all as specified in Clause 9.7.2 of MES Schedule and ISI marked, fixed with screws.

6.2.2 Door Handles. All doors and shutters shall be provided all as described in Sch 'A' and as specified in clause 9.11 of MES Schedule.

6.3. Barrel Tower Bolts. Tower bolts shall be provide all as specified in Sch 'A" and as specified in Clauses 9.3.1 & 9.3.3 of MES Schedule.

6.3.1. Sliding Door Bolts. Sliding door bolts shall be provide all as specified in Sch 'A" and as specified in relevant clauses of MES Schedule.

6.3.2 Wire Cloth. Wire shall be provide all as specified in Sch 'A" and as specified in clause 9.25 of MES Schedule.

6.3.3 All the builder's hardware shall be of one of the makes given in Appendix "B" here-in-before.

7. STEEL AND IRON WORK :-

7.1 **TYPE OF STEEL** : Steel for various types of work shall be of following quality/grade:-

7.1.1 **REINFORCEMENT STEEL :-**

High strength deformed steel bars produced by thermo mechanical treatment process (TMT steel bars of grades Fe-500 & Fe-550) meeting all other requirements of IS-1786.

7.1.2 **STRUCTURAL STEEL :-**

(a) Definition of structural steel as given in Clause 10.4 of SSR Part-I shall be applicable.

(b) Following types of structural steel shall be used in the work: -

(i) Standard quality steel E 250(Fe-410-W) conforming to IS-2062-2006 for all types of steel structures including those subject to dynamic loading.

(ii) Ordinary quality steel E 165(Fe-290) conforming to IS-2062-2006 for frame of gauged/paneled doors, windows, guard bars, grills, hand railing, fencing posts etc.

7.1.3 **GI Sheets** : ISI marked GI Sheets (Plain and corrugated) of grade 'O' with 120 gm/sqm galvanized coating conforming to IS-277-1992 shall be used where ever shown on drawings/Sch 'A'.

7.1.4 **Fabric Reinforcement for Concrete** : It shall be conforming to IS-1566.

7.2 **SUPPLY OF STEEL :-** All steel to be incorporated in the work shall be procured & supplied by the contractor under his own arrangements and at his own cost.

Contd..

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

7.3 PROCUREMENT OF STEEL :-

(A) **STRUCTURAL STEEL.** (i) The structural steel sections shall be ISI marked and shall be procured directly from main producers of steel viz, SAIL, RINL, IISCO & TISCO or other primary producer approved by E-in-C's Branch only. No price adjustment shall be done if the steel is procured from other primary producer approved by E-in-C's Branch. If the structural steel is not available with SAIL, RINL, IISCO & TISCO or other primary producer approved by E-in-C's Branch, the same can be procured from the approved secondary producers as listed below subject to minus price adjustments. Galvanized steel sheets and fabric reinforcement for concrete shall be procured directly from main producers/BIS marked manufacturer's at the option of contractor without any minus price adjustment.

(ii) The minus price difference shall be done @ 5% of the rates of structural steel (rate of main/primary producers). However in case of the desired section of structural steel is not rolled/manufactured by main/primary producer, there shall be no price adjustment in use of steel procured from approved secondary producer.

LIST OF APPROVED PRIMARY PRODUCERS FOR STRUCTURAL

- (a) Rashtriya Ispat Nigam Limited (RINL) Brand: "RINL"
- (b) Tata Iron & Steel Company (TISCO, or Tata Steel) Brand: "TATA"
- (c) Steel Authority of India Limited (SAIL) Brand: "SAIL"
- (d) M/S Jindal Steels and Power Ltd. Brand: "JINDAL"

LIST OF APPROVED SECONDARY PRODUCERS FOR STRUCTURAL STEEL

- (a) M/s Kashi Vishwanth Steel Ltd., Narain Nagar, Bazpur Road, Kashipur - 244 713, Distt : U.S. Nagar (Uttaranchal) (Ph: 05947-262109, 262138, Fax: 05947-262103) (E-mail kvs_ksi@datainfosys.net, kvscorporate@kvsl.com) Visit us at : www.kvsl.com
- (b) M/s Shyam Steel Industries Ltd., White Towers, 115 College Street, 1st floor, Kolkata – 12, Tele : 033-22373333, 22373311
- (c) M/S K L Steel Pvt Ltd., Post Box No. 61, Lal Kuan, Bulandshahar Road, Ghaziabad (UP),Tele : 0120-2867911, 2867915 Fax : 0120-2867917
- (d) M/S Shri Badrinarain Alloys & Steels Ltd., 95, Stephen House,
- (e) M/s Pushpak steel Industries Pvt Ltd
- (f) M/s Tata steel Industries
- (g) M/s K L concast Pvt Ltd.
- (h) M/s Karam Steel Corp

(B) **TMT Steel** : (a) TMT steel shall be grade Fe-500/Fe-500D/Fe-550/Fe-550D reinforcement steel consisting of high strength deformed steel bars produced by TMT process of all sizes shall be procured directly from main producers viz. SAIL, RINL, TISCO and other primary producers approved by E-in-C's Branch only. No price adjustment shall be done if the steel is procured from other primary producers approved by E-in-C's Branch.

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PARTICULAR SPECIFICATIONS (Contd...)**BUILDING WORKS****7.4 APPROVED TMT STEEL MANUFACTURER FOR PROCUREMENT OF TMT BARS :**

All steel for reinforcement to be used in the work shall be contractor's supply. The contractor shall procure steel for reinforcement (TMT bars) directly from the following main producers of steel :-

1	2	3	4	5	6
Srl No	COMPANY NAME	BRAND NAME	ADDRESS	Type of Steel	REMARKS
1.	Rashtriya Ispat Nigam Limited (RINL),	RINL	Visakhapatnam Steel Plant Visakapatnam-530031, India Tel: (91891) 518226, 518376 Fax: (91891) 518316 E-mail: cmdvsp@itpvis.ap.nic.in	All	
2.	Tata Iron & Steel Company (TISCO, or Tata Steel),	TATA	Bombay House,2, 4, Homi modi Street Mumbai-400001, India Tel: (9122) 2049131 Fax: (9122) 2049522, 2770840 E-mail: corpcomm@jsr.tatasteel.com (Br office for North: Jeevan Tara Bldg, Patel Chowk, New Delhi)	All	
3.	Steel Authority of India Limited, (SAIL)	SAIL	Central Marketing Organization, Northern Region 17th Floor, scope Minar, Laxmi Nagar Distt Centre, Delhi-110092	All	
4.	M/S Jai Balaji Industries Ltd.,	Balaji Shakti	5 BenteK Street, Kolkata – 700001 Delhi Office 510, Block-B, Navraung House, 21 Kasturba Gandhi Marg, New Delhi-110001 Tel: (011) 43620219, 43620220 Mob: 7838272772, 9958936103 E-mail: info@jaibalajigroup.com	TMT Bars of Gde Fe 500 Fe 500D	
5.	M/S Shyam Steel Industries Ltd	SHYAM	Shyam Towers EN-32, Sector-V, Salt Lake, Kolkata-700091 Tel: (033) 40074007 Fax: (033) 40074010 E-mail: marketing@shyamsteel.com	TMT Bars of Gde Fe 500 Fe 500D CRS	
6.	M/S SPS Steel Rolling Mills Ltd	ELEGANT TMT	Elegant Towers, 68 A , Ballygunge Circular Road, Kolkata-700019 Tel: (033) 2895160/67 Fax: (033) 22894386 E-mail: spsdelhi@spsgroup.co.in	TMT Bars of Gde Fe 500 Fe 500D Fe 550	
7.	M/S Steel Exchange India Ltd.,	SIMHADRI TMT	My Home Laxminivas Apartments, Ameerpet, Hyderabad-500016, A.P. Tel: (040) 23403725 Fax: (040) 23413267, E-mail: info@seil.co.in	TMT Bars of Gde Fe 500 Fe 500D HSCRM	

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PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

1	2	3	4	5	6
Srl No	COMPANY NAME	BRAND NAME	ADDRESS	Type of Steel	REMARKS
8.	M/S Jindal Steel and Power Ltd.	JINDAL PANTHER	OP Jindal Road, Hissar , Haryana -125005, Tel: +91 166 2222471-84 Fax: +91 166 220476	TMT Bars of Gde Fe 500/ Fe 500D Fe 550/ Fe 550D	
9.	M/S SRMB Srijan Ltd.,	SRMB	SRMB House, 7, Khetra das lane Kolkata-700012 Tel: 033-6600 6600 Fax: 033- 22110483	TMT Bars of Gde Fe 500/Fe 500D Fe 550/ Fe 550D(Size 8-32 mm)	
10.	M/S Concast Steel & Power Ltd	CONCAST MAXX	21 Hemant Basu Sarani, Suit Nos – 511 & 512 5th Floor, Kolkata - 700001. Tel: 91 - 33 - 2213 0481--87, 91 - 33 - 2213 0488 E-mail: info@concastgroup.com	TMT Bars of Gde Fe 500 Fe 500D (Size 8-32 mm)	
11.	M/S Shri Bajrang Power & Ispat Ltd.,	GOEL TMT	Vill- Borjhara, Urla Industrial Area, Raipur-493 221, Chhattisgarh Tel: 0771 4288019/29/39	TMT Bars of Gde Fe 500 Fe 500D (Size 8-32 mm)	
12.	M/S JSW Steel Ltd.,	NEOSTEEL	JSW Centre,Bandra Kurla Complex, Bandra (Eat) Mumbai- 400051, Maharashtra Phone :022-42861000 Fax: 022-42863000	TMT Bars of Gde Fe 500 Fe 500D CRS (Size 8-40 mm)	
13.	M/S Electrosteel Steels Ltd.	ELECTROST EEL	G K Tower, 2nd & 3rd Floor, 19 Camac Street, Kolkata, WB - 700017 Tel: 91-33-2283-9990 91-33-7103-4400 Fax 91-33-2290-2882 Web site :www.electrosteel.com	TMT Bars of Gde Fe 500D (Size 8-36 mm)	
14.	M/S Shyam Metalics & Energy Ltd,	SEL	Viswakarma, 1st Floor, 86 C, Tapsia Roas, Kolkata - 700046 Ph: 91 33 2285 2212 Website: www.shyamgroup.com	TMT Bars of Gde Fe 500, Fe 500D (Size 8-32 mm)	
15.	M/S Kamachi Industries Ltd.	KAMACHI	ABC Trade Centre, 3rd Floor (Inside Devi Theatre Complex) Old No. 50, New No. 39, Anna Salai, Chennai- 600002, India Tel: +91-044-42961100 Fax: +91-044-42961122 E-mail: sales@kamachitmt.com Website: www.kamachitmt.com	TMT Bars of Gde Fe 500, Fe 500D Fe550, Fe 550D HCRMS (Size 8-40 mm)	

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

1	2	3	4	5	6
Srl No	COMPANY NAME	BRAND NAME	ADDRESS	Type of Steel	REMARKS
16.	M/S BDG Metal & Power Ltd,	BDG6	HMP House, 4 Fairlie Place, 5th Floor Kolkata - 700001, India Tel: +91-33-4005-9005 Fax: +91-33-4005-9095 E-mail: info@goyalgourp.in Website: www.goyalgroup.in	TMT Bars of Gde Fe 500 Fe 500D Fe 550D (Size 8-32mm)	16.
17.	M/S Gallantt Metal Ltd	GALLANTT TMX	Ward 10BC, Plot No. 123, Ground Floor, Gandhi Dham Kutch, Gujarat - 370201 Tel: +91-2836-228164 Fax: +91-2836-235787 E-mail: gml@gallantt.com Website: www.gallantt.com	TMT Bars of Gde Fe 500 Fe 500D CRS (Size 8-32mm)	17.
18.	M/S Rashmi Metaliks Ltd	RASHMI TMT	Premlata Building, 39, Shakespeare Sarani, 6th Floor, Kolkata - 700017 Tel: 033-22894255/56 Fax: 033-22894254 E-mail: mkt.domesticdip@rashmigroup.com Website: www.rashmigroup.com	TMT Bars of Gde Fe 500 (Size 8-32mm) Fe 500D, Fe550D (Size 8-25mm)	18.
19.	M/S Real Ispat & Power Ltd	G K TMT	Vrindavan, Near IDBI Bnk Civil Lines Raipur - 492001, C.G. Tel: +91-771-4224000 Fax: +91-771-4224010 E-mail: real@realispat.com Website: www.realispat.com	TMT Bars of Gde Fe 500 Fe 500D (Size 8-36mm)	19.
20.	M/S Super Smelters Ltd. Kolkata	SUPER SHAKTI	Premlata, 39, Shakespeare Sarani, 3rd Floor, Kolkata - 700017 Tel/Fax: + 91-33-2289-2734/36 E-mail: info@supershakti.in Website: www.supershakti.in	TMT Bars of Gde Fe 500 Fe 500D, Fe 550 (Size 8-32mm)	
21.	M/S Rashtriya Ispat Nigam Limited (RINL)	RINL	Visakhapatnam Steel Plant Visakhapatnam - 530 031, India Tel: (91 891) 518226,518376 Fax: (91 891) 518316 E-mail: cmdvsp@itpvis.ap.nic.in	Structural Steel (Angle, Beam, Column, Channel, Plate)	
22.	M/S Tata Iron & Steel Company (TISCO, or Tata Steel)	TATA	Bombay House, 2, 4 Homi Modi Street Mumbai - 400 001, India Tel: (91 22) 204 9131 Fax: (91 22) 204 9522, 287 0840 E-mail: corpcomm@jsr.tatasteel.com (Br office for North : Jeevan Tara Bldg, Patel Chowk, New Delhi)	Steel (Angle, Beam, Column, Channel, Plate)	

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

1	2	3	4	5	6
Srl No	COMPANY NAME	BRAND NAME	ADDRESS	Type of Steel	REMARKS
23.	M/S Steel Authority of India Limited (SAIL)	SAIL	Central Marketing Organization, Northern Region 17th Floor, scope Minar, Laxmi Nagar Distt. Centre, Delhi - 110092	Steel (Angle, Beam, Column, Channel, Plate)	
24.	M/S Jindal Steels and Power Ltd.	JINDAL	Jindal centre, Plot No 2, Sector- 32, Gurgaon- 122001, Haryana Tel: 0124 661 2000 Fax: 0124 661 2125 Website: www.jindalsteelpower.com	Steel (Angle, Beam, Column, Channel, Plate)	

Note: Contractor can procure TMT bars from the primary producer approved by the AHQ E- in-Cs Branch even during currency of the contract work.

- 7.5 (a) All finished steel shall be well and clearly rolled to the dimensions, sections and weights specified. The finished materials shall be reasonably free from cracks, surface flaws laminations, rough, jagged and imperfect edges and any other harmful defects and shall be finished in a proper manner. Tolerance on size and weight of reinforcement bars shall not be more than that specified in clause No. 10.17.4 and 10.17.5 of SSR Part-I and as specified in IS-1786 and other relevant IS Codes.
- (b) TMT bars shall have embossing/engraved marking of trade name of product at regular intervals.
- (c) Reinforcement Steel, Structural steel and Galvanized Steel Sheets and Fabric reinforcement for concrete may be permitted from authorized dealers of main producers in case the total requirement of steel is less than 5 tones.
- (d) Steel sections for railings, gates, fencing, guard bars, grills, steel chowkhat, holdfasts 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 will not be insisted upon for such steel sections.
- (e) The documents in support of purchase of steel shall be furnished to GE for verification. The particulars of the manufacturers of steel shall be furnished by the contractor for every lot of steel separately as per the Performa given in Annexure-I.**

7.6 **TESTING OF STEEL**

- (a) The manufacturer is to carry out inspection and testing of steel in accordance with the relevant BIS provisions. The Contractor shall submit the manufacturer's test certificate in original alongwith the test sheet giving the results of each mechanical test as applicable and the chemical composition of the steel or authenticated copy thereof duly signed by the manufacturer with each consignment. The Engineer-in-Charge shall record these details in Steel Acceptance Register as given in Annexure 'B' after due verification and send a certified true copy of test sheet to GE for his records.
- (b) The GE/CWE shall also organize independent test of random samples of steel drawn from various lots from National Test House, SEMT Wing CME, Regional Research Labs, NABL approved labs etc. as per recommended minimum frequency shown in Table at Annexure 'A'. Sample from each lot should be tested for quality and elongation. The elongation shall not be less than 18%. Cost of samples, transportation and testing shall be borne by the contractor. The records of such checks shall be maintained in steel test register.

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PARTICULAR SPECIFICATION (CONTD.....)
BUILDING WORKS

Annexure 'A'

FREQUENCY FOR NORMAL MASS, TENSILE, BEND AND REBEND TEST OF STEEL

Nominal Size	Quantity
<u>Steel for Reinforcement</u>	
1. Bar size less than 10mm	1 Sample (3 specimens) for each test for every 25 tones or part thereof.
2. Bar size 10mm to 16mm	1 Sample (3 specimens) for each test for every 35 tones or part thereof.
3. Bar size over 16mm	1 Sample (3 specimens) for each test for every 45 tones or part thereof.
<u>Structural Steel</u>	
4. Tensile Test	1 Test for every 25 tonnes of steel or part thereof.
5. Bend Test	1 Test for every 25 tones of steel or part thereof.

Note :- (i) For various tests acceptance criteria, tolerance etc, refer to Annexure `B' and relevant BIS Codes.

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

(c) The TMT steel will be tested by AGE/GE in person before incorporation in the works by simple field tests and records shall be maintained. Simple field test may involve sand papering the section of the TMT bar and dipping the same in chemical solution to give a clearly defined annular ring of tempered steel.

(d) Where CWE has not tested the steel himself as mentioned in preceding Para CWE will carry out the random checks. The record of such random checks shall be maintained in Steel Test Register.

(e) The contractor at his own cost shall arrange the facilities for such tests as mentioned in Para-5.3.1 (c) and 8.3.1(b) above and cost of sampling, transporting and testing shall be borne by the contractor.

Contd.....

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

Annexure 'B'

STEEL SUPPLY AND ACCEPTANCE REGISTER

1. CA No & Name of work : :
2. Contract No :
3. Name of Manufacturer's TC No :
4. Manufacturer :
5. Random Test details
 - (a) Physical test report from..... vide letter No
(Name of NABL approved Lab/Govt . Engg College)
 - (b) Chemical test report fromvide letter No.....
(Name of NABL approved Lab/Govt . Engg College)
6. Type of steel, dia & Qty :-
 - (a) Type : TMT/CRS
 - (b) Dia : mm
 - (c) Actual Wt : MT
 - (e) Conversion Wt : MT

	Chemical test							Mechanical test					Remarks	
	Carbon %	Sulphur %	Phosphorous %	Sulphur + Phosphorous %	Manganese %	Silicon %	Corrosion resistant element	Wt per meter	Yield Stress (N/mm 2)	Tensile strength (N/mm2)	Percent elongation (Min 18%)	Bend test		Rebend test
As per IS 1786-2008														
As per manufacturer's test certificate														
As per independent test														

Remarks with signature

Accepted/Rejected

Contractor

Junior Engineer Engineer-in-Charge

Garrison Engineer

Remarks of B.O/O/Inspecting Officer/CWE

Contd/...

PARTICULAR SPECIFICATIONS (Contd...)
BUILDING WORKS

7.7 **DOCUMENTATION :-**

- (a) The contractor shall submit original machine numbered purchase vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the GE alongwith relevant documents before acceptance. The original vouchers and test certificates shall be defaced by the Engineer-in-Charge duly indicating the CA No. and particulars of work for which used and shall be kept on record in the office of GE duly authenticated and with cross reference to the control number recorded in Steel Acceptance Register. Two separate files may be maintained in GE office duly serially numbered for maintaining original vouchers and manufacturer's test certificates in original test sheets in original or an authenticated copy thereof.
- (b) The Steel Acceptance Register will be signed by JE, Engineer-in-Charge, GE and contractor and shall be maintained by GE.
- (c) A Steel Acceptance Register containing results of independent and additional testing done by GE, field testing done by AGE/GE, random check done by GE etc shall be maintained by GE.
- (d) The Accepting Officer may also order a Board of Officers for random check of steel and verification of connected documents. Hence a register containing records of surprise checks and checks done by Board of Officers shall also be maintained by GE.
- (e) The entire quantity of steel items shall also be suitably recorded in the Measurement Book for record purposes as 'Not to be abstracted' before incorporation in the work and shall be signed by Engineer-in-Charge and the contractor duly checked by GE.
- (f) Certified true copies of vouchers and test certificates including test sheets shall also be maintained by Engineer-in-Charge after defacing with cross reference to the control No. recorded in the steel Acceptance Register.

7.8 (a) **STORAGE :-**

- (i) Steel of different grades and sizes shall be stacked separately. For each class of steel separate areas shall be earmarked. Steel shall be marked with distinct painting marks for easy identification and it shall always be stacked at least 15 cm above the GL.
- (ii) 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 for any other reason, the same shall be removed from site by contractor at his own cost.
- (iii) Steel sections, which are not likely to be used before one set of monsoon shall be given cement slurry, wash so as to ensure scale and rust free steel. Also steel sections, which are procured during monsoon and are not likely to be used within a week from the date of procurement, shall be given cement slurry wash immediately.

(b) **SAFETY OF STEEL**

It shall be responsibility of contractor to make sure that all possible arrangements are made for safe custody of the steel. In case of loss of steel, the contractor will only be responsible and he shall make the loss good without any delay and no claim whatsoever would be entertained on this account.

7.9 **SCHEDULING AND SUPPLYING**

GE will finalize schedule of supply of steel in consultation with contractor and the same shall be incorporated in CPM chart so that supply of steel is monitored in a way to avoid any delay in completion of work. GE shall ensure that contractor places the demand(s)/requisition(s) of steel with adequate time lead.

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7.10 PROCUREMENT FOR MAKING PAYMENT FOR STEEL INCLUDING MEASUREMENTS, CONVERSION WEIGHT ETC.

(a) The requirement of steel shall be worked out section wise and shall be recorded in a separate Register jointly maintained by contractor and Engineer-in-Charge. Day to day record shall also be signed by the contractor as well as Engineer-in-Charge. The register should contain different sheets for each steel section including reference to drawing number, location, number of bars, sketch of each length of bar with dimensions, length of waste and off cuts and the quantity thereof by multiplying the length of bars with the conversion factors given in MES schedule Part-II. For sections not listed in MES schedule, the I.S. conversion table shall be followed. The contractor shall not have any claim in case the actual weight of steel items works out to be more than the weight obtained by standard conversion factor. For making adjustment, arising out of reinforcement bars, the length of each bar for the purpose of calculation of laps shall be taken as 10 meters.

(b) On completion of work, the Register will be in the custody of the Engineer-in-Charge and contractor may keep a copy for his record, if he so desires.

(c) Payment for the steel brought by the contractor shall be released by GE only after following actions are taken by GE and Engineer-in-Charge :-

(i) Physical verification of steel to confirm the actual quantity of steel as well as to verify the aspects brought out in clause 1.3 above.

(ii) Receipt of original machine numbered purchase vouchers of manufacturer(s) from contractor.

(iii) Receipt of manufacturer's test certificates (in original) along with test sheet giving result of each mechanical test and chemical composition of steel or authenticated copy thereof duly signed by manufacturer.

(iv) Receipt of satisfactory test results for independent testing on random samples of steel in terms of clause 1.4(b) above.

(v) Satisfactory test result in case of field-testing done by AGE/GE in case of TMT steel manufactured by secondary producers.

7.11 ACCEPTANCE/REJECTION OF STEEL

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

7.12 Welding

(a) Refer clause 10.15 of MES Schedule Part-I and shall be carried out by metal arc process all as per IS-816 and IS-823.

(b) Unless, otherwise specified here-in-after or shown on Drgs welding shall be 6mm thick continuous fillet weld and shall cover the joint.

7.13 Guard Bars / Grills. Irrespective of what is shown in drawing, 12 mm square guard bars/grills shall be provided to all windows/ventilators as per design shown on drawings.

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7.14 **Hold Fast/Lugs.** Flat iron hold fast/lugs shall be provided by welding as and where shown on drawings except those, to be provided to wooden chowkats, which shall be fixed with bolts/nuts as per details shown on drawings. Holes in wooden chowkats shall be plugged with hard wood plugs. Hold fasts/lugs shall be embedded in PCC (1:3:6) bed blocks of size 230x230x75mm in one brick thick or equivalent walls and 115mm x 230mm x 75mm in half brick thick or equivalent walls.

7.15 **Fan Hooks with Boxes.** C.I. fan box of 100mm (external) dia, 75mm deep (overall) having wall thickness and top cover not less than 3mm, 16mm dia, rod bend to shape, shall be provided in location as shown in drawings. In case of RCC roof/floor slabs, the fan box shall be embedded in RCC during casting of slabs. C.I. box shall be applied with one coat of anti corrosive paint. Fan box shall be constructed of shape & size as given on drgs. The bottom side of C.I. box shall ultimately be covered with 3mm thick plastic laminated round sheet of 110mm duly flush with ceiling and shall have suitable dia hole for hanging rod. The cover shall be fixed to C.I. box with screw. Exposed faces shall be given two coats of white paint over a coat of red oxide primer.

7.16 **Expanded Metal.** Where expanded metal is shown and its size is not given on the drawings, it shall be 20 mm short way by 50 mm long way mesh, wire of nominal size 2.5 mm x 1.2 mm, weighing not less than 2.183 Kg per square metre.

7.17. **Fabric Reinforcement.** Hard drawn steel wire fabric, where shown as reinforcement, shall conform to IS 1566. Wire fabric for general use such as fencing, window grills, etc. shall conform to IS-4948.

7.18 **Weldmesh** : Weldmesh for reinforcement where indicated in drgs shall be of mild steel wire, 4mm dia, 100mm c/c both ways weighing 1.98 Kg per Sqm.

7.19 **Steel windows/Ventilators and Doors.**

7.19.1 General. Steel windows/ventilators and doors, where shown on drawings, of rolled steel sections shall conform to IS-1038. Rolled steel sections used for fabrication shall conform to IS-7452. These shall be factory made and shall be of an approved make listed in Appendix 'B'.

7.19.2 The frame shall be pressed steel CRCA sheet of profile as shown in drawings. The thickness of sheet shall be 1.25mm. The frame of windows & ventilators shall conform to IS-4351 (1976). The rolled steel section used for fabrication shall conform to IS-7452. The shutters for windows/ventilators shall conform to IS-1038 (1983).

7.19.3 Steel frames and fixed/open able shutter shall be fabricated of sections specified above, corners welded to form a solid fused welded joint. The process of welding adopted may be flash butt welding or any other suitable method, which gives a continuous and solid joint all along the place of meeting the members. Welds shall be properly ground with no protrusions of welding material at the joint.

7.19.4. 100mm size mild steel barrel tower bolts shall be welded to shutter of steel windows, one at top and one at bottoms of shape and pattern as approved. M.S. handles of 75 mm size, Z shape shall be welded to steel window shutter corner on each opening. Shoot of barrel tower bolt shall be 10mm.

7.19.5. M.S. hook and eye of suitable size as approved shall be provided.

7.19.6. All windows/ventilators shall be provided with friction hinges for gauzed shutters.

7.19.7 Machine screws as specified in IS-1038 shall only be used for fixing.

7.19.8. Fixing lugs to fixed frames shall be as per provision of IS-1038-1983 except that the top and bottom lugs shall not be provided. The bedding of steel frames shall be done in CM 1:4.

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PARTICULAR SPECIFICATION (CONTD.....)**BUILDING WORKS**

- 7.19.9. The sub dividing/sash bars of windows and vents shall be tennoned to frame and riveted as specified in IS-1038.
- 7.19.10. Wire gauze shall be fixed with metal beads or MS flat bars fillets of size 12 mm x 3 mm with steel screws @ 200 mm c/c/.
- 7.19.11. No mastic filling is required for fixing of steel windows vents. Lugs of steel windows/vents shall be embedded in PCC blocks of size 230 mm x 230 mm x 150 mm. Lugs shall be provided in vertical members of steel windows and vents.
- 7.19.12. One of the windows of each quarter shall be provided with a 15 mm dia hole in the steel frame for easy access of cable (antenna wire). The location of hole shall be as shown on drgs/or as directed by EIC.

7.20 PRESSED STEEL FRAMES FOR DOORS/WINDOWS.

- 7.20.1. Pressed steel frames for doors/windows where shown on drawings shall be fabricated from 1.25 mm thick mild steel plain sheet. Frames shall be provided as per details shown on drawings and as specified in clause 10.27 of MES Schedule. Pressed steel frames shall be filled with PCC (1:3:6) C-0 type door frames shall be factory made and shall be obtained from approved manufacturers listed in Appendix 'B'.
- 7.20.2. Door frames shall also be of pressed steel wherever angle iron 40mm x 40mm x 6mm door frame is shown on drawing. The profile and dimension of pressed steel door frame shall be as shown on drgs. The tolerance over the profile size shall be +/- 2mm.
- 7.20.3. The whole frame shall be rigidly fixed together with mechanical means.
- 7.20.4. One number MS flat iron 20 x 4 mm thresh hold shall be provided for single rebated and two numbers for frame switch double rebated at the bottom of frames by welding to the frame and these tie bar shall be embedded and left in floor.
- 7.20.5. The frames shall conform to specification given in IS-4351 with regard to fittings, hinges and shock absorbers except that hinges shall be of mild steel butt hinges, ISI mark. Cleat hinges may be welded on top of frames.
- 7.20.6. MS conduit 19mm dia of 16 gauge closed at one end shall be welded to inner face of frame for receiving shoot of bolt. MS sockets for housing shoots of tower bolt shall also be provided as directed.

8.0. SKIRTING AND DADO.

8.1 Kota stone skirting Wherever kota stone floor is indicated kota stone skirting shall be provided all as shown on drawings to matching with the adjoining floor over 10 mm thick screed bed of cement mortar (1:3). Height of Kota stone skirting where not shown on drawings shall be 10 cm for skirting. The glazed tiles in dado of 1150 mm or as indicated in Drg in lobby near mirror and two metres or door height in toilet/bath (whichever is more) Junction of floor and dado/skirting shall be rounded to a minimum radius of 5 mm and top edge of skirting/dado to be finished slightly tapered so as to avoid accumulation of dust over it.

9.0 CEMENT DADO / SKIRTING. Cement skirting/dado shall be provided adjoining PCC floors in locations indicated in drawings. It shall be 15 mm thick on brick wall consisting of 5 mm thick setting coat in cement mortar 1:2 over 10 mm thick on screed bed in cement mortar 1:4. Height of cement dado/skirting where not shown on drawings shall be as specified for kota stone skirting/dado. It shall be in line with plastering and separated with a groove. Junction of floor and dado/skirting shall be rounded to minimum radius of 5 mm and top edge skirting/dado to be finished slightly tapered so as to avoid accumulation of dust over it.

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10. **Colour Textured Designer Ceiling Board** : This shall be provided all as described in Sch 'A', as per manufacturers' instructions and as approved by GE.

11. **Tee Grid Suspension System** : This shall be provided all as described in Sch 'A', as per manufacturers' instructions and as approved by GE

12. **FLOORING.**

12.1. **GENERAL**

12.1.1. Provisions contained in clause 13.25, 13.32, 13.38 & 13.39 of MES Schedule are to be adopted for laying floors and pavements.

13.1.1 **WHITE CEMENT** : Refer Para 13.2.1 of SSR Part I. It shall be an approved product of Bureau of Indian Standard (BIS) and shall be of make specified hereinafter.

13.1.2 **PIGMENTS** : Refer Para13.8 of SSR Part-I.

13.1.3 **CERAMIC TILES** : Ceramic tiles shall be of size described in Sch 'A'. Ceramic tiles shall be of make as specified in Appendix 'C' hereinafter. These shall be conforming to IS-13753 for flooring and IS-13755 for walls. Tiles shall meet the requirement of IS-13630 or relevant EN. The colour and shade of tiles shall be as approved by GE

13.1.4 **VITRIFIED TILES** : Vitrified tiles(mirror finish) of size 600x600 and 9 to 10 mm thick grade B – 1(a) and of abrasion resistance PE III. The colour and shade of tiles shall be as approved by GE.

13.1.5 **PRECAST INTERLOCKING COLOURED PAVER BLOCK**

Thickness and size of precast interlocking paver block shall be as specified in Sch 'A'. Interlocking paver block shall be rubberized coloured (glossy non fadable) (using vibro compaction method) with 3 to 5mm thick toping in white cement and non fadable glossy colour pigment. Interlocking paver shall be conforming to IS-15658-2006 of M-35 grade and shall be laid over sand cushioning of 50 mm thick.

13.1.6 **KOTA STONE FLOORING** :

17.7.1 **Kota Stone** : Kota stone slab/tiles be hard, even, sound, durable, tough, regular in shape, uniform colour and free from soft veins, cracks and flaws, decay and weathering. The slab/tiles shall be cut parallel to natural bed of stone. The slab/tiles used in any one room shall be of uniform size. Kota stone shall be 18 to 20 mm thick and shall be laid over screed bed of cement mortar as mentioned in Schedule "A" The size of Kota stone if not mentioned in Schedule "A" shall not be less than 60 cm length and 60 cm in width. In situations where the min size does not adjust in that case the size of Kota stone slab shall be as decided by GE. The slab/tiles shall be machine cut. Prior to commencement of flooring, contractor shall get the sample of slab/tile approved from GE.

17.5.2 **Laying, Curing, Polishing and Finishing**: Kota stone shall be laid with bedding layer/ sub base all as per the composition given in Schedule 'A'. Laying, curing, polishing and finishing shall be carried out all as specified in clause No. 13.47 of SSR Part I. for grinding purpose appropriate No. of grinding stone shall be used.

14. **PLASTERING AND POINTING**

14.1. **Materials.**

14.1.1. **Cement.** Refer relevant clause here-in-before.

14.1.2. **Sand.** Refer clause, 14.5 of MES Schedule.

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14.2 Workmanship

14.2.1 Plastering shall be done all as specified in Clause No 14.16 to 14.19 of MES SSR Part – I (2009)

15. White/Colour Washing And Cement Base Paint

15.1. White/Colour Wash. White wash shall be carried out all as described in Sch 'A: and as specified in MES Schedule. For white washing on ceiling adequate quantity of zinc oxide shall be added to lime wash for achieving egg white shade. Skirting and dado are not to be white/colour washed.

15.2. White/colour wash shall be done with fibre brushes.

16. GLAZING

16.1.1 Please refer para 16.6 to 16.10 and 16.13 of SSR Part – I.

16.2 SHEET GLASS

16.2.1 Refer para 16.2 of SSR Part – I. Sheet glass shall be confirming to IS – 2635.

16.3 PUTTY

16.3.1 Refer para 16.5 of SSR Part – I. It shall be conforming to IS – 419.

17. PAINTING

17.1. All synthetic enamel paint, emulsion paint shall be of 1st quality manufactured by the standard firms of make as per Appendix 'B'.

17.1.2. The contractor shall inform the GE, within four weeks of the acceptance of the tender, 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 GE before their use in the work.

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

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

17.1.5. Tint of paint, if not mentioned in drawings/schedule of finishes will be approved by the GE.

17.2 Workmanship

17.2.1. All wood work required to be painted shall be smoothened, sized and knotted and then applied with priming coat. Stopping and filling (filler coat) shall be done after priming coat and surface rubbed down to a level of smooth surface and thereafter under coat and finishing coat applied, all as specified in clause 17.6 of MES Schedule. Steel and iron work shall be painted in the manner as specified in clause 17.8 of MES Schedule.

17.2.2. The surfaces indicated in the Schedule of finishes to be given aluminium paint shall be given two coats of aluminium paint conforming to IS-2339, over a coat of appropriate primer.

17.2.3. No treatment shall be given in reinforcement.

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

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PARTICULAR SPECIFICATION (CONTD.....)**BUILDING WORKS**

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

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

18. **GI TUBING** : These shall be as described in Schedule 'A' and confirming to IS 1239. GI pipe shall be of any of the makes specified in Appendix 'B' hereinafter.

19.1. **Water Storage Tanks** – Water storage tanks shall be of HDPE vertical type and of capacity as described in Sch 'A'. Water tank shall be rotational moulded polyethylene water storage tank as per IS-12701-1989. Water tank shall have three layer wall construction. The tank shall be installed in position truly level. The installation of same shall be done as specified in particular specification and as per clause 18.60 of MES Schedule.

20.0 SANITARY AND TOILET FITTINGS/APPLIANCES**20.1. GENERAL.**

20.1.1. All sanitary appliances /fittings shall be of vitreous china (white) first quality and shall be ISI marked and shall conform to IS-2586 for General requirements and the specific requirements as mentioned in relevant clause of MES Schedule. These shall be of an approved make from the list given in Appendix 'B'.

20.1.2. All waste pipes and fittings upto floor/Nahani trap shall be of galvanised steel tubing medium grade conforming to IS 1239 (Part II).

20.1.3. Flush pipe and socket of flushing rim of WC shall be jointed with white and red lead cement (white and red lead in equal proportion by weight) and linseed oil added to form paste.

20.1.4. 'P' or 'S' trap shall be of cast iron and jointed to WC pan with epoxy compound as directed by Engineer-in-Charge.

20.1.5. The sizes, given hereinafter are approximate sizes. The size of sanitary fittings to be provided shall be the nearest size as per manufacturers catalogue as approved by GE.

20.2. **Water Closet (Squatting Pan of Pattern)** Water Closet (Squatting pan of pattern) 'ORRISA' of size 580mmx440mm shall be of make as specified and shall be provided with cast iron 'P' or 'S' trap and the following fitting as applicable:-

- (i) 32 mm dia galvanised steel (Medium grade) flush pipe of required length including brass coupling and GI bend, bent to shape so as to join with the seat.
- (ii) 15 mm dia GI light grade overflow pipe from flushing cistern upto 150 mm above from floor level with polythene antimosquito rose.
- (iii) 10 litres discharge capacity low level flushing cistern with siphon fittings. ISI marked as 7231 molded from virgin poly propylene supported on a pair of cast iron brackets embedded in PCC blocks of 100 x 100 x 230 mm.
- (i) The pan shall be set in the PCC 1:5:10 using stone aggregate atleast 15 cms around and finished just below the rim, to receive the specified thickness of floor finish.

21. SEWAGE CLEANING

The following procedure will be adopted for attending the day to day maintenance complaints :-

- (a) Lodging of complaints by users through IVR, mobile phone , SMS , Email or manual registering of complaints cell by attendant.

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PARTICULAR SPECIFICATION (CONTD.....)**BUILDING WORKS**

- (b) Job card/ complaint-slip will be prepared by the MES staff.
- (c) Issue of store by the MES staff to the workers according to the complaint lodged.
- (d) Gate pass will be prepared by the contractor for the issued store in triplicate and one copy will be given to the contractor/ contractor's rep and one copy to the gatekeeper.
- (e) The complaint will be attended by the worker and sign of the user will be taken on job-card / complain – slip and complaint register.
- (f) A record in respect of complaints received, complaints attended, reasons of complaints not attended, will be entered in the job register shall be signed by JE & periodically checked by AGE & GE.

22. Sweeper/ Safaiwala will be deployed for attending complaints received from users through any source as mentioned in aforesaid para 21 (a) related to clearing the blockage of sewage line including Manhole/ Septic tank/ Soak well and cleanup the surroundings of Manhole/Septic tank/ Soak well by cutting shrubs/ plants / foreign grass.

23. Complaints not attended by the contractor in time :- Contractor has to attend complaints within the time frame. If contractor fails to attend the same, a recovery of Rs. 500.00 per day per complaint.

24 Duty register shall be maintained by contractor as given below –

DUTY REGISTER

Sl No.	Date	Name of tradesmen/ Helper on duty	Trade	Trade Duty timing	Signature of tradesmen/ Helper	Signature of contractor's supvr/ Engineer	Signature of contractor	Signature of JE (Civil)/ JE E/M	Signature of Engineer-in-Charge	Remarks
1	2	3	4	5	6	7	8	9	10	11

25. PRECAST PCC SOLID BLOCK WALING

- (a) OCC solid shall conform to IS-2185.
- (b) **Type of mix**
The precast PCC solid blocks shall be of PCC (1:2:3) type C-1 using 20 mm graded crushed stone aggregate for height of blocks less than 150 mm and PCC (1:3:6) type C-2 using 40 mm graded crushed stone aggregate for height of blocks more than 150 mm. The concrete shall be mixed as laid down in IS- 456. The solid concrete block shall be of grade D-5 as per IS-2185- reaffirmed -1998.
- (c) Size :- The size of blocks shall be one of the followings: -

Size Designation	Nominal size in cm			Actual size in cm		
	Length	Breadth	Height	Length	Breadth	Height
A	40	30	20	39	30	19
B	40	20	20	39	20	19
C	40	10	20	39	10	19
D	20	20	20			
E	20	20	10			

Size other than those specified above may also be used with the approval of Engineer-in-Charge.

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PARTICULAR SPECIFICATION (CONTD.....)**BUILDING WORKS**

- (d) Material (Aggregate)
- (i) Coarse Aggregate :- This shall be crushed or natural aggregate 20 mm and down size of approved quality and shall conform to IS-383.
 - (ii) Fine aggregate (Sand) : This shall be free from dust and well graded having fineness modulus 3.6 and 4 of combined aggregate conforming to IS-383.
- (e) Manufacturing of blocks
- (i) The blocks shall be machine made. The mixing of concrete, the manufacturing of block, curing and drying shall be in accordance with para 6 to 10 under IS-2185.
 - (ii) Faces of the blocks shall be flat and rectangular.
 - (iii) Mixing : Concrete shall be mixed in mechanical mixer. Mixing shall be continued until there is a uniform distribution of materials and the mix is uniform in colour and consistency.
 - (iv) Placing and compaction
 - (aa) In case of mechanical compaction, the mould shall be filled up to overflow, vibrated or mechanically tamped and struck off level.
 - (ab) After remoulding, the block shall be protected until they sufficiently hardened to permit handling.
- (ii) Curing : The block hardened as mentioned herein before shall then be cured in a curing water tank or in curing yard and shall be kept continuously moist for at least 14 days. Where the blocks are cured in an immersion tank, the water of the tank shall be changed at least every 4 days.
- Note :- Curing yard is a paved yard sub-divided by shallow drain 4 to 5 meter square platform, which are provided with water fountains in the centre. The blocks are stacked around the fountains that work continuously. The fountains are connected to an elevated water storage tank.
- (iii) Drying :- After curing, the blocks shall be dried for a period of 4 weeks before being used in the work. They shall be stacked with voids horizontal to facilitate thorough passage for air. The dimensioned stability of concrete block is greatly affected by variation in their moisture content. Since the shrinkage of the block is much greater at the time it dries for the first time than due to subsequent wetting and re-drying, it is necessary to ensure that the blocks are dried so that initial shrinkage is completed before they are delivered to use. Further, their moisture content should not exceed 25 % of their maximum water absorption capacity. If the blocks are to be used in the situation where the relative humidity of air average more than 60 % the blocks can be dried to a moisture content of 40 % of their maximum water absorption capacity.
- (f) Physical requirement
- (i) General : All blocks shall be sound and free from cracks or any other defects which interfere with proper placing of the blocks or impair the strength or performance of the construction. Minor chipping resulting from the customary methods of handling during delivery shall not be deemed ground for rejection.
 - (ii) Tolerances : The maximum variation in the dimension of the units shall not be more than + 5 mm for length and maximum variation in height and width of units not more than +3 mm.
 - (iii) Block density : The block density shall be as per Para 4 of IS -2185. For solid PCC block, it shall not be less than 1800 kg/M³.
 - (iv) Compressive strength : The average compressive strength of eight blocks when determined in the manner described in IS – 2185 shall not be less than 50 kg/Sqcm of gross area. The strength of lowest individual blocks shall be not less than 80 % of the average compressive strength of eight blocks.
 - (v) Water absorption : The water absorption shall be as per IS-2185.
 - (vi) Drying, shrinkage and moisture movement shall be as per IS -2185.

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PARTICULAR SPECIFICATION (CONTD.....)**BUILDING WORKS**

(g) Tests : Tests as described in appendices "A' to 'F' of IS -2185 shall be conducted on samples of blocks selected according to the sampling procedure given in para 1 (c) of IS -2185 to ensure conformity with the physical requirement laid down in para 8 of IS-2185 . Cost of testing such as transportation, casting of block, testing fees and other expenses shall be borne by the contractor.

8.0 DEMOLITION/DISMANTLING

8.1 Demolition/Dismantling shall be carried out with utmost care and only to the extent as directed by Engineer-in-Charge. The material obtained from demolition/dismantling shall be stacked at site neatly. The material obtained from demolition/dismantling shall be classified into 'Serviceable' and Unserviceable' by Engineer-in-Charge. The entire serviceable material shall be reused/incorporated in the work and unserviceable materials for which credit has been offered in Sch of Credit shall be the property of contractor, balance materials shall be the property of the department and shall either be removed to MES store yard or disposed off as directed by the Engineer-in-Charge. The decision of Garrison Engineer as regard of classification of serviceable and unserviceable material shall be final and binding.

9.0. **MISCELLANEOUS** :- All minor items of construction which are fairly intended for completion of work are deemed included in unit rates of item of BOQ.

10.0 **DAMAGE TO EXISTING WORK** :- Any damage occurred to the existing structures wall etc during the time of execution of work shall be made by the contractor at his own cost and the site of work left clean and tidy on or before completion of work. Rectification/reinstallation, making good etc shall conform to the standard of material originally used in the work and shall match with the existing works in all respects and to the entire satisfaction of the Engr-in-Charge.

11.0 **SITE OF WORK** : The contractor shall visit the site of work on prior appointment with GE 871 EWS before quoting/ submitting their offer. The contractor shall be deemed to have visited the site before submitting the tender irrespective of the fact whether the contractor had visited the site or not.

12.0 **ACCEPTANCE OF MATERIALS** :- The order of precedence for acceptance of materials to be incorporated in this work shall be as under :-

(a) Material produce as per of approved products / makes to be incorporated in work.

(b) Materials with ISI marking.

(c) In case of non-manufacture of ISI marked materials conforming to relevant IS (latest edition).

(d) In case of non-availability of materials of (a) (b) & (c) above, the best available Materials in the market as defined in Clause No.1.6 of MES Schedule Part I and approved by GE.

Signature of Contractor

AGE (Contract)
For Accepting Officer

Dated :

PARTICULAR SPECIFICATIONS (Contd....)Annexure-I**LIST OF ISI/BIS CERTIFIED (MARKED) PRODUCTS TO BE INCORPORATED IN WORKS**

<u>Material</u>	<u>IS No</u>
1. <u>Concrete.</u>	
(a)Integral Water Proofing Compounds	IS : 2658
(b)Cement ordinary Portland	IS : 8112
2. <u>Steel and Iron Work.</u>	
3. <u>Roof Covering</u>	
(a)Bitumen felts of water proofing and damp proofing. (Hessian felt) Grade-2.	IS : 1322
(b)Glass fibre base felt type 2 grade II	IS : 7193
7. <u>Flooring</u>	
(a) White Portland cement	IS : 8042
(b) Cement concrete Flooring.	IS : 1237
8. <u>Water supply, plumbing, Drains and Sanitary Appliances.</u>	
(a) Concrete pipes with or without re-enforcement.	IS :588
(b) Salt Glazed Stoneware pipes	IS : 651
(c) Centrifugal cast (spun) iron spigot and socket soil, waste and ventilating pipes fittings and accessories.	
(d) UPVC, Soil, waste and rain water pipes.	IS :4985
(e) Sand cast iron Spigot and socket soil waste and ventilating pipes and fittings.	IS :1729
(f) Galvanised Mild Steel tubes	IS : 1239 (.)
(g) Galvanised Mild Steel tubes fittings.	IS : 1239 (.I)
(l) Ball valves (Horizontal plunger type) including floats for Water supply purposes.	IS : 1703
(m) Cast copper Alloy screw down bib taps and stop valves.	IS : 781
(n) Pillar taps.	IS : 1795
(o) HDPE water tank	

Signature of Contractor

AGE(Contract)
(For Accepting Officer)

Dated :

PARTICULAR SPECIFICATIONS (Contd...)**APPENDIX 'A'****SOURCES OF MATERIALS**

Sl No	Name of Materials	Source of materials for works at station
1	Bricks	Roorkee, Dehradun, Haridwar, Muzafarnagar
1.	Fly ash bricks	Aditi Infra Works/Resources Bareilly, Power bricks corporation Ghaziabad and any other make approved by HQ CEBZ Bareilly.
2	Coarse aggregate for all RCC.	Crushed stone/crushed stone obtained from Tapovan/Birahi/Srinagar, Haridwar, Rishikesh.
3	-do- for all PCC work	Crushed stone Tapovan/Birahi/Srinagar , Haridwar, Rishikesh.
4	Coarse sand for RCC/PCC lime concrete, DPC and sealcoat.	From Tapovan/Birahi/Srinagar, Haridwar, Rishikesh.
5	Sand for plastering. Pointing, Brick-work, sand for cushioning, filling and covering for LT cables.	From Tapovan/Birahi/Srinagar , Haridwar, Rishikesh sand to be mixed in proportion to achieve required gradings as specified in SSR Part I.
6	Broken/crushed stone/boulders for hard core and road work, stone chipping for premix carpeting.	Crushed stone Tapovan/Birahi/Srinagar , Haridwar, Rishikesh.
7	Stone for WBM and Sub-base/soling, screening and Premix carpet.	Crushed stone Tapovan/Birahi/Srinagar , Haridwar, Rishikesh.

Note : 1. Sources indicated are for guidance only. The tenderer shall ascertain the actual position/exact location of source before submitting his tender and no additional payment shall be made on account of misunderstanding or its distance from site of works.

2. The tenderer shall amongst other things also ascertain all information such as royalties, taxes, duties and other charges etc, on the materials and no additional payment shall be made on account of the foregoing.

3. However, if due to any ban imposed by the state Government authority on obtaining the materials from the sources specified above and or specified material is not available at the source mentioned above; these materials conforming to specification as given in particular specifications will be obtained from any other place/sources without any extra cost of the Government.

Signature of Contractor

AGE(Contract)
(For Accepting Officer)

Dated :

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III

NOTE: - The products have been grouped into the following categories as per clarification below: -

(a) **GROUP-I** : Products recommended for Prestigious and Heritage Buildings (High End).

(b) **GROUP-II**: Products recommended for important / routine use (Middle End).

(c) **GROUP-III**: Products recommended for lower end use like sheds, garages etc. (Low End).

1. FURNITURE ITEMS

	Modular office furniture system, Chair and other furniture related to office purpose in the brand name of PSL Modular	Godrej Usha Lexus Durian Euroacoustic Products Ltd	Godrej Usha Lexus Durian M/s Empire Safe CO.	M/s Empire Safe CO.
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2. PVC / UPVC DOOR, WINDOW AND CHOWKHAT

	PVC / UPVC Doors (Panel doors, moulded doors), Window and Chowkhat	Rajshree Plastiwood M/s H2O Solutions New Delhi M/s Kumar Arch Tech Ltd M/S Sintex SUNWIN M/s NCL Buildtek Limited	Polyline from Polyline extrusion Pvt. Ltd. Kolkata Rajshree Plastiwood M/S Sintex SUNWIN	Duroplast extrusion Pvt. Ltd. Rajshree Plastiwood M/S Sintex
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3. WOODEN DOORS AND WINDOWS

	Wooden Panel Doors and Windows Factory made shutters Panelled / Skeleton (Fly proof / Glazed)	M/S Joinery Manufacturing Co., Kanpur M/S Choiti Industries, Kanpur M/S Oriental door Mandhana Kanpur	M/S Goyal Industries Pvt. Ltd. New Delhi MP Wood Products M/S Oriental door Mandhana Kanpur M/S Jain Wood Industries	M/S Satish Kumar & Co., Khajuri Road, Jamunanagar. Doorking kolkata M/S Oriental door Mandhana Kanpur M/S Jain Wood Industries
	Flush Doors ISI marked	M/S Kitply Industries Ltd., Kanpur M/S Northen doors Pvt. Ltd. Kanpur	M/S Century Plywood M/S MP Wood Product M/S Jain Wood Industries	M/S Shiv Hari Plywood (Corbett) M/S Mysore Chip Board-Archid M/S Jain Wood Industries

4. DOORS AND WINDOW FITTINGS

	ISI and Non ISI Aluminium door and window fittings	Classic, New Delhi Mepro	Classic, New Delhi M/S Elite Enterprise, Mumbai M/S Argent Industries	Mohan Metal Industries, Shahadra M/s Aluminium Udhyog M/S Argent Industries
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PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III

5. FALSE CEILING

	PVC False ceiling	Indian Gypsum Kumar Arch Tech Pvt Ltd	Everest Industries Indian Gypsum	Everest Industries Indian Gypsum
	Gypboard / 'E' board / Calcium Silicate Bd / Tiles false ceiling / acoustic board / GI pre-coated T grid false ceiling suspension system	Armstrong Ramco Industries	Armstrong Ramco Industries M/s Bharat Steel Rolls	M/s Bharat Steel Rolls

6. CUPBOARD, CABINETS, DOOR AND WARDROBES

	Steel Windows Ventilator (as per IS 1038 of 1983) and Pressed Steel door/Window Frameworks, Steel Lockers & Cupboard Frame / Shutters	M/S Anoop Pvt Ltd, Hanuman Chowk, Meerut Cantt. M/S Ishwar Industries, 175/A, Bombay Bazar, Meerut Cantt. M/S Ashwani & Sons, 4/66, Raj Nagar Ghaziabad. Poonam Enterprises, E-10 Industrial estate, Talkatora, Lucknow. Bajaj Steel Industries Ltd M/s Ashish Industries	M/S Agra timber & Steel product Agra M/s Gupta and Jain Enterprises M/S Anoop Industries Pvt Ltd, Hanuman Chowk, Meerut Cantt. M/S GS Udhog G- 11 site III Panki, UPSIDC industries Area Kanpur Bajaj Steel Industries Ltd. M/s Chandni Industries Ghaziabad Chabbra Steel Udhog Ltd Meerut M/s Trisul Industries M/s Gupta Iron Udyog	M/S Sen Harvic, Vora Building , 50 Nakhoda street Bombay M/S AGEW Steel Manufactures (Pvt.) Ahmedabad M/S Multiwyn Industries Corporation, Calcutta M/s Chandni Industries Ghaziabad M/s Gupta and Jain Enterprises M/s Gupta Iron Udyog
	PVC Kitchen Cup Boards/ ward robes	Kumar Arch Tech Pvt Ltd		

7. GALVANISED SHEETS, PANELLING, PARTITIONS, HUTS AND BATHROOMS

	CGI / PGI Sheet	Everest Charminar	Swastik Charminar	Charminar Vlska
	Color Coated Roof Sheets	M/s Ispat Industries Ltd Tata Blue Scope Steel Ltd Prestart infrastructure Projects Ltd	M/s Cril color Roof india Ltd Tata Blue Scope Steel Ltd Everest Industries Ltd	M/s Lloyd M/s matco Roof Pvt Ltd Tata Blue Scope Steel Ltd
	Wooden Wall Panel	Armstrong	Armstrong	

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III
8. SANITARY WARES				
	CP Bath Fittings	Jaquar & Co Pvt Ltd Marc Zoloto M/S Shakti Enterprises	Plumber Gem Seiko Blue star-Silver Shine M/S Mohan Metal Industries M/S Shakti Enterprises M/S. Status Sanitech Pvt Ltd (PLAYER)	Prayag Polymer Pvt Ltd Gem Seiko Plastocraft Sanitary India Pvt Ltd Aluminium Udhyog M/S Mohan Metal Industries M/S. Status Sanitech Pvt Ltd (PLAYER)
	Bib Taps and stop cocks (Brass)	Zoloto M/s RS Industries (Polytuff)	M/S Prakash & Co. Mayapuri, Delhi Zoloto M/s Shakti Enterprises M/s Precision Products M/s RS Industries (Polytuff)	M/S Prakash & Co. Mayapuri, Delhi L&K M/s Shakti Enterprises M/s Precision Products
	Wash Basin / WCs	Jaquar & Company Pvt Ltd Hind ware Hindustan sanitary ware (Hindware) (1st quality) Parryware (Supper fine) Cera (1st quality) Johnson Pedder	Neycer Kermag (standard) Hind ware Hindustan sanitary ware (Hindware) (1st quality) Parryware (Supper fine) Cera (1st quality) Johnson Pedder.	Somany Hindustan sanitary ware (Hindware) (1st quality) Cera
	Stainless steel wash basins / WCs	Nirali Blue star Silver Shine	Amco Cobra Blue star-Silver Shine	Amco Anupam
	Designer Bath Suites	Jaquar & Company Pvt. Ltd.		
	Stainless steel Kitchen Sink	Prayag Polymer Pvt Ltd Jain Brothers Sanitation Pvt Ltd M/s Shakti Enterprises	Blue star-Silver Shine Nirali M/s Shakti Enterprises	Anupam Industries Nirali
	Float Valves / Ball cocks, Cockroach Traps, Glass shelf	Prayag Polymer Pvt Ltd	Prayag Polymer Pvt Ltd	Prayag Polymer Pvt Ltd

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III
	Stainless Steel Plate Rack	Prayag Polymer Pvt Ltd Jain Brothers Sanitation Pvt Ltd	Blue star-Silver Shine Nirali	Blue star-Silver Shine Nirali
	Seat Cover for EWC	Parryware Hind ware CERA M/s Shakti Enterprises M/s Precision Products	Commander- Champion Parryware Hind ware Blue star-Silver Shine M/s Shakti Enterprises M/s Precision Products	Commander- Champion Blue star-Silver Shine Hindustan
	PVC Flushing cistern (IS-744-1984)	Parryware	Parryware M/s Shakti Enterprises M/s Precision Products	Commander- Champion M/s Shakti Enterprises M/s Precision Products
	Stainless steel Sink cum Draining Board / Sink	Nirali Jain Brothers Sanitation Pvt Ltd Diamond	Amco Cobra Blue Star-Silver Shine	
	CI (Centrifugally cast) Pipe as per IS: 3989 for sewage disposal & Rainwater pipes	Jayaswal Neco Corporate Ispat Alloys Ltd., Durgapur Kapilansh (M/S Kapilansh Dhatu) Ashutosh Iron Factory, Nagpur	Jayaswal Neco Corporate Ispat Alloys Ltd., M/s Raj Pattern Makers & Founders Pvt Ltd Durgapur M/S Kapilansh Dhatu Udyog (p) Ltd, Ashutosh Iron Factory, Nagpur Bengal Iron Corporation	
	PVC Pipe SWR pipes (IS-13592 for pipes & IS-14735 for fittings)	Finolex Supreme Kisan Mouldings Pvt Ltd Prince M/s sarovaram Industries LLP SMFC	Finolex Supreme Kisan Mouldings Pvt Ltd Prince M/s sarovaram Inductries LLP SMFC	

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III
	SGSW pipe	Gupta Refractories, Gwalior Devraj Anand, Ghaziabad Perfect Jabalpur	Gupta Refractories, Gwalior Devraj Anand, Ghaziabad Perfect Jabalpur	
	Looking Mirror	Saint Gobin Modi Guard	Atul Modi Guard	Asahi Atul

9. PAINTS

	Synthetic enamel paint	ICI paint (Dulux Gloss) Asian paint (Apolite) Shalimar paints (Superlac hi gloss) Goodlass Nerolac paint (Nerolac)	ICI paint (Dulux Gloss) Asian paint (Apolite) Shalimar paints (Superlac hi gloss) Goodlass Nerolac paint (Nerolac)	
	Plastic emulsion Paint	Goodlass Nerolac (All Escapes) Shalimar paints (Hussain collection) Jenson & Nicholson (Special effect) Asian paints (Royale) Berger paints (Luxol silk splendor)	Goodlass Nerolac (All Escapes) Shalimar paints (Hussain collection) Jenson & Nicholson (Special effect) Asian paints (Royale) Berger paints (Luxol silk splendor)	
	Acrylic washable distemper / oil emulsion distemper	Good lass Nerolac Paints Shalimar paints Johnson & Nicholson Asian paints Berger	Good lass Nerolac Paints Shalimar paints Johnson & Nicholson Asian paints Berger	
	White cement & wall care putty	JK White Birla White	JK White Birla White	
	Cement Based Paints	Super snowcem Duracem Cemplus by TATA pigments Gutucem by Asian paints Accrocem	Super snowcem Duracem Cemplus by TATA pigments Gutucem by Asian paints Accrocem	Cemkote Duracem Cemplus by TATA pigments

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III

	External weather proof paint	Berger paints - Weather coat smooth Asian Paints – APEX Shalimar Paint – XTRA Nerolac paint - AXCEL	Berger paints - Weather coat smooth Asian Paints – APEX Shalimar Paint – XTRA Nerolac paint – AXCEL	
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9. ALUMINUM COMPOSITE PANEL

	Aluminum composite panel	M/S Alstone international, Noida (UP)	M/S Alstone international, Noida (UP)	
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10. PLY BOARD / MDF AND HDF BOARDS

	Plywood for General Purposes (ISI-303 Marked)	Novapan Kitply Green Ply M/s Jain Wood Industries	Century Plywood Bhutan Board Nepal Board M/s Jain Wood Industries	Shivam TAR Products, Mathura Bhutan Board Nepal Board
	Plain Particle Board / Particle Board Ceiling Tiles Pre-Laminated Particle Board	Novapan Kitply Green Ply M/s Jain Wood Industries	Century Plywood Bhutan Board Nepal Board M/s Jain Wood Industries	Shivam TAR Products, Mathura Bhutan Board Nepal Board
	Laminated Sheets	Formica / Sunmica Century Green lam	Decolam from Century Green lam Sunmica	

11. TILES

	Mosaic / PCC plain / Chequered tiles / inter locking paver blocks.	NITCO Mumbai Redsun Tiles & Pavers, Panchkula. M/s DG Techs Engineering Pvt Ltd	Star Tiles & Industries, Rama Devi, Kanpur Mayur Tiles & Interlocking paves, Lucknow. M/s. DG Tech's Engineering Pvt Ltd M/s Agrawal Pipe Works M/s DG Techs Engineering Pvt Ltd	M/S Mehatab Tiles 8, Rani Shopping Centre, Bhanwar, Indore M/s Agrawal Pipe Works M/s Tulip Infrastructure
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PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III
	PVC tiles / Wooden Flooring	Armstrong Marblex	Premier Vinyl flooring Ltd, New Delhi Armstrong Krishna Vinyl's Ltd, New Delhi	Royal Cashion Vinyl Products Ltd, Delhi
	Vitrified tiles	Johnson (Marbonite) Bell Granito Kajaria	Oracle Granito (Marbito) Somany Asian Granito	Somany RAK Ceramics Varmora Granito Pvt Ltd
	Ceramic tiles / Non skid Ceramic tiles	Kajaria Johnson Orient City tiles Ltd	NITCO Somany Regency City tiles Ltd Crystal Ceramic Industries	Somany Spartek City tiles Ltd Crystal Ceramic Industries Regency
	Tile Adhesive / Tile Grout	M/S Bal Endura, Bangalore Laticrete Hyderabad	Fevimate	Fairmate
	Glass Mosaic Tiles	Italia	Bisazza	Accura
	Antistatic & Conductive Flooring	Armstrong	Armstrong Kajaria	

12. FENCING

	Punched tape concertina coils and flat wrap weld mesh for fencing	HMB Engg. Noida. Wire Productrs Mandi Goving Garh (PB) Chandra Trading Co. Ghaziabad	Global Technocrats Pvt Ltd HMB Engg. Noida. Wire Productrs Mandi Goving Garh (PB) Chandra Trading Co. Ghaziabad	
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13. ROOFING

	Corrugated, Semi Corrugated and Plain AC Sheet	M/S RAMCO AC SHEET SWASTIK M/S ETERNIT EVEREST LTD	CHARMINAR UPAL	Visaka RBL
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14. INTERNAL WATER SUPPLY

	HDPE (Polyethene Water Storage Tanks (Rotational Moulded)	Sintex (Three layered) Tuff SMFC	Sintex (Two layered) JS Polyplast Dhara SMFC	JS Polyplast Dhara
	Stop Valves/ Gate Valves /Float Valve	Leader	Leader	

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III

15. PIPES (CI, GI & DI PIPES)

	CI PIPE	JINDAL TATA KESORAM	KEJRIWAL JAISWAL NECO BENGAL IRON CORPORATION ELECTROSTEEL	KEJRIWAL JAISWAL NECO BENGAL IRON CORPORATION
	DI PIPE	JINDAL ELECTRO STEEL LANCO M/s Electro Steel Casting Ltd	JINDAL ELECTRO STEEL LANCO M/s Electro Steel Casting Ltd	SWASTIC JAI BALAJEE Rashmi Metallic Ltd
	HDPE Pipe / UPVC Pipes & Fittings	Finolex Supreme Industries Durton Kaveri	Reliance Tirupati Kisan Mouldings Pvt Ltd Prince Rishi	Vectus Neelkamal Kisan Mouldings Pvt Ltd
	GI Pipes	Jindal Tata Zenith	Prakash Oswal Swastik	Advanced Nidhi
	PVC Pipes & Fittings	Finolex Supreme Industries	Finolex Supreme Industries Kisan Mouldings Pvt Ltd	Kisan Mouldings Pvt Ltd Jain Irrigation System Ltd
	PPR Pipes & Fittings	-	Kisan Mouldings Pvt Ltd Supreme Industries	Kisan Mouldings Pvt Ltd Supreme Industries

16. Miscellaneous items

	GI Fitting	UNIK, ISI Marked		
	MIRROR/ GLASS/ FLOAT GLASS	(i) Atul Triveni, (ii) Indo Asahi, Modi Guard, (iii) Hindusthan Glass, GT Road, Manglori, Allahabad (Brand Golden fish-Twinword)		
	PUTTY	(i) Shalimer, (ii) Berger, (iii) Johnson & Nicholson, (iv) M/s Well Grow Paints Pvt Ltd, S-20, South Side Industrial Area, GT Road, Ghaziabad. (v) M/s Sartaj Industries, 88-89, Double Transformer Wali Gali, Haiderpur, Delhi.		

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'B'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III
	PUTTY	(i) Shalimer, (ii) Berger, (iii) Johnson & Nicholson, (iv) M/s Well Grow Paints Pvt Ltd, S-20, South Side Industrial Area, GT Road, Ghaziabad. (v) M/s Sartaj Industries, 88-89, Double Transformer Wali Gali, Haiderpur, Delhi.		
	DOOR/ WINDOW FITTING	(i) M/s Ajanta Steel (P) Ltd, (ii) M/s Vardhaman Industries, Argent Industries, Garg Modern Devices Pvt Ltd, Noida. (iii) M/s Shree Krishna Associates, 304, Industrial Area, Phase-II, Panchkula-134113 (For MS Tower Bolts ISI Marked and MS Sliding door bolts ISI Marked). (iv) M/s Asha Metal Industries, DF-4, 1 ST Floor, Jaisar Palace, Hamdard Marg, Huazquazi, Delhi-11006 (Ashish branch ISI marked MS Sliding bolt and MS Tower Bolts copper oxidized). (v) Classic, New Delhi		

NOTES: - (i) Group of every building shall be as mentioned in schedule 'A' notes. Make of product as mentioned groupwise in aforesaid list shall be incorporated in the work. If make of any product is not available in concern group, but the same is available in other superior groups, the same shall be incorporated in the work without any extra cost to the Govt. Order of the superiority shall be from Group-III to Group-I. Further if no make is available in most superior group and the same is required to incorporate in the work from the makes of other groups, in such cases make of product to be approved by the Accepting Officer before incorporation in the work.

(ii) However, makes of any item of BOQ not mentioned in BOQ or Appx 'B' .please see the list of approved product of HQ CE Bareilly Zone /HQ CECC/ E-in-C Branch and the same shall be applicable for this work

(iii) Makes/brands/manufacturers of materials/items not mentioned here-in before or in approved list of HQ CE Bareilly Zone /HQ CECC/ E-in-C Branch but required in the work, shall be used of Ist quality/ISI marked /BIS Marked & Make as approved by the GE.

PARTICULAR SPECIFICATIONS (CONTD.....)

APPENDIX 'C'

LIST OF APPROVED PRODUCTS / MAKES TO BE INCORPORATED IN WORK

Srl No.	PRODUCT NAME	NAME OF MAKE / MANUFACTURER		
		GROUP-I	GROUP-II	GROUP-III

NOTE: - The products have been grouped into the following categories as per clarification below: -

- (a) **GROUP-I** : Products recommended for Prestigious and Heritage Buildings (High End).
- (b) **GROUP-II**: Products recommended for important / routine use (Middle End).
- (c) **GROUP-III**: Products recommended for lower end use like sheds, garages etc. (Low End).

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PARTICULAR SPECIFICATION (CONTD...)MATERIALS AND TESTSAPPENDIX 'D'

Ser No	Material	Tests	Method of Testing	Frequency of Tests			Level of Test	Rate of test	Remarks
1	2	3	4	5			6	7	8
1	Brick	(i) Compressive strength	IS-3495 (Pt-II)	As per IS:5854 as given under :-			A	330/-	Checks for visual and dimensional characteristics shall also be carried out as per IS:5854.
		(ii) Water absorption	-do-	Lot size	Sample	Permissible size bricks	A	330/-	No of defective
		(iii) Efflorescence	-do-	1001 to 10,000	5	0	A	330/-	<u>LEGEND</u> A - Site Lab, C.T.L (Command Engineer test lab) B - Zonal Lab, C.T.L C - National test house/SLMT Wing/ Engg. College
2	Coarse aggregate	(i) Sieve analysis	IS-2386 (Pt-I)	One test for every 15 cub metre of aggregates or part thereof brought at site.			A	660/-	
		(ii) Flakiness Index	-do-	-Do-			A	250/-	
		(iii) Estimation of deleterious material	-do-	One test for every 100 cub meter of aggregate or Part thereof.			A	600/-	
		(iv) Organic impurities	-do-	One test per source of supply			C	275/-	
		(v) Moisture contents	-do- (Pt-II)	Regularly as required			A	330/-	
		(vi) Specific Gravity	-do-	One test for each source of supply			B	330/-	

PARTICULAR SPECIFICATION (CONTD...)
MATERIALS AND TESTS

APPENDIX 'D'

Ser No	Material	Tests	Method of Testing	Frequency of Tests	Level of Test	Rate of test	Remarks	
1	2	3	4	5	6	7	8	
3	Fine aggregate	(i) Sieve analysis	IS-2386 (Pt-I)	One test for every 15 cub metre of FA or part when brought to site.	A	660/-		
		(ii) Test for clay, silt and impurities	-do-	-do-	A	500/-		
		(iii) Specific Gravity	-do- (Pt-II)	One for each source of supply	B	330/-		
		(iv) Moisture contents	-do- (Pt-II)	Regularly as required subject to 2 tests/day when being used.	A	330/-		
		(v) Test for organic impurities	-do-	One test for each source of supply	C	275/-		
4.	Structural concrete (M-15 grade and above)	(i) Slump test or compacting factor test or vee-bee time	IS:1199	The minimum frequency of sampling of concrete of each grade shall be as under :-	A	300/-	Random sampling shall be carried to cover all mix units	
				Qty of concrete in the work (Cum)				No of samples
		(ii) Compressive strength	IS:516	1-5 6-15 16.-30 31-50 51 and above	1 2 3 4+1 for each Addl 50 Cum for part thereof.	A	900/-	As per IS-586- CL 14 for frequency of Sampling.
5	(a) PCC block walling (Hollow Block)	(i) Compressive strength	IS:2156-1984	8 Blocks of 14.	A	900/-	Samples-14 Blocks from consignment of every 5000 blocks or part thereof	
		(ii) Water absorption	-do-	3 blocks out of 14.	B	330/-		
		(iii) Density	-do-	3 block out of 14.	A	900/-		

Contd...

PARTICULAR SPECIFICATION (CONTD...)
MATERIALS AND TESTS

APPENDIX 'D'

Ser No	Material	Tests	Method of Testing	Frequency of Tests	Level of Test	Rate of test	Remarks
1	2	3	4	5	6	7	8
6	Cement flooring tiles/terrazzo tiles	(i) Water absorption	IS-1237	6 Tiles out of 18	B	330/-	Samples of 18 tiles from each source of supply selected at random
		(ii) Wet transverse strength	-do-	-do-	B	660/-	
		(iii) Resistance to wear	-do-	-do-	C	1000/-	
7.	Timber	(i) Specific gravity and weight	IS:1708-1960	Minimum 3 samples from a lot of 4 Cum or 250 pieces of seasoned timber	B	120/-	
		(ii) Moisture conten	-do-		A	120/-	
8.	Water for constn purposes	(i) Test for acidity	IS-586 & 3025	Once at the stage of approval of source of water	B	500/-	Also refer clause18 of IS-586 and its subs
		(ii)Test of alkalinity	-do-		B	500/-	Equent clauses regarding suitability of
		(iii)Test for Solid content	-do-		C	500/-	Water
9.	Welding of steel work	Visual inspection test	IS-822	100% visual inspection 1970 clause 7.1	Work	360/-	Specialised test, site their method and site their method and decided on consideration of their importance by the Accepting Officer.

Contd..

PARTICULAR SPECIFICATION (CONTD...)
MATERIALS AND TESTS

APPENDIX 'D'

Ser No	Material	Tests	Method of Testing	Frequency of Tests	Level of Test	Rate of test	Remarks
1	2	3	4	5	6	7	8
10	Cement	(i) Setting time	IS-4031,1980	One for each consignment/reaffirmation or as and when required	B	500/-	
		(ii) Soundness	-do-	-do-	-do-	550/-	
		(iii) Comprehensive strength.	-do-	-do-	-do-	550/-	
		(iv) Fineness	-do-	-do-	-do-	275/-	
11.	Reinforcement steel	(i) Physical tests up to 16mm dia (Normal mass, Tensile elongation, bend and Rebend)	-	-	B	2500/-	
		(ii) More than 16mm dia	-	-	B	2750/-	

Signature of Contractor .

AGE (Contracts)
For Accepting Officer

Dated :

