भारतसरकार

Government of India

केन्द्रीय लोकनिर्माणविभाग

Central Public Works Department

NOTICE INVITING e-TENDERS

Name of work:	**Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work).**
NIT No:	**48/EE/Mussoorie/2026-27**
ESTIMATED COST:	
Civil Work (Major Component) :	**Rs. 32,55,640.00**
Total Estimated cost	**: Rs. 32,55,640.00**
EARNEST MONEY	**: Rs. 65,115.00**
COMPLETION PERIOD	**: 05 (Five) Months**
Last date/Time of Tender submission	**:Up to 15:00 Hrs on 25.11.2026.**
Date of Opening of bids	**:At 15:30 Hrs on 25.11.2026.**

Executive Engineer

Mussoorie

CPWD, Mussoorie

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Name of Work: **Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work).**

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NIT amounting to Rs. 32,55,640.00 (Rupees Thirty Two Lakh Fifity Five Thousand Six Hundred and Forty) only is hereby approved. This NIT contains pages marked as 1 to 101.

Assistant Engineer (P)
CPWD, Mussoorie

Executive Engineer
CPWD, Mussoorie

Corrections - Nil
Insertions - Nil
Omissions - Nil

AE(P) EE(C)

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING

The Executive Engineer, Mussoorie, Central Public Works Department, Mussoorieonbehalfof President of India invites percentage rate bids from **approved and eligible contractors of CPWD in appropriate class of composite category** for the following work:

NIT No	**48/EE/Mussoorie/2026-27**
Name of Work	**Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work).**
Location	**LBSNAA, MUSSOORIE**
Estimated cost put to bid	**Civil Work :- Rs. 32,55,640.00** **Total:- Rs. 32,55,640.00**
Earnest Money	**Rs. 65,115.00**
Period of Completion	**05 (Five) Months**
Last date & time of submission of bid, online EMD and other documents as specified in the bid document	**Up to 15:00 Hrs on 25.11.2026.**
Time and date of opening of Bid	**At 15:30 Hrs on 25.11.2026.**

1. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid Documents.
3. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website ***www.etender.cpwd.gov.in*** or **www.cpwd.gov.in** or ***www.eprocure.gov.in***free of cost.
4. But the bid can only be submitted after deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission and uploading the mandatory scanned documents such as Demand Draft or Pay Order or Banker's Cheque or Deposit at Call Receipt or Fixed deposit Receipts and Bank Guarantee of any scheduled Bank towards **EMD in favour of Executive Engineer, Mussoorie Project Division, CPWD, Mussoorie as mentioned in NIT, receipt for deposition of Original EMD to division office** of any Executive Engineer (**including NIT issuing EE/AE**), CPWD and other documents as specified.
5. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
6. The intending bidder must have valid class-III digital signature to submit the bid.
7. On opening date, the contractor can login and see the bid opening process. After opening of bids, he will receive the competitor bid sheets.
8. Contractor can upload documents in the form of **JPG** format and **PDF** format.
9. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

10. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).
However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

11. The required documents meeting the criteria to qualify as "approved and eligible contractors of CPWD" along with other documents as mentioned under para "List of Documents to be scanned and uploaded within the period of bid submission" below, as uploaded by the agency shall be checked first, while opening the bid. The financial bid of only those agencies shall be opened who are found to be eligible agencies, as per this NIT.

12. List of Documents to be scanned and uploaded within the period of bid submission:

i) Treasury Challan / Demand Draft / Pay Order or Banker's Cheque / Deposit at Call Receipt / FDR / Bank Guarantee of any Scheduled Bank against EMD

ii) **Enlistment certificate in case of contractors of CPWD in appropriate class of composite category**

iii) ~~**Work experience certificate of successful completion of work as prescribed in eligibility criteria in case of non CPWD contractors or specialized agencies. But for such bids, Class-I contractors of CPWD are eligible to submit the bids without submission of work experience certificate and affidavit. Therefore, CPWD class-I contractors shall upload two separate letters for experience certificate and affidavit that these documents are not required to be submitted by them. Uploading of these two letters is mandatory otherwise system will not clear mandatory fields.**~~

iv) GST registration certificate, if already obtained by the bidder.
If the bidder has not obtained GST registration as applicable, then he shall scan and upload following undertaking along with bid documents
"If work is awarded to me, I/we shall obtain GST registration certificate, as applicable, within one month from the date of receipt of award letter or before release of any Payment by CPWD, whichever is earlier, failing which I/we shall be responsible for any delay in payments which will be due towards me/us on account of the work executed and/or for any action taken by CPWD or GST department in this regard".

v) **Copy of receipt for deposition of original EMD issued from Division office of any Executive Engineer, (including Tender inviting EE/AE), CPWD.**

vi) **Declaration about Site inspection in Form "A"**

vii) Copy of certificate for compulsory ERP training issued through LMS or ERP obtained by enlisted contractor either by him or his authorized representative.

The Executive Engineer of all divisions including NIT issuing division/Sub-division of CPWD will receive the original EMD for tender of other divisions and issue receipt of deposition of original EMD in the prescribed format. The contractor shall scan and upload the receipt as well as EMD instrument within period of bid submission.

Signature of the Divisional Officer,
For and on behalf of the President of India

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

FORMAT FOR RECEIPT OF DEPOSITION OF ORIGINAL EMD

Receipt No……#……. /date……#……

1. **Name of Work:** **Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work).**

2. **NIT No.** : **48/EE/Mussoorie/2026-27**

Estimated Cost: **Civil Work :- Rs. 32,55,640.00**

Total:- Rs. 32,55,640.00

3. Amount of Earnest Money Deposit : **Rs. 65,115.00**

4. Last date of submission of Bid : **Up to 15:00 Hrs on 25.11.2026.**

~~**(* To be filled by NIT approving authority/EE at the time of issue of NIT)**~~

1. Name of Contractor : ……#.....
2. Form of EMD ……..#.....
3. Amount of Earnest Money Deposit ……#.....
4. Date of submission of EMD ……# ……

Signature, Name and Designation of EMD receiving officer (EE/AE/AAO) with Officer stamp

Note:

i) The Executive Engineer receiving EMD in original form shall examine the EMD deposited by the bidder and shall issue a receipt of deposition of earnest money to the agency in a given format uploaded by tender inviting EE. The receipt may be issued by the AE(P)/AE/AAO.

ii) The Executive Engineer receiving original EMD shall also intimate tender inviting Executive Engineer about deposition of EMD by the agency by email/ fax/telephonically.

iii) The original EMD receiving Executive Engineer shall release the EMD after verification from the e-tendering portal website (***www.etender.cpwd.gov.in***) that the particular contractor is not L-1tenderer and work is awarded.

The tender inviting Executive Engineer will call for original EMD of the L-1 tenderer from EMD receiving Executive Engineer immediately.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

PART – A

NOTICE INVITING e-TENDER (CPWD-6), TENDER FORM (CPWD-7), SCHEDULES - A TO F FOR MAJOR COMPONENT OF WORK AND STANDARD GCC FOR CPWD MAINTENANCE WORK-2023 AMENDED/ MODIFIED UP TO LAST DATE OF TENDER SUBMISSION

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

CPWD-6 FOR e-TENDERING

1. **Percentage rate bids** are invited on behalf of President of India from approved and eligible contractors of CPWD in appropriate class of Composite category for the work of ***" Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work). "***

Theenlistment of the contractors should be valid on the last date of submissionofbids.In case the last date of opening of bid is extended, the enlistment of contractor should be valid on the original date of opening of bids.

The work is estimated to cost **Rs. 32,55,640.00 (Civil Work).**This estimate, however, is given merely as a rough guide.

1.1.1. The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division, which will deal with all matters relating to the invitation of bids.

For composite tender, besides indicating the combined estimated cost put to tender, should clearly indicates the estimated cost of each component separately. The eligibility of tenderer will correspond to the combined estimated cost of different components put to tender.

~~1.2. Intending bidders is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-~~

~~Criteria of eligibility for submission of bid documents~~

~~Criteria of eligibility for CPWD as well as non-CPWD contractors, For works estimated to cost above the tendering limit of class -1 composite category Contractor (However for Horticulture and Furniture discipline, it may be modified as per bidding limit of CPWD class I contractors of respective discipline as the case may be.)~~

~~Three similar works each of value not less than **Rs. .....** or two similar work each of value not less than **Rs.....**or one similar work of value not less than **Rs.....**(all figures rounded to nearest convenient figure) in last 7 years ending previous day of last date of submission of bids. The value of executed works shall be brought to current costing level by enhancing theactual value of work at simple rate of 7% per annum, calculated from the date of completionto the last date of submission of bid. (This isnot applicable for CPWD enlisted contractors of appropriate class in composite category)To become eligible for issue of bid, the bidders shall have to furnish an affidavit asunder:-~~

~~I/We undertake and confirm that eligible similar works(s) has/have not been got executedthrough another contractor on back to back basis. Further that, if such a violation comesto the notice of Department, then I/we shall be debarred for bidding in CPWD in futureforever. Also, if such a violation comes to the notice of Department before date of start ofwork, the Engineer in Charge shall be free to forfeit the entire amount of Earnest MoneyDeposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submissionof bid)~~

2. Agreement shall be drawn with the successful bidder on prescribed Form No. ***CPWD 7*** (or other Standard Form as mentioned) which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidder shall quote his rates as per various terms and conditions of the said form which will form part of the agreement.

3. The time allowed for carrying out the work will be ***05 (Five) Months*** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.

~~4. The site for the work is available.~~

OR

The site for the work shall be made available in parts.

~~The architectural and structural drawings are available with the department and shall be made available as per work program of the contractor after award of work and the structural drawings and services drawings are to be submitted by the contractor.~~

5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions **o**f Contract Form can be seen from website ***www.etender.cpwd.gov.in*** or ***www.cpwd.gov.in*** or ***www.eprocure.gov.in*** free of cost.

6. After submission of the bid the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.

7. While submitting the revised bid, contractor can revise the rate of one or more item(s) any number of times (he need not re-enter rate of all the items) but before last time and date of submission of bid as notified.

8. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.

9. Earnest Money in the form of insurance surety bonds, Account Payee Demand Draft, fixed deposit receipt, Banker's Cheque or Bank Guarantee (for balance amount as prescribed) from any of the commercial banks (drawn in favour of ***Executive Engineer, Mussoorie Project Division, CPWD, Mussoorie***) shall be scanned and uploaded to the e-tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE) shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT.

   A part of earnest money is acceptable in the form of bank guarantee of any commercial bank having validity for six months or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.
   The earnest money given by all the tenderers except the lowest tenderer shall be refunded immediately after the expiry of stipulated bid validity period or immediately after acceptance of the successful bidder, whichever is earlier. However, in case of two/three bid system earnest money deposit of bidders unsuccessful during technical bid evaluation etc. should be returned with 30 days of declaration of result of technical bid evaluation.
   Copy of Enlistment Order and other documents as specified in the bid document shall be scanned and uploaded to the e-tendering website within the period of bid submission.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

However, certified copy of all the scanned and uploaded documents as specified in the bid document shall have to be submitted by the lowest bidder only within a week physically in the office of tender opening authority.

Online bid documents submitted by intending bidders shall be opened only of those bidders, whose original EMD deposited with any division of CPWD and other documents scanned and uploaded are found in order.

The financial bid submitted shall be opened at *Up to 15:30 Hrs on 25.11.2026.*

10. The bid submitted shall become invalid and e-tender processing fee shall not be refunded if:
    (i) The bidder is found ineligible.
    (ii) The bidder does not deposit original EMD with division office of any Executive Engineer, CPWD.
    (iii) The bidder does not upload all the documents (including GST registration) as stipulated in the bid documents including the copy of receipt for deposition of original EMD.
    (iv) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender opening authority.
    (v) The lowest bidder does not deposit physical EMD within a week of opening of bid.
    (vi) **If a tenderer quotes nil rates against each item on item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub-head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.**
11. (i) The contractor whose tender is accepted, will be required to furnish peroformance guarantee at specified percentage of the tendered amount as mentioned in Schedule 'E' and within the period specified in Schedule-F. This guarantee shall be in the form of Insurance Surety Bonds, Acccount Payee Demand Draft, Fixed Deposit.
    (ii) The contractor whose tender is accepted will also be required to furnish by way of security deposit for the fulfillment of his contracto, an amount equal to 2.5% of the tendered amount of the work. The security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The security amount will also be accepted in the shape of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any othe commercial Banks will be accepted for this purpose provided confirmatory advice is enclosed.
    (iii) **The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses/registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident fund code no., if applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any engaged by the contractor for the said work and Programme Chart (Time and Progress) within the period specified in Schedule F.**
12. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other Services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.
13. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidders shall be summarily rejected.

Corrections - Nil
Insertions - Nil
Omissions - Nil

AE(P) EE(C)

14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.
15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.
16. The contractor shall not be permitted to bid for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
17. No Engineer of GazettedRank or other GazettedOfficer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bid for the works shall remain open for acceptance for a period of ***Thirty (30) days***from the date of opening of tenders. If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the rebidding process of the work.
19. This notice inviting Bid shall form a part of the contract document. The successful bidder/contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:
    (i) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
    (ii) Standard **CPWD Form-7** or other Standard CPWD Form as mentioned.
20. **For CompositeBids**

    20.1.1. The Executive Engineer in charge of the major component will call bids for the composite work. The cost of bid document and Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.

    20.1.2. The bid documentwill include following three components:

    Part A:CPWD-6, CPWD-7 including schedule A to F for Major component of the workandStandard General Conditions of Contract for construction works for CPWD 2019as amended/ modified up to last date of submission of bid.

    PartB: General/Special Conditions, Specifications and Schedule of Quantities applicable to Major component of the work.

    Part C: Schedule A to F for minor component of the work*(SE/EE in charge of major component shall also be competent authority under clause 2 and clause 5 as mentioned in schedule A to F for major components)*. General/Special conditions, Specifications and Schedule of Quantities applicable to Minor component(s) of the work.

    20.1.3. The bidders must associate with himself, agencies of the appropriate class eligible to bid for each of the minor component individually.

    20.1.4. The eligible bidders shall quote rates for all items of major component as well as for all items of minor components of work.

    20.1.5. After acceptance of the bid by competent authority, the EE in charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE in charge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH in charge of minor components. One such signed set of

agreement shall be handed over to EE/DDH in charge of minor component. EE of major component will operate part A and part B of the agreement. EE/DDH in charge of minor component(s) shall operate Part C along with Part A of the agreement.

20.1.6. Entire work under the scope of composite bid including major and all minor components shall be executed under one agreement.

20.1.7. Security Deposit will be worked out separately for each componentcorresponding to the estimated cost of the respective component of works.

20.1.8. The main contractor has to associate agency(s) for minor component(s) conforming to eligibility criteria as defined in the tender document and has to submit detail of such agency(s) to Engineer-in-charge of minor component(s) within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer-in-charge of minor component(s).

20.1.9. In case the main contractor intends to change any of the above agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge of minor component. The new agency/agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

20.1.10. The main contractor has to enter into agreement with the contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to EE/DDH in charge of each minor component as well as to EE in charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.

20.1.11. Running payment for the major component shall be made by EE of major discipline to the main contractor. Running payment for minor components shall be made by the Engineer-in-charge of the discipline of minor component directly to the main contractor.

~~**20.1.12.** 20.1.12A. **The composite work shall be treated as complete when all the components of the work are complete. The completion certificate of the composite work shall be recorded by Engineer-in-charge of major component after record of completion certificate of all other components.**~~

~~20.1.12B. Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.~~

21. **The intending bidders are required to update their profile in CPWD e-tender portal and to upload their bids will in advance of last date of submission of tender. Any issue related to updating profile/uploading tender can be resolved through the concerned Executive Engineer/Assistant Engineer (P) (Phone no.9650210841/9410538725 e-mail id cpwdc.lbsnaa@nic.in) or ERP help line no. 18001803286 or e-mail ID cpwd.support@techmahindra.com. The e-tendering bidders are also advised not to wait to raise any issues till the last date of submission of bid in their own interest.**

Signature of the Divisional Officer,
For and on behalf of the President of India

Corrections - Nil
Insertions - Nil
Omissions - Nil

AE(P) EE(C)

FORM "A"

4.7 DECLARATION ABOUT SITE INSPECTION

To,

The Executive Engineer
Mussoorie,
CPWD, Mussorie

Subject:- **Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work).**

Dear Sir,

It is hereby declared that as per CPWD 6 for e-tendering, I/we the bidder inspected and examined the subject site and its surroundings and satisfy my self/our selves before submitting my/our bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation I/we may require and in general shall myself/ourselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect my/our bid. I/we the bidder shall have full knowledge of the site and no extra Charges consequent upon any misunderstanding or otherwise shall be claimed at later date. I/we the bidder shall be responsible for arranging and maintaining at own cost all materials, tools & plants, water, electricity, access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by me/us implies that I/we has read this notice and all other contract documents and has made myself/ourselves aware of the scope and specifications of the work to be done and of local conditions and other factors having a bearing on cost on the execution of the work.

Yours faithfully

(Seal & Signature)

(Bidder/Duly authorized signatory of the bidder)

Seal & Signature
(Assistant Engineer)
Note:

(i) *Before Inspection of Site,* ***Sh……..(Mob. No ……..)*** *concerned Assistant Engineer (Contact No.7579263910) shall be contacted so that he may remain present during inspection of site by the bidder and signature of concerned Assistant Engineer shall be obtained in Form "A" as proof of site visited by the bidder and uploaded.*

(ii) Alternatively, the agency shall have liberty to take photographs of site inspection carried out by the agency alongwith GPS location of site displayed on the photographs and shall be uploaded along with form "A" without having signature of concerned assistant Engineer.

(iii) If Form "A" is not having signature of concerned Assistant Engineer or Form "A" not having photographs of inspection of site along with GPS location, the bid of the bidder shall be treated as ineligible and bid of bidder shall not be opened.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

CPWD-7

GOVERNMENT OF INDIA

CENTRAL PUBLIC WORKS DEPARTMENT

STATE: Uttrakhand **BRANCH:** B & R

ZONE: Mussoorie **DIVISION: EE, Mussoorie**

PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

(A) Tender for the work of ***" Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work). "***

(i) To be uploaded on **15:00 Hrs. on 25.11.2026** on website: www.tenderwizard.com/cpwd

(ii) *To be opened in the presence of bidders who may be present at* **15:30 Hrs. on 25.11.2026** *in the office of the Executive Engineer, Mussoorie, CPWD, Mussoorie.*

TENDER

I/We have read and examined the notice inviting tender, schedule-A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in General Rules and Directions, Conditions of Contract, clauses of contract, Special conditions, Schedule of Rate & other documents and rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We agree to keep the tender open for **Thirty (30) days**from the date of its opening and not to make any modification in its terms and conditions.

I/We have deposited EMD for the prescribed amount in the office of concerned Executive Engineer as per the bid document.

A copy of earnest money deposit receipt of prescribed amount deposited in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (As prescribed) issued by a Commercial Bank, is scanned and upladed (strike out as the case may be). If I/We, fail furnish to furnish the prescribed performance guarantee within prescribed period, I/We agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to suspended for one year and shall not be eligible to bid for CPWD tenders from date of issue of suspension order. Further, if I/We fail to commence work as specified, I/We agree that President of India or the successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely, the said performance guarantee shall be a guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in clause 12.2 and 12.3 of the tender form.

Further, I/We agree that in case of forfeiture of Earnest Money or Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

I/we undertake and confirm that eligible similar work(s) has/have not been got executed through another agency on back to back basis. Further that, if such a violation comes to the notice of Department, then I/we shall be debarred for bidding in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-charge shall be free to forfeit the entire amount of Earnest Money Deposited/Performance Guarantee.

I/We hereby declare that I/We shall treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

Dated: **Signature of Contractor**

Postal Address:

Witness:

Address:

Occupation:

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs.…….(Rupee. ……).

The letters referred to below shall form part of this contract agreement:

(a) ……

(b) …….

(c) …….

(For & on behalf of President of India)

Dated: …….

Signature……..……

Designation……..……

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

PROFORMA OF SCHEDULES: A TO F

(FOR MAJOR COMPONANT OF WORK)

SCHEDULE 'A'

Schedule of quantities for Civil Works: As per separate sheets attached

SCHEDULE 'B'

Schedule of material to be issued to the Contractor: Nil

SCHEDULE 'C'

Tools and Plants to be issued to the Contractor: Nil

SCHEDULE 'D'

Extra schedule for specific requirements/documents for the work, if any: "Civil work"-Particular specifications and special conditions - As per part B of tender document

SCHEDULE 'E'

Reference to General Conditions of Contract: **General Conditions of Contract for GCC 2023 (maintenance works) including modifications and Correction slips issued and subsequent upcoming amendments upto a day previous to last date of submission of bid. (Available on CPWD website for free)**

Name of Work: **" Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work). "**

Estimated cost of work: **Civil Work - Rs. 32,55,640.00**

Total Rs. 32,55,640.00

(i)	Earnest Money	**Rs. 65,115.00**
(ii)	Performance Guarantee	**(a)** 5% of tendered value or Estimated Cost Put to Tender (ECPT) (whichever is higher). **(b)** Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), the Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount.
(iii)	Security Deposit	2.5% of the accepted tendered value of the work.

SCHEDULE 'F'

General Rules & Directions:

Officer inviting Tender: **Executive Engineer, Mussoorie, CPWD, Mussoorie.**

Definitions:

2(vi)	Engineer-in-Charge	**Executive Engineer, Mussoorie, CPWD,Mussoorie (For Civil Work) or his successor thereof**
2(viii)	Accepting Authority	**Executive Engineer, Mussoorie, CPWD, Mussoorie (For Civil Work) or his successor thereof**
2(x)	Percentage on cost of materials and Labour cover all to overheads and profits	15%

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

2(x)	Standard Schedule of Rates	Delhi Schedule of Rates 2023 x 0.973 (Correction factor of GST) + 23% C.I. with upto date correction slips issued upto the last date of submission of tender.
2(xi)	Department	Central Public Works Department (CPWD)
9(ii)	Standard CPWD Contract Form:	**CPWD form 7 modified, corrected and subsequent upcoming amendments upto a day previous to last date of submission of bid.**

Clause-1:

(i)	Time allowed for submission of Performance Guarantee, programme chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.	04 (Four) days
(ii)	Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	03 (Three) days

Clause-2:

(i)	Authority for fixing compensation under clause 2	Chief Engineer-Dehradun CPWD,Dehradun **or** his successor thereof

Clause-2A:

(i)	Whether Clause 2A shall be applicable	**Not Applicable**

Clause-5:

(i)	Number of days from the date of issue of letter of acceptance for reckoning date of start	07 (Seven) Days
(ii)	Time allowed for completion of work	**05 (Five) Months**

TABLE OF MILE STONES

Sl. No.	Description of mile stone	Period for completion from date of start in days/months	Withheld amount for non-achievement of mile stone.
1	*Total financial value of work under this M.S. shall not be less than 25% of Tendered Valve excluding secured advance.*	**38 Days**	1.25% of the accepted tendered value.
2	*Total financial value of work under this M.S. shall not be less than 50% of Tendered Valve excluding secured advance.*	**76 Days**	1.25% of the accepted tendered value.
3	*Total financial value of work under this M.S. shall not be less than 75% of Tendered Valve excluding secured advance.*	**114 Days**	1.25% of the accepted tendered value.
4	*All work completed as per agreement including cleaning of site.*	**05 (Five) Months**	1.25% of the accepted tendered value.

Note:

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

1. Withheld amount shall be released if and when subsequent milestone is achieved within respective time specified. However, in case milestones are not achieved by the Bidder for the work, the amount shown against milestone shall be withheld.
2. Intending bidder shall submit phasing of activities/milestones based on their resources and methodology at the time of bidding corresponding to physical milestones/stages indicated in the above table. These shall be formed part of the agreement after approval of the accepting authority, otherwise it would be assumed that agency agrees with the above mentioned physical milestones.

Authority to decide:

5(i)	Extension of time	**Executive Engineer, Mussoorie, CPWD, Mussoorie (For Civil Work) or his successor thereof**
5(ii)	Rescheduling of mile stones	Chief Engineer-Dehradun, CPWD, Dehradun or his successor thereof
5(iii)	Shifting of date of start in case of delay in handing over of site	**Chief Engineer-Dehradun, CPWD, Dehradun or his successor thereof**

Schedule of handing over of Site:

Part	**Portion of site**	**Description**	**Time period for handing over reckoned from date of issue of letter of intent**
Part A	Portion without any hindrance	Full Site	Immediately on issue of LoI
Part B	Portions with encumbrances	NIL	NA
Part C	Portion dependent on work of other agencies	NIL	NA

Schedule of issue of designs:- The design of RCC structure shall be in the scope of the contractor which shall be submitted within 10 days of award of work. Nothing extra shall be payable on this account.

Clause-5.2, 5.3, 5.5 :

Nature of Hindrance Register (either Physical or Electronic): Online through CPWD portal OM No. DG/MAN/394 dt. 28-01-2020.

Clause-5.1 (iv):

Schedule of rate of recovery for delay in submission of time & progress chart by 5th of each month in terms of delay days: Rs 2,000/- per week

Clause-5.4:

Schedule of rate of recovery for delay in submission of the modified programme in terms of delay days:

Sl. No.	**Contract Value**	**Recovery (Rs.)**
I	Less than or equal to Rs. 1 Crore	Rs. 500 per day
II	More than Rs. 1Crore	Rs. 1000 per day

Clause-6: 6 APPLICABLE.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

Clause-7:

Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	**Tendered cost/stipulated completion time (in months)**

Clause-7A:

Weather clause 7A shall be applicable	Yes **(No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable as submitted by the Bidder to the Engineer-in Charge).**

Clause-8A: Applicable

(i) **Recovery rates are as under:-**

Sl. No.	Contract Value	Limit (Rs.)
I	Less than or equal to Rs. 1 Crore	Rs. 10,000/- or 0.2% of tendered amount (whichever is more)
II	More than Rs. 1Crore	Rs. 25,000 /- or 0.2% of tendered amount (whichever is more)

Clause-10A:

List of testing equipment's to be provided by the agency at site lab as required on the work and as directed by engineer-in-charge.	*(i) Sieve set* *(ii) Slump Cone set* *(iii) Weighing balance* *(iv) Cube Set* *(v) Compressive testing machine* *(vi) Oven* *(vii) Measuring Jar* *(viii) Moisture Metre* *(ix) Screw Gauge and Vernier Calipers* *(x) Hammer* *(xi) Screw driver* *(xii) Bitumen extractor* *Or* *The agency at his own discretion may request to waive off the apparatus required to be used for test conducted at the site lab if he is willing to get all thetest done in the lab approved by the department/government lab at his own cost.*

~~**Clause-10B(i):**~~ ~~**Not Applicable**~~

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

Clause-10 B(ii) & (iii): Not Applicable

Clause-10C: Not Applicable

Component of labour expressed as percent of value of work	**25%(Qualifying amount for labour component will be 85% of the value of the work executed during period under consideration).**

Clause-10CA: Not Applicable

S. No.	Material covered under this clause	Nearest Materials (other than cement, reinforcement bars and the structural steel) for which All India Wholesale Price Index shall be followed.	Base Price of all Materials covered under clause 10 CA **(Bare Rates without GST) (Feb 2022)** **(Bare Rates without GST)**
1.	Cement: PPC	-	**Rs. 4,766/- Per MT**
2.	Cement: OPC	-	**NA**
3.	Reinforcement Steel TMT Bars - Fe 500D (Primary Manufacturer)	-	**Rs. 64,600/- Per MT**
4.	Structural steel	-	**NA**

* Includes cement component used in RMC brought at site from outside approved RMC plants, if any.

Note: In case contractor is permitted to use structural steel procured from secondary producers then:

(i) **The base price of structural steel is as stipulated under schedule 'F' shall be reduced by Rs. 3500/- MT. However, for operation of provisions of clause 10 CA in such case, the indices for structural steel of secondary producers will be considered same as for primary producers.**

(ii) **The rate quoted by contractor of relevant item in tender of structural steel work shall be reduced by Rs. 6.00 per kg.**

Clause-10CC: Not Applicable

Clause-11:

Specifications to be followed for execution of work:	
Civil work	CPWD Specifications 2019 Vol. 1 and Vol. 2 with up to date correction slips upto the last date of submission of tenders (Hereinafter called CPWD specifications).

Clause-12:

Type of work: Maintenance work

Clause-12:	**Maintenance work**	**NO LIMIT**

Clause-16:

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

Competent Authority for deciding reduced rates:	
Civil work	Chief Engineer-Dehradun CPWD, Dehradun or his successor thereof

Clause-18:

List of mandatory machines, tools and plants to be deployed by the contractor at site:-**As stated in tender document i.e. particular specifications and special conditions.**

Clause-19:

Schedule of rate of recovery for defaults committed in respect of clause 19 and its sub clauses thereof in terms of delay days:

Sl No	**Clause**	**Rate of recovery for default (Rs.)**
1	19 C	Rs. 500/- per day
2	19 D	Rs. 1000 /- per fortnightly report
3	19 G	Rs. 200/- per day (Subjected to maximum 5% of Estimated cost put to tender).

Clause-25:

(i)	**Conciliator:**	**ADG Chandigarh Region**
(ii)	**Arbitrator appointing authority:**	**Chief Engineer-Dehradun**
(iii)	**Place of Arbitration:**	**Dehradun**

Clause-32(i):

Requirement of Technical Representative(s) and Recovery Rates:

Cost of work (Contract amount)	**Requirement of Technical Staff**		**Minimum experience (Years)**	**Designation of Technical Staff**	**Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 32**
	Qualification	Number (of Major + Minor Component)			
More than 15 lac to 1.5 crore	Graduate Engineer or Diploma Engineer	1 of Major Component	2 or 5 respectively	Project Manager cum Planning/ Quality/site/ billing Engineer	Rs.15,000/- per month per person

Note:

1. Assistant Engineers retired from Government services who are holding Diploma will be treated at par with Graduate Engineers. Diploma holder with minimum 10-years relevant experience with a reputed construction company can be treated at par with Graduate Engineers for the purpose of such deployment subject to that such diploma holder should not exceed 50% of requirement of degree engineers.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

2. Architect should be registered with Council of Architects.

Clause-42:

Applicable as given below:

i)	Schedule/statement for determining theoretical quantity of cement & bitumen based on Delhi Schedule of Rates	**Delhi Schedule of Rates 2023** with amendments up to the date of submission of bid.
ii)	Variations permissible on theoretical quantities:	
(a)	Cement for works with estimated cost put to tender more than Rs.5 Lakh.	2% Plus/Minus
(b)	Bitumen for all works.	2.5% Plus only and nil on minus side.
(c)	Steel reinforcement and structural steel sections for each diameter, section and category.	2% Plus/minus
(d)	All other materials	Nil

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

S. No.	Description of item	Rates in figure and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
1	Cement (PPC)	NA	Work shall not be accepted
2	Reinforcement bars(TMT) (a)Primary Producer	NA	
3	Structural steel	NA	

Corrections - Nil
Insertions - Nil
Omissions - Nil

AE(P) EE(C)

STANDARD GENERAL CONDITIONS OF CONTRCT

1. General Conditions of Contract (GCC) for CPWD Works which is available as CPWD publication on CPWD official website at **https://cpwd.gov.in/Publication/GCC_Maintenance_Work_2023.pdf** shall be deemed to be part of the Tender document.

2. The Standard GCC is amended from time to time through issue of OMs under series DG/CON which are available on CPWD official website **at http://www.cpwd.gov.in/Documents/Official Circulars/ DG CON.** The said Circulars bearing no. DG/CON/306 onwards issued upto the last date of tender submission shall also be deemed to be part of tender document.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

INTEGRITY PACT

To,

All Bidders

Subject: NIT No. **48/EE/Mussoorie/2026-27** for the work:**" Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work). "**

Dear Sir,

It is here by declared that CPWD is committed to follow the principle of transparency, equity and competitiveness in public procurement.

The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer /bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected.

This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the CPWD.

Yours faithfully

Executive Engineer

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

To,

Executive Engineer,
Mussoorie,
CPWD, Mussoorie

Subject: NIT No. **48/EE/Mussoorie/2026-27** for the work:**" Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work). "**

Dear Sir,

I/We acknowledge that CPWD is committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document.

I/We agree that the Notice Inviting Tender (NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by CPWD. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, CPWD shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

TO BE SIGNED BY THE BIDDER AND SAME SIGNATORY COMPETENT / AUTHORIZED TO SIGN THE RELEVANT CONTRACT WITH CPWD

INTEGRITY AGREEMENT

This Integrity Agreement is made at ..... on this ..... day of .....20.....

BETWEEN

President of India represented through Executive Engineer, ...(Name of Division)……., CPWD, ... (Address of Division) ……., (Hereinafter referred as the '**Principal/Owner**', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

..... (Name and Address of the Individual / firm/ Company) ……. through ..... (Hereinafter referred to as the (Details of duly authorized signatory) "**Bidder/Contractor**" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

PREAMBLE:

WHEREAS the Principal / Owner has floated the Tender (NIT No. **48/EE/Mussoorie/2026-27**) (hereinafter referred to as "**Tender/Bid**") and intends to award, under laid down organizational procedure, contract for **" Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work). "** hereinafter referred to as the "**Contract**". AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "**Integrity Pact**" or "**Pact**"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witness as under:

ARTICLE 1: Commitment of the Principal/Owner

1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

   (a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

   (b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process,

provide to all Bidder(s) the same information and will not provide to any Bidders(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.

(c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.

2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act,1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

ARTICLE 2: Commitment of the Bidder(s)/Contractor(s)

1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government/Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.

2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:

a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

c) The Bidder(s)/Contractor(s) will not commit any offence under relevant IPC/PC Act. Further the Bidder(s)/Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details including information contained or transmitted electronically.

d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly, Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and address of foreign agents/representatives, if any. Either the India agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participates in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose (with each tender as per proforma enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to detriment of the Government interests**.

5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

ARTICLE 3: Consequences of Breach

Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right:

1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner**.

2) **Forfeiture of EMD/Performance Guarantee/Security Deposit**: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.

3) **Criminal Liability**: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

ARTICLE 4: Previous Transgression

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.

2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/holiday listing of the Bidder/Contractor as deemed fit by the Principal/Owner.

3) If the Bidder/Contractor can prove that he has resorted/recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

ARTICLE 5: Equal Treatment of all Bidders/Contractors/Subcontractors

1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Sub-contractors/sub-vendors.

2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.

3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

ARTICLE 6: Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor, 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.

If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, CPWD.

ARTICLE 7: Other Provisions

1) This Pact is subject to Indian Law, place of performance and jurisdiction is the **Headquarters of the Division** of the Principal/Owner, who has floated the Tender.

2) Changes and supplements need to be made in writing. Side agreements have not been made.

3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.

4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.

5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement/Pact, any action taken by the Owner/Principal in

accordance with this **Integrity Agreement/Pact or interpretation thereof shall not be subject to arbitration**.

ARTICLE 8: LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contract documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

……..……..	…….…….
(For and on behalf of Bidder/Contractor)	(For and on behalf of Principal/Owner)
	WITNESSES:
Date:	
	1. …….
Place:	(Signature, name and address)
	2. ……
	(Signature, name and address)

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

On non-judicial stamp paper of minimum Rs. 100

(Guarantee offered by Bank to CPWD in connection with the execution of contracts)

Form of Bank Guarantee for Earnest Money Deposit /performance Guarantee/Security Deposit/Mobilization Advance

1. Whereas the Executive Engineer…….. (name of division)…… CPWD on behalf of the President of India (hereinafter called "The Government") has invited bids under .....(NIT number)..... dated……. for..... (name of work) …….. The Government has further agreed to accept irrevocable Bank Guarantee for Rs. ..... (Rupees ….. only) valid upto ..... (date)*..... as Earnest Money Deposit from ..... (name and address of contractor) ..... (hereinafter called "the contractor") for compliance of his obligations in accordance with the terms and conditions of the said NIT.

   OR**

   Whereas the Executive Engineer…….. (name of division)……. CPWD on behalf of the President of India (hereinafter called "The Government") has entered into an agreement bearing number…… with ..... (name and address of the contractor)……. (hereinafter called "the Contractor") for execution of work..... ... (name of work) …..... The Government has further agreed to accept an irrevocable Bank Guarantee for Rs. ..... (Rupees …..... only) valid upto ..... (date)..... as **Performance Guarantee/security Deposit/Mobilization Advance** from the said Contractor for compliance of his obligations in accordance with the terms and conditions of the agreement.
2. We, ... (indicate the name of the bank)…….. (herein after referred to as "the Bank"), hereby undertake to pay to the Government an amount not exceeding Rs..... (Rupees..... only) on demand by the Government within 10 days of the demand.
3. We, ... (indicate the name of the Bank) do here by undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Government stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ..... (Rupees .....only)
4. We, ... (indicate the name of the Bank) ....., further undertake to pay the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor in any suit or proceeding pending before any court or Tribunal, our liability under this Bank Guarantee being absolute and unequivocal. The payment so made by us under this Bank Guarantee shall be a valid discharge of our liability for payment there under and the contractor shall have no claim against us for making such payment.
5. We, ... (indicate the name of the Bank)…… further agree that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligation here under to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the Government against the said contractor and to forbear or enforce any of the terms and conditions rerating to the said agreement and we shall not be relieved from our liability by reason of any such variation or extension being granted to the said contractor or for any forbearance, act of omission on the part of the Government or any indulgence by the

Government to the said contractor or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. we, ... (indicate the name of the Bank)…….. further agree that the Government at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor at the first instance without proceeding against the contractor and notwithstanding any security or other guarantee the Government may have in relation to the Contractor's liabilities.
7. This guarantee will not be discharged due to the change in the constitution of the bank or the Contractor.
8. We, ... (indicate the name of the Bank)……undertake not to revoke this guarantee except with the consent of the Government in writing.
9. This Bank Guarantee shall be valid up to…….. unless extended on demand by the Government. Notwithstanding anything mentioned above our liabilities against this guarantee is restricted to Rs…….. (Rupees…… only) and unless a claim in writing is lodged. un shall stand discharged. Date. Witnesses: the constitution of the Bank or the ....., undertake not to revoke this ng. unless extended on demand bY the anything mentioned above, our liability against this guarantee is (Rupees..... only) and unless a claim in writing is lodged. With us within the date of expiry of the of this guarantee, all our liabilities under this guarantee shall stand discharged.
   Date……

   Witnesses:

1- Signature…….	Authorized signatory
Name and address	Name
	Designation
	Staff code no.
	Bank seal
2- Signature……	
Name and address	

*Date to be worked out on the basis of validity period of 90 days where only financial bids are invited and 180 days for two/three bid system from the date of submission of tender.
**ln paragraph 1, strike out the portion not applicable. Bank Guarantee will be made either for earnest money or for performance guarantee/security deposit/mobilization advance, as the case may be.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

PART – B

GENERAL CONDITIONS AND SCHEDULE OF QUANTITIES OF WORK.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

GENERAL CONDITIONS

1. Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items, the work shall generally be carried out in accordance with the "CPWD Specifications - 2019 (Vol. I & II)for civil works with up to date correction slips and CPWD Specification for Horticulture works with up to date correction slips (hereinafter to be collectively referred to as 'CPWD Specifications'). Wherever CPWD Specifications are silent, the latest BIS Codes/Specifications, National Building Code 2016, MoRTH specification or any other specification shall be followed.

2. The order of preference in case of any discrepancy as indicated in condition No. 8.1 under "Conditions of Contract" given in standard CPWD Contract form may be read as the following:

   (i) Nomenclature of items as per Schedule of Quantities

   (ii) Particular Specifications and Special Conditionsas provided forming part of tender document.

   (iii) Standard general conditions of contract for maintenance works (GCC)

   (iv) General conditions as provided forming part of tender document.

   (v) Architectural/Structural drawings

   (vi) CPWD Specifications with up to date Correction slips

   (vii) Indian Standard Specifications of BIS

   A reference made to any Indian Standard Specifications in these documents, shall imply to the latest version of that standard, including such revisions / amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The Contractor shall keep at his own cost all such publications of relevant Indian Standard applicable to the work at site.

3. The proposed building work is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like stone masonry & stone cladding work, stone flooring, flooring work, wood work, precast RCC coffers, polysulphide/ silicone sealant & other specialized works will specifically require engagement of skilled workers having experience particularly in execution of such items.

4. The tenderer shall acquaint himself with the proposed site of work, its approach roads, working space available etc. before quoting his rates and no claim on this account shall be entertained by the department.

5. The contractor(s) shall get himself acquainted with nature and extent of the work and satisfy himself about the availability of materials from kiln or approved quarries for collection and conveyance of materials required for construction as per the required specifications.

6. The contractor(s) shall study the soil investigation report for the site, available in the office of the Engineer-in-charge and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.

7. The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost. No payment

shall be admissible on this accountand the quoted rates shall be deemed to be inclusive of all such activities.

8. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bylaws and regulations of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra shall be paid on this account.

9. The contractor(s) shall inform/issue notices to the Municipality, police and other authorities that may be required as per law and obtain all requisite permission/ licenses for temporary obstructions, enclosures etc. Contractor(s) shall pay all fee, taxes and charges which may be levied on account of these operations in executing the contract. He shall make good any damage to the property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night at his own cost. Nothing, whatsoever, extra shall be admissible on this account over and above the tendered rates.

10. For construction works which are likely to generate malba / rubbish, the contractor shall reuse it at site as directed by the Engineer-in-charge or hand over to recycling agents or dispose of at his own risk and cost, to the notified/specified Municipal dumping ground or any other suitable location outside the departments/clients premises/campus, to be identified by the contractor at his own risk and cost. No deduction on this account shall be made from the agency as well as no extra payment will be made to agency if it is disposed at pre-defined location within the campus / Municipal dumping ground.

11. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and water-ways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor without any reservation entirely to the satisfaction of the Engineer-in-Charge.

12. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of building/adjacent properties.

13. The works shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work and satisfy himself that the information available thereof is complete and unambiguous. The discrepancy, if any shall be brought to the notice of the Engineer-in-Charge before execution of the work. The contractor alone shall be responsible for any loss or damage executing by the commencement of work on the basis of any erroneous and or incomplete information.

14. The Architectural drawings given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.

15. Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be

paid under relevant item, unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

16. The contractor shall conduct work so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.

17. Some restrictions may be imposed by the security agencies /client on the working and on movement of labour, materials etc. in the campus/site and may require to issue identity cards to all persons authorized by contractor to do work / visit the work site. The contractor shall be bound to follow all such restrictions / instructions and no claim whatsoever, on this account shall be entertained. The loss of time on this account, if any, shall have to be made up by generating additional resources etc at no extra cost.

18. The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, earth embankments, preparatory works, all testing of materials, working during monsoon, working at all depths, height and locations etc. unless otherwise specified in the schedule of quantities.

19. Royalty at the prevailing rates, wherever payable, shall have to be paid by the contractor on the boulders; metal, shingle, sand and bajri etc., or any other material collected by him for the work directly to revenue/Govt. authorities and nothing extra shall be paid by the department for the same.

20. No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.

21. **The contractor shall deploy resources e.g. manpower, labour, T&P, Plant & Equipment etc. as per actual requirement of work. No damages/compensation shall be payable on account of idle manpower, labour, T&P, Plant and Equipment and loss of profit etc. for whatsoever reason.**

22. The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs involved, onsite & offsite, in the execution of the item.

23. The contractor (s) shall quote all-inclusive rates against the items in the schedule of quantities and nothing extra shall be payable for any of the conditions and specifications mentioned. In the tender documents unless specifically specified otherwise.

24. Unless otherwise specified in the schedule of quantities the rates for all items shall be considered as inclusive of pumping/baling out water, if necessary, for which no extra payment shall be made. Those conditions shall be considered to include water from any source such as inflow of flood, surface and sub-soil water etc. and shall apply to the execution in any season.

25. The work shall be executed and measured as per metric dimensions given in the Schedule of quantities, drawings etc. (FPS units wherever indicated are for guidance only).

26. Unless otherwise specified in the schedule of quantities, the rates tendered by the contractor shall be inclusive of all costs & taxes and shall apply to all heights, lifts, leads and depths and nothing extra shall be payable on this account.

27. The foundation trenches shall be kept free from water while works below ground level are in progress.

28. No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.

29. All ancillary and incidental facilities required for execution of work, onsite & offsite, like labour camp, stores, laboratory with specified equipment's, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, temporary barricading or fencing around the working sites, water storage tanks, installation and consumption charges of temporary electricity, telephone, data, water etc. required for execution of the work, protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge and get approved, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.

30. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). Normally contractors shall not be allowed to execute the RCC, electrical and finishing work at night or RCC casting even on government holiday. Work at night shall, however, be allowed if the site conditions/circumstances so demand. No claim whatsoever shall be entertained on this account, not with-standing the fact that the contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the contractor with them.

31. The contractor shall maintain in perfect condition, all portions executed till completion of the entire work allotted to him. Where however phased delivery of work is contemplated these provisions shall apply separately to each phase.

32. All material shall only be brought at site as per program finalized and approved from the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for. Mass supply of material could only be order after getting approval of sample.

33. The contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services. *and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in-Charge. If required stacking of excavated earth required to be use on work*

to be done outside the construction site by the contractor at their own. Nothing extra shall be paid on this account.

34. The Contractor shall bear all incidental charges for cartage, storage, multiple handling including head load and safe custody of materials issued by department/arranged by the contractor.

35. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator /needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.

36. The cost of flooring is inclusive of providing sunken flooring in bath-rooms, kitchen, etc. and nothing extra on this account shall be payable.

37. Any legal or financial implications resulting out of carriage of earth from outside or disposal of surplus earth either obtained from excavation or already available at site, shall be sole responsibility of the contractor. Nothing extra shall be paid on this account.

38. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so contractor has to execute the electrical and plumbing work accordingly. The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors are minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper coordination of various disciplines viz. sanitary & water supply, electrical, fire-fighting and any other services.

39. The work of water supply, internal sanitary installations and drainage etc. shall be carried out as per the bylaws of the Municipal Corporation or any other local body and the contractor shall produce necessary completion certificates from such authority after completion of work.

40. In case of local Municipal regulations / restrictions by client /non-availability of space at site, if huts for labour are not allowed to be erected at the site of work, the contractor shall be required to provide such accommodation at suitable place at his own cost and nothing extra shall be paid on this account.

41. Any cement slurry added over base surface for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable and no extra cement considered in consumption on this account.

42. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar service encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted, the same shall be payable to the contractor as per the terms and conditions of the contract. The contractor shall not store materials or otherwise occupy any part of the site in a manner, or work in a unsafe manner, likely to hinder the operation of such services. Core cutting in RCC/brick work is not allowed. However, as per site requirement necessary capping, laying of service pipe etc. to be laid in advance. Nothing extra shall be paid on this account.

43. The contractor shall be responsible for the watch and ward / guard of the buildings safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and

thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

44. The contractor shall make his own arrangements for obtaining electric connections including DG sets, if required, and make necessary payments directly to the department concerned. Nothing extra, whatsoever, shall be paid on this account and neither any extra time for delay in the said operations, whatsoever, shall be admissible on this account.

45. The Department shall in no way be responsible for either any delay in getting electric and/or water and/or telephone connections for carrying out the work or not getting connections at all. No claim of delay or any other kind, whatsoever, on this account shall be entertained from the Contractor. Also contingency arrangement of stand-by water & electric supply shall be made by the Contractor for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of any kind whatsoever shall be entertained on this account from the Contractor. Nothing extra shall be payable on this account.

46. The rate quoted by the contractor / agency shall be inclusive of mobilization to site all necessary machineries and equipment's, furnishing, handling, storing, installation including placing, cutting holes, splicing, driving, re-driving, bailing out water, pulling out and removal of the temporary earth retaining structure / strutting etc. from site and other machineries, equipment's, instrumentations etc. men ,materials etc. , other incidental to works, for execution of work, with all safety measures as required for the execution of construction work for safety of surrounding existing buildings, structures, services,parked / moving vehicles, equipment's and machines etc. as per direction of Engineer-in-charge.

47. The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet, safety harness and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.

48. All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the

Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.

49. **WARNING/ CAUTION BOARDS**: All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer - in - Charge. Nothing extra shall be payable on this account.

50. **SIGN BOARDS:** The Contractor shall provide, erect and maintain till completion of work, a display board of size and shape as per directions of Engineer in charge and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, Client/Owner, Engineer-in-charges, Structural Consultants, Department etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies within 30 days from issue of award letter. Nothing extra shall be payable on this account. **In case of non-compliance/delay in compliance in this, a penalty@ Rs. 500/- per day**willbe imposed which will be recovered from the immediate next R/A Bill of the Contractor.

51. The contractor shall display all permissions, licenses, registration certificates, bar charts,other statements etc., under various labour laws and other regulations applicable to the works, at his site office.

52. The contractor shall make all necessary arrangements for protecting works alreadyexecuted from rains, fog or likewise extreme weather conditions and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.

53. In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, no claim financially or otherwise shall be entertained notwithstanding any other provisions elsewhere in the bid document. Also, thecontractor shall make good, at his own cost, the damages caused, if any. Further, no claim for hindrance shall be entertained on this account.

54. Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required at any stage shall have to be done by the contractor at his own cost.

55. Entry to the campus/site may be restricted from particular entrance gate and agency has to follow security rules of the campus & nothing extra shall be payable on this account.

56. SETTING OUT

56.1. Contractor shall provide permanent bench marks and other reference points for the proper execution of work and these shall be preserved till the end of work. All such reference points shall be in relation to the levels and locations, given in the Architectural and plumbing drawings and directions of Engineer in charge.

56.2. The contractor shall carry out survey of the work area, at his own cost, setting out the layout of building in consultation with the Engineer–in-charge & proceed further. Any discrepancy between architectural drawings and actual layout at site shall be immediately brought to the notice of the Engineer–in-charge. It shall be responsibility of the contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and centre lines, etc., Nothing extra shall be payable on this account.

56.3. The contractor shall establish, maintain and assume responsibility for grades, lines, levels and bench marks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions to the Engineer-in-Charge before commencing work. If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the contractor shall, at his own expense rectify such error, if sorequired, to the satisfaction of the Engineer–in-charge. Nothing extra shall be payable on this account.

56.4. Though the site levels may be indicated in the drawings the contractor shall ascertain himself and confirm the site levels with respect to GTS bench mark from the concerned authorities.

56.5. The contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The contractor shall protect and maintain temporary/ permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer-in-charge or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. Nothing extra shall be payable on this account.

56.6. The approval by the Engineer-in-charge, of the setting out by the contractor, shall not relieve the Contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work. Any financial implication on this account shall be borne by the contractor.

56.7. The approval by the Engineer-in-Charge of the setting out by the contractor shall not relieve the contractor of any of his responsibilities.

56.8. The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignment, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor at his own cost to the instructions and satisfaction of the Engineer-in-Charge.

57. PROGRAMME CHART

57.1. The Contractor shall prepare an integrated programme chart (Bar chart) for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in-Charge within ten days of award of the contract. Non-submission of such programme or submission of

incomplete programme without all required details of manpower T&P etc., shall attract the recoveries as mentioned in the Schedule-F of the tender document.The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement.

57.2. The programme chart may include the following as per direction of engineer-in-charge:

(a) Descriptive note explaining sequence of the various activities.

(b) Network (PERT/CPM/BAR CHART).

(c) Programme for procurement of materials and manpower by the contractor.

(d) Programme of procurement and deployment of machinery / equipment having adequate capacity, manpower activity wise &commensurate with the quantum of work to be done as per the provided drawings or schedule of quantities within the stipulated period, by the contractor.

(e) Productivity of T&P and manpower of all categories to be employed based on which the activity wise program is being proposed.

57.3. In addition to above, the contractor shall submit shuttering schedule and cycle time for repetition of floors, adequate to complete structure work within laid down physical milestone etc. and to achieve the progress of work as per programme, he must bring sufficient shuttering material required for cement concrete and R.C.C. works etc.

57.4. If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above, the contractor shall produce a revised programme showing the modifications to the approved programme to ensure completion of the work. The modified schedule of programme shall be approved by the Engineer-in-Charge. Non-submission of such revised programme shall attract the recoveries as mentioned in the Schedule-F of the tender document.

57.5. The submission for approval by the Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.

58. MONTHLY PROGRESS REPORT

The contractor shall submit to the Engineer-in-charge on the 5th day of each month, 2 hard copies and one on soft copy (CD) of monthly progress report of the work. Such progress report will include the project progress, summary, work progress (planned vs actual), CPM chart, status of financial progress and achievement of milestone, manpower deployment status category wise, inventory of materials and T&P deployed and photographs of important activities, list of idle establishment such as labour, T&P, etc.

The progress report shall contain the following, apart from whatever else may be required as specified above:

(i) Project information, giving the broad features of the contract of the work under the contract, and the broad structural or other details.

(ii) Introduction, giving a brief scope of the work under the contract, and the broad structural or other details.

(iii) Construction schedule of the various components of the work through a bar chart for the next two fortnights (or as may be specified), showing the milestones, targeted tasks and up to date progress.

(iv) Progress chart of the various components of the work that are planned and achieved, for the month as well as cumulative upto the month, with reasons for deviations, if any, in a tabular format.

(v) Plant and machinery statement, indicating those deployed in the work, and their working status.

(vi) Man-power statement, indicating individually the names of all the staff deployed in the work, along with their designations. No. of skilled workers (trade wise) and total no. of unskilled workers deployed on the work and their location of deployment, activity wise & block wise.

(vii) Financial statement, indicating the broad details of all the running account payments received upto date, such as gross value of work done, advances taken, recoveries effected, amounts withheld, net payments, details of cheque payments received, etc.

(viii) A statement showing the extra and substituted items submitted by the contractor, and the payments received against them, items pending for sanction/decision by the Department, broad details of the Bank Guarantees, indicating clearly their validity periods, broad details of the insurance policie

(ix) s taken by the contractor, if any, the advances received and adjusted.

(x) Progress photographs, in colour, of the various items/components of the work done upto date, to indicate visually the actual progress of the work.

(xi) Quality assurance and quality control tests conducted during the month, with the results thereof.

(xii) Videography at various stages of construction right from the day of start of workto date of completion/occupation, covering all major events, mile stones achieved, inspections, visits by dignitaries etc.

(xiii) Chronological brief of all sort of upto date correspondences made by the contractor and department since the award of work in tabular format.

(xiv) Details of consumption of electricity, fuel, water, cement, steel, fly ash based products and any other product being used, as directed by the Engineer in charge for the month as well as cumulative since start of work.

Nothing extra, whatsoever, shall be paid on account of the aforesaid submission of monthly report.

59. SAFETY PRECAUTIONS

59.1. Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for construction.

59.2. Contractor at his cost put up the barricading of height and specifications as prescribed by NGT, MOEF or any other applicable appropriated govt. authority for the location, all around the construction site through suitable method for segregating the construction site and also to

control the dust pollution in the campus nothing extra shall be paid on this account unless provided otherwise. Entry to the site shall be controlled for proper security of man and materials and to avoid accidents.

59.3. Necessary personal protective and safety equipment's such as helmet, safety shoes& harness, gloves etc shall be provided to the all site Engineers, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and to be used at site.

59.4. The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards, day and night speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused to existing/new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.

59.5. In case of any accident of labours/ contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely borne by the contractor and department shall have no role on this account.

59.6. It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.

59.7. Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.

59.8. For facia work, outer finishing and other RCC works etc., only double steel scaffolding having two sets of vertical supports with steel staircase for inspection of works by engineer in charge shall be used. The supports shall be sound and strong, tied together with horizontal piece over which scaffolding planks shall be fixed.

60. **QUALITY ASSURANCE**

60.1. The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material/work beyond set out tolerance limit shall be summarily rejected by the Engineer-in-Charge.

60.2. The contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted. He shall have to submit quality assurance programme within two weeks of the award of work. The quality assurance programme should include method statement for various items of work to be executed along with check lists to enforce quality control.

60.3. The contractor shall depute Quality Manager exclusively for enforcement of quality control. Such Quality Manager should be a qualified engineer with minimum Eight years of similar experience. For other staff to be deployed for quality assurance, the contractor may refer to clause 36(i) under schedule "F" attached.

60.4. Contractor shall be required to submit detailed method statement for all activities associated with the execution and completion of the work. Such method statement should contain all required details like checklists for pre, post and during execution of the activity/item of work, details of testing methodology, frequency, relevant testing standards as defined in the contract of the items involved in the activity. Engineer in charge reserves the right to direct any amendment/modification in the submitted method statement and contractor shall be bound to

submit the amended/modified method statement as directed by Engineer in charge, after which only contractor shall be allowed to take up such activity. Contractor shall be required to get inspected any activity to be executed on a day from the Engineer in charge or his authorized representatives and get signed the checklist as per the method statement, after which only the activity on that particular day shall be allowed to start. Contractor shall be fully responsible for all contractual implications, for any delay caused, if any, on account of delay in submission of such method statement or modified method statement or checklists. Nothing extra, whatsoever, shall be paid on this account and his quoted amount shall be deemed to be inclusive of all such activities.

60.5. The contractor shall prepare all the needed shop drawings well in advance at his risk and cost deemed to be included in the overall quoted cost and get them approved before placing the order and execution of the item.

60.6. Contractor shall prepare and submit shop drawings for approval of Engineer in charge, before taking up different activities like aluminium doors, windows, plumbing for water supply and drainage, sewer lines & manholes with IL, ACP cladding, stone cladding, glass curtain walls etc or any other activity as directed by Engineer in charge. Contractor shall be required to make modifications as may be directed by the Engineer in charge in the submitted shop drawings and shall resubmit modified shop drawings. Contractor shall not be allowed to execute the related items without approval of such shop drawings and he shall be fully responsible for all contractual implications, for any delay caused, if any, on account of delay in submission of such shop drawings or modified shop drawings. Nothing extra, whatsoever, shall be paid on this account and his quoted amount shall be deemed to be inclusive of all such activities.

60.7. Shop drawings shall be submitted for approval four weeks in advance of planned delivery and installation of any material to allow the Engineer In-Charge ample time for scrutiny. No claims for extension of time shall be entertained because of any delay in the work due to his failure to produce shop drawings at the right time, inaccordance with the approved program.

60.8. Before taking up the work, the contractor shall also provide integrated drawings for various civil and electrical services showing details of lay out plan including sectional elevations. Contractor shall plan and mobilize his resources as per the integrated drawings and as per the site conditions to facilitate convenient execution, installation aswell as construction of these services. Nothing extra shall be payable on this account.

60.9. The contractor shall produce all the materials in advance so that there is sufficient time for testing and approving of the material and clearance of the same before use in work.

60.10. Materials used on work without prior inspection and testing (where testing is necessary) and without approval of the Engineer-in-Charge are liable to be consideredunauthorized, defective and not acceptable. The Engineer-in-Charge shall have fullpowers to order the removal of any or all of the materials brought to site by contractor which are not in accordance with the contract specifications or do not confirm, incharacter or quality to the samples approved by the Engineer-in-Charge. In case ofdefault on the part of the contractor in removing rejected materials, the Engineer-in-Charge shall be at liberty to have them removed at the risk and cost of the contractor

60.11. The contractor shall provide at his own cost, suitable weighing, surveying, levellingand measuring arrangements as may be necessary and directed by Engineer in charge at site for checking. All such equipment shall be got calibrated in advance from laboratory, approved by the Engineer-in-Charge. Nothing extra shall be payable on this account.

60.12. The contractor shall give performance test of the entire installation(s) as per the specifications in the presence of the Engineer-in-charge or his authorized representative before the work is finally accepted and nothing extra what-so-ever shall be payable to the contractor for such test.

60.13. Wherever work is specified to be done through specialized agencies, their names shall be got approved well in advance from Engineer in charge. Failure to do so shall not justify delay in execution of work. The contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer in charge within 30 days of issue of letter of award of work.

60.14. All materials obtained from Govt. Stores or otherwise shall be got checked by the Engineer-in-Charge or his any authorized supervisory staff on receipt of the same at site before use.

60.15. The contractor shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight / dimensions as may be necessary for execution of work. The sealed samples are to be handed over to the testing lab by contractor in the presence of Junior Engineer/Assistant Engineer-in-Charge of work.

60.16. **Samples of various materials required for testing shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise provided shall be borne by the contractor. All other expenditure required to be incurred for taking the samples; conveyance, packing etc. shall also be borne by the contractor himself**.

60.17. The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case, he or his authorized representative is not present or does not associate him, the results or such tests and consequences thereon shall be binding on the contractor.

60.18. For certain item, if frequency of tests is not mentioned in the CPWD Specifications, then relevant BIS code shall be followed and tests shall be carried out as per the frequency specified therein.

60.19. If any load testing or special testing is to be done for any sample whose strength is doubtful, the cost of the same shall also be borne by the contractor.

60.20. Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality shall be got approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per approved list of brand names given in the tender document / additional specifications for approval of Engineer-in-charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute

conforming to relevant specifications or IS codes and use the same only after getting the approval from engineer-in-charge.

60.21. To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though approved by Engineer-in-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

60.22. The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.

60.23. The contractor shall get the water tested with regard to its suitability and conforming to the relevant IS Code. The contractor shall obtain written approval from the Engineer-in-Charge before he proceeds by using the same for execution of work. The water testing charges shall be borne by the contractor. If tube well water is not suitable, the contractor shall arrange Municipal water or from any other source at his own cost and nothing extra shall be paid on this account. The water shall be got tested at frequency specified in latest CPWD Specifications / BIS Code.

60.24. The gradation of fine sand to be used in plaster work shall be strictly as per CPWD Specifications 2019, conforming to IS:1542-1977. The plastered surface shall be fairly smooth without any undulation of any kind for applying paint/white wash.

60.25. No concreting shall be done until the mix-design is approved by Engineer-in-charge. In case of change of source or characteristic properties of the ingredients used in the concrete mix-design during the work, a fresh mix design to be conducted and shall got approved by the engineer-in-charge. Nothing extra shall be paid on this account. No claim for extra time or delay, whatsoever, on this account shall be entertained.

60.26. The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work and other works as desired by Engineer-in-charge for his approval before execution. The contractor shall also submit bar bending schedule for approval of Engineer-in-charge before execution.

60.27. Before taking up the finishing work such as Flooring, Plastering, sample unit of toilet, room etc., contractor shall prepare full-scale sample for large-scale repetitive items and get approved from Engineer-in-Charge before taking up for execution on large scale.

60.28. Based on the samples approved by the Engineer-in-Charge for various flooring and dado / cladding materials as specified hereinafter, the contractor shall prepare mock up(s) at site of work as specified under relevant flooring and dado / cladding items, for approval of quality of workmanship and material specified. If the quality of the workmanship and the material is as per the required standards and approved by the Engineer-in- Charge, the mock up shall be allowed as part of the work and measured for payment. Otherwise, it shall be dismantled by the contractor as directed by the Engineer-in-Charge and taken away from the site of the work

at his own cost. The mock up(s) so made shall be kept till completion of respective works for reference.Nothing extra shall be payable on this account.

60.29. The contractor shall prepare & display mock-ups in actual position of each and everyitem and obtain approval of Engineer-in-charge before execution en masse. The mockup shall be preserved for the purpose of reference till completion of the item represented by the mockup. Similarly, the contractor shall prepare sample toilet blocks comprising of all finishes and fittings included in the scope of this contract. Approval of Engineer-in-charge shall be obtained before taking up finishing works en masse. The work executed in approved mock ups/sample units in actual position forming part of the main work shall be deemed to be included the scope of work and quoted rates of the contract. However the contractor shall have to dismantle and remove the rejected mock up / sample from the site of work at his cost.

60.30. The contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-charge. The contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-charge. Toilets and in case of construction of residential quarters, one sample quarter complete in all shape for each category, shall be prepared by the contractor and got approved from Engineer-in-charge in writing. The contractor shall be allowed to proceed with further quarters only after getting the sample quarters approved in writing from Engineer-in-charge No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account.

60.31. The construction joints shall the provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.

60.32. Water tanks, taps, sanitary, water supply and drainages pipes, fittings and accessories should conform to the specifications provided in bidding documents. The contractor(s) should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/Corporation authorities, wherever required, at his own cost. The Contractor(s) shall submit for the approval to the Engineer-in-Charge the name of the plumbing agency proposed to be engaged by him.

60.33. All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions submitted before covering.

60.34. The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.

60.35. Door/window frames/shutters and other factory-made materials shall be procured from reputed and approved manufacturers or their authorized dealers. Decision of Engineer-in-charge in this regard shall be final and binding.

60.36. *Not less than 90% tests for material be performed at site lab, however at least 10% testing of materials shall be got done from external laboratories approved by Engineer in charge. However, for the tests to be carried out by the external laboratories, the*

contractor shall supply free of charge all the materials required for testing, including transportation. If the tests which were to be conducted in the site laboratory are conducted in other laboratories for any other reasons the cost of such tests shall also be borne by the contractor.

60.37. **Construction of Site Registers:**

(i) All the Site Registers including Tests registers for tests to be carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.

(ii) The various registers (In general) to be issued to and maintained by the contractor are:

a) Materials at site account register.

b) Cement register.

c) Master test registers.

d) Cube test register.

e) Paint/chemicalregister.

f) Inspection register.

g) Drawing register, etc.

(iii) All the entries in the registers will be made by the designated engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE.

(iv) All the registers of tests carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.

(v) All samples of materials including cement concrete cubes shall be taken jointly with contractor by JE and out of this at least 50% samples shall be taken in presence of AE in charge. If there is no JE, all samples of materials including cement concrete cubes shall be taken by AE jointly with contractor. All the necessary assistance shall be provided by the contractor. Cost of sampling & testing are to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site/ outside laboratory.

(vi) All the tests in field lab at construction site shall be carried out by the Engineering staff deployed by the contractor and shall be 100% witnessed by JE and 50% of tests shall be witnessed by AE –in-Charge. At least 10% of the tests are to be witnessed by the Executive Engineer. Minimum 10% of all samples should be tested in outside approved laboratory/ Govt. Engineering colleges.

(vii) Submission of copy of all test registers, material at site register along with each alternate running account bill and final bill shall be mandatory. These registers should be duly checked by AE(P) in division office.

60.38. **Removal of Rejected / Sub-standard Materials:**

The following procedure should be followed in case of removal of rejected/sub-standard materials from the site of work.

a) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of the AE/AEE giving approximate quantity of such materials.

b) As soon as the material is removed, a certificate to that effect may be recorded by the AE/AEE against the original entry, giving the date of removal a mode of removal i.e. whether by truck, carts or by manual labour. If removal is by truck, the registration number of the truck should be recorded.

c) When it is not possible for the AE/AEE to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site the required certificate should be recorded by the Junior Engineer and the AE/AEE should countersign the certificate recorded by the Junior Engineer.

61. **AS BUILT DRAWINGS:**

On completion of work, the Contractor(s) shall submit at his own cost four prints of "as built" drawings to the Engineer-in-Charge within 30 days of completion of work. These drawings shall have the following information amongst other information that may be directed by Engineer in charge.

(i) Run off all piping and their diameters including soil waste pipes and vertical stacks.

(ii) Ground and invert levels of all drainage pipes together with locations of all manholes and connections, up to outfall.

(iii) Run off all water supply line with diameters, locations of control valves, access panels etc.

(iv) All literatures, manuals, warranty certificates etc. of variousinstalled fittings, fixtures and equipment for the completed projects

(v) The contractor shall make available four (04) sets of computerized Standard Measurement Books (SMBs) as per CPWD works manual having measurement of all the permanent standing in a building.

Final bill will not be paid and Security Deposit shall not be released until submission of as built drawings as above and no claim, whatsoever, shall be admissible for non-payment of final bill or security deposit on account of non-submission of aforesaid as built drawings with required details & SMB.

62. The contractor shall render all help and assistance in documenting the total sequence of this project by way of photography, slides, audio-video recording etc. Nothing extra shall by payable to the contractor on this account.

63. The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including all equipment's, services provided by him against pilferage and breakage during the period of Installations and thereafter till the building is physically handed over in complete shape to the CPWD. The CPWD will take over the building after rectification of all defects. No extra payment shall be made on this account and no claim shall be admissible on this account.

64. The contractor shall make all necessary arrangements for protecting works already executed from rains, fog or likewise extreme weather conditions and for carrying out further work, during monsoon including providing and fixing temporary shelters, protections etc. Nothing extra shall be payable on this account and also no claims for hindrance shall be entertained on this account.

65. The contractor shall keep himself fully informed of all acts and laws of the Central & State Governments, all orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by Collector / Central/State Govt. and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The contractor shall also adhere to all traffic restrictions notified by the local authorities. All statutory taxes, levies, charges (including water and sewerage charges, charges for temporary service connections and / or any other charges) payable to such authorities for carrying out the work, shall be borne by the Contractor. The water charges (for municipal water connection as well as tanker water)

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

shall be borne by the contractor. Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent sewerage charges shall be borne by the contractor. The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the Department and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. Nothing extra shall be payable on these accounts. The fee payable to statutory authorities for obtaining the various permanent service connections and Occupancy Certificate for the building shall be borne by the Department.

66. The contractor shall protect and indemnify the CPWD, its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives or any of his other direct or indirect action taken in relation to the execution of this work. Nothing extra shall be payable on these accounts. In case of failure on part of the contractor in this respect, department shall be free to recover any such amount due to the contractor under this contract or any other contract under the government and the decision of the Engineer in charge in this regard shall be final and binding on the contractor.

67. The contractor shall assume all liability, financial or otherwise in connection with this contract and shall protect and indemnify the CPWD, its officials & employees from any and all damages and claims that may arise on any account. The Contractor shall indemnify the department CPWD against all claims in respect of patent rights, royalties, design, trademarks- of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the department in all respect from such actions, costs and expenses. Nothing extra shall be payable on this account. In case of failure on part of the contractor in this respect, department shall be free to recover any such amount due to the contractor under this contract or any other contract under the government and the decision of the Engineer in charge in this regard shall be final and binding on the contractor.

68. **In case contractor is permitted to use structural steel (such as tees, angles channels and R.S. joists), M.S. Tubes, Flats, M.S. Sheet, Chequrred Plate, Square and round bars procured from secondary producers and not as per list of approval make and material then:- The rate quoted by contractor of relevant item in tender shall be reduced by Rs. 6.00 per kg.**

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

PARTICULAR SPECIFICATIONS AND SPECIAL CONDITIONS

1.0 EARTH WORK

1.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol.I& Vol. II and National Building Code 2016 with upto date correction slips.

1.2 Excavation shall be undertaken to the width of the Basement / Retaining wall footing including necessary margins for construction operation as per drawing or directed otherwise. Where the nature of soil or the depth of the trench and season of the year, do not permit vertical sides, the contractor at his own expense shall put up the necessary shoring, strutting and planking or cut slopes with or without steps, to a safer angle or both with due regard to the safety of personnel and works and to the satisfaction of the Engineer, Nothing extra shall be paid for making steps and slopes etc. as required.

1.3 The contractor shall make at his own cost all necessary arrangements for maintaining water level, in the area where works are under execution low enough so as not to cause any harm to the works or problems in carrying out with the execution and the rates for all items of work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment shall be made. This will include water coming from any source, such as rains, accumulated rain water, floods, leakages from sewer and water mains, subsoil water table being high or due to any other cause whatsoever. The contractor shall make necessary provision of pumping, dredging, and bailing out water coming from all above sources and excavation and other works shall be kept free of water by providing suitable system approved by the Engineer-in-charge.

1.4 Sub-soil water table at work site is reported to be about 9.0m below general ground level. The water level may vary due to rainy season or due to dewatering etc. in order to avoid possibility of basement floor of building being getting uplifted/damaged due to water pressure, the contractor shall make arrangement for lowering the ground water table below the proposed foundation level as approved by Engineer-in-charge. Sub soil water table shall be maintained at least 50 cm below the P.C.C. level during laying of P.C.C., water proofing treatment, laying of basement raft and beams including filling of earth/sand under the basement floor. The water table shall not be allowed to rise above base of raft level until completion of outer retaining walls including water proofing of vertical surface of walls and back filling along the walls up to ground level and until the structure attains such height to counter balance the uplift pressure. However, the contractor should inspect the site and make his own assessment about sub-soil water level likely to be encountered at the time of execution and quote his rates accordingly. Rate of all items are inclusive of pumping out or bailing out water, if required. Nothing extra on this account whatsoever shall be paid to him unless otherwise specified. The sequence of construction shall be got approved by the Engineer-in-charge.

1.5 All the major excavation shall be carried out by mechanical excavator. No extra payment shall be made for that.

1.6 Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery's and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.

1.7 The rates are inclusive for all depths & nothing extra shall be paid for additional lift etc.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

2.0 CONCRETE WORK

2.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.

2.2 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorized variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that after the completion of the work, the quantity of cement used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in clause 42) the cost of quantity of cement so less used shall be recovered from the contractor at the rate as specified in schedule 'F'. Decision of the Engineer-in-Charge in regard to the quantity of cement which should have been actually used as per the schedule and recovery at the rate specified shall be final and binding on the contractor.

2.3 For non-scheduled items, the decision of the Superintending Engineer regarding theoretical quantity of the cement which should have been actually used shall be final and binding on the contractor.

3.0 RCC/CC WORK (DESIGN MIX CONCRETE)

3.1 The Design Mix Concrete will be designated based on the principles given in BIS codes IS:456, IS:10262 & SP:23. The condition and specifications stated herein shall have precedence overall conditions and specifications stated in relevant BIS codes/CPWD specifications. The concrete mix shall be designed for specified target mean compressive strength in order to ensure that the work test results do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The mix shall be designed with quantities of admixture / plasticizer proposed to achieve required workability & strength. The specifications mentioned here in below shall be followed for Design Mix Concrete.

3.2 The sources of coarse aggregate, fine aggregate & water to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specification & their availability before getting the same approved by the Engineer-in-Charge.

3.3 Coarse Aggregate:As per CPWD Specifications - 2019 - Vol.I& Vol. II with up to date correction slips.

3.4 Fine Aggregate:As per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.

3.5 Water: It shall confirm to requirements laid down in IS:456-2000 / CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.

3.6 Cement: PPC shall be used for design mix concrete and shall conform to IS-1489 (part-I). However, if higher grade of cement is used by the contractor nothing extra shall be paid on this account.

3.7 Admixtures / Plasticizers: - The admixture shall confirm to IS:9103, wherein required, the admixture of approved quality and approved make only shall be used to attain the required workability. Nothing extra shall be paid for use of admixtures.

3.8 Grade of Concrete: The compressive strength of various grades of concrete shall be given as below:

Grade Designation	Compressive Strength on 15 cm Cubes at 7 Days (N/mm2)	Specified Characteristic Compressive Strength At 28 Days At (N/ mm2)	Maximum Water Cement Ratio
M-25	As Per Design	25	
M-30	As Per Design	30	
M-35	As Per Design	35	
M-40	As Per Design	40	

Water cement ratio and slump shall be as per IS:456-2000.

NOTE:

(i) In the designation of a Concrete mix letter M refers to the mix and the number of the specified characteristic compressive strength of 15 cm cube at 28 days expressed in N/mm2.

(ii) It is specifically highlighted that in addition to the above requirements, the **maximum cement content for grade M-25 and M-30 shall be limited to 380 kg /cum and 410 kg/cum using PPC cement respectively**.

(iii) The maximum cement content for design mix concrete shall be maintained as per the quantity mentioned above. In case where the quantity of cement required as per Design Mix is lower than the quantity specified in the respective item in the "schedule of quantity", necessary deduction for less quantity of cement used shall be made from the contractor.

3.9 The concrete mix design will be carried out by the contractor through IIT/NIT/any other government lab as approved by engineer-in-charge.

3.10 The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer-in-Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. Accordingly the contractor shall conduct trial mixes at site for which nothing extra shall be payable.

3.11 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design as above to be conducted and the charges to be borne by the contractor even as many times as required.

3.12 Trial Batches:

3.12.1 The designed mix proportion shall be checked for target mean compressive strength by means of trial batches.

3.12.2 The quantities of materials for each trial mix shall be sufficient for at least six specimens (cubes) and the concrete required for carrying out workability tests.

3.12.3 The workability of trial mix No. 1 shall be measured and mix shall be carefully observed for freedom from segregation, bleeding and its finishing characteristics. The water content, if required, shall be adjusted corresponding to the required changes in the workability.

3.12.4 With the modified water content, the mix pro-portions shall be recalculated by keeping with water cement ratio unchanged. The mix proportions, as modified, shall form the Trial Mix No. 2 and tested for the specified strength and workability.

3.12.5 In addition, trial mix No. 3 and 4 shall be designed by keeping water contents same as that determined for trial mix 2 but varying the water cement ratio + 10 percent of the specified value and tested for their design characteristics.

3.13 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix wherever required and directed by Engineer-in-Charge.

3.14 APPROVAL OF DESIGN MIX:

The mix design for a specified grade of concrete shall be done for a target mean compressive strength

Tck = Fck + 1.65s

Where, Fck =Characteristic compressive strength at 28 days.

s =Standard deviation which depends on degree of quality control.

The degree of quality control for this work is "good" for which the standard deviation (s) obtained for different grades of concrete shall be as follows:

GRADE OF CONCRETE	STANDARD DEVIATION(S)
M-25	4.0
M-30	5.0
M-35	5.0
M-40	5.0

Minimum three sets of separate preliminary test shall be carried out for each trial batch of concrete mix. Each test shall comprise six specimens and only one test set of six specimens shall be made on any particular day. Out of the six specimens of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days. While the design mix shall be approved only on the basis of test strength of 28 days. The design mix shall be considered satisfactory and approval if at least three preliminary tests- sets individually satisfy the following strength and workability criteria:

(a) The average strength of each test sets is not less than the specified target mean compressive strength (Tck).

(b) The strength of any specimen cube is not less than 0.85 Tck.

(c) The concrete mix is required degree of workability and acceptance concrete finish.

3.15 WORK STRENGTH TEST:

TEST SPECIMEN:

Work strength test shall be conducted in accordance with IS:516 on random sampling. Each test shall be conducted on six specimens, three of which shall be tested at 7 days and remaining three at 28 days.

TEST RESULTS OF SAMPLES:

The test results of the sample shall be the average of the strength of three specimen. The individual variation shall not be more than + 15% percent of the average. If variation is more, the test results shall be treated as invalid. 90% of the total tests shall be done at the laboratory

established at site by the contractor and remaining 10% in the laboratory of IIT/NIT or in any other laboratory as directed by the Engineer-in-Charge.

LOT SIZE:

The minimum frequency of sampling of concrete of each grade shall be in accordance with the following:

QUANTITY OF CONCRETE IN THE WORK (CUBIC METRE PER DAY).	NUMBER OF SAMPLES
1-5	1
6-15	2
16-30	3
31-50	4
51 & above	4 Plus one additional sample for each additional 50 cubic meters of part thereof

NOTE: - At least one sample shall be taken from each shift.

3.16 STANDARD OF ACCEPTANCE: All as per relevant IS codes.

3.17 Only MS centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-Charge.

3.18 Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the form work is having a mean radius exceeding 6m in plan.

3.19 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.

3.20 As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 25 mm as required lower than general floors shuttering should be adjusted accordingly and slabs should be laid with slope towards the drainage point. Nothing extra is payable on this account.

3.21 PRODUCTION OF CONCRETE

All concrete shall be produced at site through weigh-batching plant of suitable capacity as directed by the Engineer-in-charge (of 10 cum/hr or as directed by the Engineer-in-charge) conforming to IS:4925 with the arrangements for automatic dispensing of admixture and having facility of giving print out indicating weight / details of all ingredient of concrete in each lot/ batch and variations from the approved design mix if any. Batching and mixing plant of capacity 10 cum/hr or as per direction of Engineer-in-charge shall be installed at the arranged site by the contractor. The batching and mixing plants shall be dedicated plants for this project. Contractor shall make his own arrangements for the necessary infrastructure for installation of batching plant and other machineries. However, if due to any reason, contractor wishes to supplement the concrete from Ready Mix Concrete (RMC) supplier, he is permitted to procure the same from the source approved by the Engineer-in-charge at his own cost. In such a situation nothing extra shall be paid to the contractor. All technical requirements such as cement type and minimum cement quantity, w/c ratio, slump, admixture etc. shall be conveyed to RMC supplier by the contractor

and contractor shall be wholly responsible for ensuring the property of concrete as required at site, nothing extra shall be paid to the contractor.

The contractor may take some time to install his own batching plants at the arranged site and till the batching plants are installed, the contractor is permitted to procure concrete from approved Ready-Mix Concrete (RMC) supplier for a period of 3 months from date of start of work or the period as agreed by Engineer-in-Charge. Similarly, when the work is nearing completion and daily requirement of concrete is very less, if agreed by the Engineer-in-Charge, the contractor may be permitted to procure the concrete from approved Ready-Mix Concrete (RMC) supplier and nothing extra shall be paid to the contractor on this account.

3.22 LAND FOR TEMPORARY USE

The land for labour camps & batching Plant and storage/dumping of contribution materials shall be arranged by the contractor at his risk and cost. The lease/rent charges shall be borne by the contractor. The Engineer-in-Charge shall extend necessary help and issue necessary recommendations etc. to the concerned clients / department for temporary allotment of land during construction period if land is available with them. In such cases, the contractor shall vacate the land after completion of work in same condition as was at the time of allotment.

3.23 TRANSPORTATION, PLACING AND COMPACTION OF CONCRETE

Mixed concrete from the RMC / Batching plant shall be transported to the point of placement by transit mixers and placed in position through concrete pumps and/or steel closed bottom buckets capable of carrying minimum 0.6 cum concrete. In case the concrete is proposed to be transported by transit mixer, the mixing speed shall not be less than 4 rev/min. of the drum nor greater than a speed resulting in a peripheral velocity of the drum 70 m/minutes at its largest diameter. The agitating speed of the agitator shall be not less than 2 rev/min nor more than 6 rev/min of the drum. The number of revolution of the mixing drum or blades at mixing speed shall be between 70 to 100 revolutions for a uniform mix, after all ingredients, have been charged into the drum. Unless tempering water is added, all rotation after 100 revolutions shall be at agitating speed of 2 to 6 rev/min and the number of such rotations shall not exceed 250. The general construction of transit mixer and other requirement shall conform to IS:5892.

In case concrete is to be transported by pumping, the conduit shall be primed by pumping a batch of mortar through the line to lubricate it. Once the pumping is started, it shall not be interrupted (if at all possible) as concrete standing idle in the line is liable to cause a plug. The operator shall ensure that some concrete is always there in the pump receiving hopper during operation. The lines shall always be maintained clean and shall be free of dents at all stages. Special precaution shall be taken that surrounding temperature during concreting shall not exceed 30 degree centigrade.

Except where otherwise agreed to by the Engineer-in-Charge, concrete shall be deposited in horizontal layers to a compacted depth of not more than 450 mm. Unless agreed to by the Engineer- in-Charge, concrete shall not be dropped into place from a height exceeding 1.5m. In order to avoid such situations chutes, tremie pipe or closed bottom buckets shall be used. These shall be kept clean and used in such a way as to avoid segregation. Slope of the chute shall be so adjusted that concrete flows without the use of excessive quantity of water. The delivery end of chute shall be as close as possible to the point of deposit. The chute shall be thoroughly flushed with water before and after each working period and the water used for this purpose shall be

discharged outside the formwork. The concrete shall be compacted by using immersion type vibrators. When the concrete is being continuously deposited to a uniform depth along a member, vibrator shall not be operated within one meter of free end of the advancing concrete. Every effort shall be made to keep the surface of the previously placed layer of concrete alive so that the succeeding layer can be amalgamated with it by the vibration process. In case the concrete in underlying layer has hardened to such an extent that it cannot be penetrated by the vibrator but is still fresh (that is, just after initial set), un-imposed bond shall be achieved between the top and underlying layer by first scarifying the lower layer before the new concrete is placed by systematically and thoroughly vibrating the new concrete. The points of insertion of vibrator in the concrete shall be so spaced that the range of action overlap to some extent and the freshly filled concrete is sufficiently consolidated at all locations. The spacing between the dipping positions of vibrator shall be maintained uniformly throughout the surface of concrete so that concrete is uniformly vibrated. The vibrating head shall be regularly and uniformly inserted in the concrete so that it penetrates of its own accord and shall be withdrawn slowly whilst running so as to allow redistribution of concrete in its way and allow the concrete to flow back into the hole behind the vibrator. The vibrator head shall be kept in one position till the concrete within its influence is completely consolidated. Vibration shall be continued until the coarse aggregate particle have blended into the surface but have not disappeared. The contractor shall keep at least one additional vibrator in serviceable condition to be used in the event of breakdowns and construction problems.

The vibrator head shall not be brought more than 200 mm near to the formwork as this may cause formation of water stagnations. The formwork shall be strong and great care shall be exercised in its assembly. It shall be designed to take up increased pressure of concrete and pressure variations caused in the neighborhood of vibrating head, which may result in excessive local stress on the formwork. The joints of the formwork shall be made and maintained tight and close enough to prevent the squeezing out slurry or sucking in of air during vibration. The formwork to receive concrete shall be cleaned and made free from standing water, dust, etc. The contractor shall keep provision for screed and shutter vibrators at site.

No concrete shall be placed in any part of the structure until the approval of Engineer-in-Charge has been obtained. If concreting is not started within 24 hours of the approval being given, it shall have to be obtained again from the Engineer-in-Charge. Concreting shall be done continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept, clean, thoroughly wetted and covered with a 13 mm thick layer of mortar composed of cement and sand in the same ratio as in the concrete mix itself. The 13 mm layer of mortar shall be freshly mixed and placed immediately before placing of new concrete.

Where concrete is not fully hardened, all latency shall be removed by scrubbing the wet surface with wire or bristle brushes. Care shall be taken to avoid dislodgement of particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water removed and then coated with neat cement grout. Particular attention shall be given to corners and close spots.

In case of rejection of concrete on account of unacceptable compressive strength, governed by para “Standard of Acceptance” as above, the work for which samples have failed shall be redone

at the cost of contractor. However, the Engineer-in-Charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure on part of structure, etc) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-Charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with para 3.24.2.

3.24 The chasing, cutting and making holes in the masonry and / or cement concrete and / or RCC works shall be done carefully without causing any damage to the structure. Only mechanical cutters & core cutting machines shall be used in a workman like manner, for concealing the pipelines and fittings. The chases / holes, so made, shall be made good with the cement mortar of mix 1: 3 (1cement: 3 fine sand) after testing of the pipe lines for leakage. The cost of cutting cores in RCC, cutting holes in masonry & making good the same shall be deemed to be inclusive in the quoted rate of respective item of drainage/water supply lines. Nothing extra, whatsoever, shall be paid on this account.

3.25 Any cement slurry added over base surface for bond or for continuation of concreting,for protecting reinforcement bars, its cost shall be deemed to have been included in the respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.

4.0 SHUTTERING / FORM WORK

4.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. II with upto date correction slips.

4.2 Steel shuttering as approved by the Engineer-in-Charge shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.

4.3 The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or debonding compound shall be applied on the surface of the shutter plates in the requisite quantity before assembly of steel reinforcement.

4.4 The joint filler shall be resilient closed cell expanded polyethene and non-tainting as manufactured by Supreme Industries Ltd.

4.5 Providing joint filler of required thickness in position to substrate using either double sided foam adhesive tape or neoprene synthetic rubber adhesive. When forming expansion joint with the Board in in-situ concrete, joint sealing slots can be readily formed in the following matter-

a) Before installing, simply cut off a strip of the required depth. Then install the filler flush with the finished surface.

b) Prior to sealing, the top strip can then be pulled easily from the joint to provide an uncontaminated sealing slot ready for preparation and sealing.

5.0 REINFORCEMENT

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

5.1 The reinforcement shall be done as per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.

5.2 The item of reinforcement of RCC work includes all operations including straightening, cutting, bending, welding, binding with annealed steel or welding and placing in position at all the floors with all leads and lift complete as per CPWD Specification - 2019 - Vol.I& Vol. II with upto date correction slips.

5.3 To avoid displacement of bars in any direction and to ensure proper cover, only factory made round type/rectangular cover blocks shall be used by the contractor. Nothing extra shall be payable on this account.

6.0 PRE-CAST RCC WORK

6.1 Pre-cast reinforced concrete units shall be of grade or mix as specified. Provision shall be made in the mould to accommodate fixing devices such as hooks, flats etc. And forming of notches and holes. Each unit shall be cast in one operation. A sample of the unit shall be got approved from Engineer-in-Charge before taking up the work.

6.2 Pre-cast units shall be clearly marked to indicate the top of member and its locations.

6.3 Pre-cast units shall be stored, transported and placed in position in such a manner that these are not damaged.

7.0 BRICK WORK

7.1 Unless otherwise specified FPS Bricks shall be used in all items of brick work. The classification of bricks brought by the contractor shall strictly conform to CPWD Specifications – 2019 Vol-1 & II with upto date correction slips or as specified. The work shall also include for leaving chases / notches for dowels / cramps for all kinds of cladding to come over brick work.

8.0 RANDOM RUBBLE MASONRY

8.1 Scope: This specification covers materials joints, laying and mode of measurement of Random Rubble Masonry

8.2 Materials: Stones: The stone shall be of the type specified such as granite, trap, limestone, sand stone, quartzite etc. and shall be obtained from the quarries, approved by the Engineer in charge. Stone shall be hard, sound durable and free from weathering decay and defects like cavities, cracks, flaws, sand holes, injurious veins, patches of loose or soft material and other similar defects that may adversely affect its strength and appearance. As far as possible. Stones shall be of uniform colour, quality or texture. Generally, stone shall not contain crypts crystalline silica or chart, mica and other deleterious materials like iron-oxide organic impurities etc. Stone with round surfaces shall be not is used.

8.3 Hearting and backing: Where hearting can accommodate a fair proportion of the stones used in the hearting shall be of large size 25% of them shall exceed 0.01 cum. in content.

8.4 Quoins: The quoins shall be at least 30 cm in average length and 0.01cum in content and laid alternately as headers and stretchers, out of then stone at course not exceeding 1 meter center to center, shall be provide with a minimum length of 50cm and cross-sections 200 sq cm (Size of bond specified above) on each exposed face.

8.5 Jamb Stones: The jambs shall be made with stones specified for quoins except that the stone which were required to be provided at 1 meter center to center on both the exposed faces shall

here be provided only on the jamb and the length shall be equal to the thickness of the wall for wall up to 60 cm and a line of headers shall be provided for walls thicker than 60 cm as specified for bond.

8.6 Courses: The masonry shall be carried out in regular courses of height not exceeding 50 cm and masonry on any day will not be raised more than 60 cm in height when using mortars having compressive strength less than 20 kg/sq. cm at 28 days and 100 cm when using mortars exceeding this strength. No attempt shall be made to level up the masonry at each course by the use of thin stones.

8.7 Thickness of Joints: The Joints shall not exceed 30mm at any point on the face. Clips of the stones and spells shall be wedged into the face beds and joint to avoid excessive bed and joint thickness.

8.8 Laying: Stones shall be laid on their natural bed and shall be solidly bedded full in mortar with close joints, chips of stone spells be wedged into the work wherever necessary. No dry work or hollow spaces shall be allowed and every stone whether large or small shall be carefully selected to fit snugly the interstices between the large stones. Masonry shall be built breaking joints in all the three directions. Bone stones and headers shall be properly laid into the work and shall be marked by the contractor with white lead paint. The bond stones shall be provided at the rate of two bond stones per sqm of face area.

8.9 Raking out joints: All the joints on the faces to be pointed or plastered shall be racked out with racking tool to a depth of 20mm while the mortar is still green.

8.10 Mortar: The mortar used for joining shall be as specified.

8.11 Scaffolding: Single scaffolding having one set of vertical supports shall be sound and strong, tied together by horizontal pieces, over which the scaffolding planks shall be fixed. The inner end of the horizontal scaffolding member may rest in a hole provided in the masonry. Such holes however, shall not be allowed in pillars under one meter in width or near the skew back of arches. The holes left in masonry work for supporting scaffolding shall be filled and made good with cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 Stone aggregate 20 mm nominal size).

8.12 Protection: Green work shall be protected from rain by suitable covering. The work shall also be suitable protected from damage, mortar dropping and rain during construction.

8.13 Curing: Masonry work in cement or composite mortar shall be kept constantly moist on all faces for a minimum period of seven days. In case of masonry with fat lime mortar curing shall for at least seven days thereafter.

8.14 Measurement: The work shall be measured by volume and the unit shall be cum. Walling curved on plan to mean radius not exceeding 6 m shall be measured separately inclusive of all cuttings waste and templates. Walling curved on plan to mean radius exceeding 6m shall be included with the general walling and shall be measured net only. No deductions or additions on any account shall be made for:

(i) Opening up to 500 sq. cm. in cross section (in calculating this area the size of the openings shall include any separate lintel or still but not extra width of rebated reveals if any).

(ii) Ends of dissimilar materials (i.e. joints rafters, girders, purloins, trusses etc.) up to 500 sq. cm. in cross section.

(iii) Bearings of chhajjas, slabs, steps, shelves etc. when the bearings are not paid for the respective items.

8.15 Rate: The rate shall include the cost of materials and labour required for all the operations described above and shall include the following:

8.16 Ranking out joints for plastering or pointing done as a separate item, or finishing flush as the work proceeds.

8.17 Preparing tops and sides of existing walls for raising and extending.

8.18 Rough cutting and waste forming gables cores, skew backs or spandrels of arches, splays at eaves and all rough cutting in the body of walling unless otherwise specified.

8.19 Bond stones or cement concrete bond blocks.

8.20 Leading and making holes for pipes etc.

8.21 Bedding and pointing wall plates, lintels, and sills etc. in or on walls, bedding roof tiles and corrugates sheets in or on walls.

8.22 Building in ends of joints, beams, lintels etc.

8.23 **GUARANTEE:**

Work of RR Stone Masonry shall carry five years guarantee to be reckoned from the date after the expiry of construction period prescribed in the contract of the work against faulty workmanship, finishing, unsound materials, structural instability and other related problems.

Five Years Guarantee bond in prescribed Performa attached herewith as **Annexure-I** shall be submitted by the contractor to meet their liability / liabilities under the guarantee bond.

Five percent of the cost of RR Stone Masonry work shall also be retained as security deposit and the amount so withheld would be released after Five Years to be reckoned from the date after the expiry of construction period prescribed in the contract, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer in charge, if so decided by the Engineer in charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

9.0 COURSED RUBBLE FACING MASONRY

9.1 Scope: This specification covers materials, joints, laying and mode of measurement of coursed rubble facing masonry.

9.2 Materials: As per specification for Random Rubble Masonry.

9.3 Size of Stones:

(i) No dressed-up stone shall be less in length and breadth than its heights. At least 25% stones shall be headers tailing into the work at least 2/3rd the thickness of wall

(ii) or full thickness of wall for walls 30 cm and less in thickness. Such stones shall be evenly distributed over the entire face.

(iii) The quoins shall also be of the same height as the courses in which they occur and at least 50 cm in length.

(iv) The jambs shall be made with stones specified for quoins except that the length of stone in alternate course shall be equal to the thickness of the wall for walls up to 60 cm.

9.4 Dressing of Stones:

(i) Exposed face of stones shall be brought to near rectangular shape.

(ii) The bushing on exposed surfaces of the stones on outer surface of external walls shall not exceed 2 cm.

(iii) Stones required to be used on outer surface of external walls; shall be dressed before use in construction.

(iv) The beds and joints of exposed of stones on outer surface of external walls other than quoins shall be hammer dressed at least for a distance of 4 cm from the face to be square with the exposed faces. No rough tooling or chisel drafting would be required. The depth of gap between the surfaces of sides and bed joints and straight edge held against them shall not be more than 10 mm.

(v) The beds and joints of quoins & jambs shall be hammer dressed for a distance of at least 8 cm from the face to be square with the exposed faces and with each other. The depth of gap between the surfaces of sides & beds joints and straight edge held against them shall not be more than 10mm.

(vi) No rough tooling & chisel drafting would be required on the edges of the quoin & jamb stones except on the corner edge defining the angle of the quoins & jambs. The corner edge defining the angle of the quoins & jambs shall have 2.5 cm wide two-line chisel drafting on both of the angle.

(vii) Masonry work shall be executed from exposed (outer) side of wall.

9.5 Courses: The stones shall be laid in courses not less than 15 cm in height. All the courses shall be of the same height. When otherwise approved no course shall be thicker than any course below it. Only one stone be used in the height of the course.

9.6 Thickness of Joint:

(i) The exposed face joints shall be more or less uniform in thickness and thickness of any joint shall not exceed 20 mm.

(ii) Stones on outer side of wall shall be arranged suitably to stagger the vertical joints and overlapping of vertical joints shall be avoided.

9.7 Hearting and Interior Face: The hearting and interior face shall be done in Random Rubble Masonry, By virtue of doing coursed rubble facing on external face of size of stones used and

their dressing is carried out other than specified in the Random Rubble Masonry on internal face, even than nothing extra shall be paid over and above, the item of Random Rubble Masonry for internal face.

9.8 Laying: Each stone shall be laid in the work on its natural bed. Stones shall be thoroughly wetted before laying when mortar used contains cement. The stones shall be laid full in mortar. The face work, hearting and interior face work shall be brought up simultaneously but no attempt should be made to level up the Random Rubble Masonry at each step by the use of chips. The masonry shall be carried truly in plumb and square. The courses shall be horizontal and joints vertical.

9.9 Raking out Joints: As per specification for Random Rubble Masonry.

9.10 Mortar: As per specification for Random Rubble Masonry.

9.11 Scaffolding: As per specification for Random Rubble Masonry.

9.12 Protection: As per specification for Random Rubble Masonry.

9.13 Curing: As per specification for Random Rubble Masonry.

9.14 Measurement:

(i) The work shall be measured as RR Masonry for the full thickness of walling in cum and coursed stone facing masonry measured in square meters only over the exposed external face of the wall which includes the additional work of dressing wastage of material and extra cost of facing stone, if necessary.

(ii) Walling curved on plan to mean radius not exceeding 6m shall be measured separately inclusive of all cuttings waste and templates. Walling curved on plan to mean radius exceeding 6m shall be included with the general walling and shall be measured net only.

(iii) No deductions or additions no any account shall be made for:

a) Opening up to 500 sq. cm. in cross section (In calculating this area the size of the openings includes any separate lintel or still but not the extra width of rebated reveals if any.)

b) Ends of dissimilar materials (i.e. joists, beams, rafters, girders, purloins, trusses etc.) up to 500 sq. cm. in cross section.

9.15 Rate: The rate shall include the cost of materials and labour required for all the operations described above.

10.0 STONE / MARBLE /GRANITE/TILE WORK (OTHER THAN MASONARY)

10.1 The execution of stones work shall be in general as per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.

10.2 The contractor shall compulsory use of wet jet in grinding and stone cutting. Nothing extra shall be paid on this account.

10.3 Nothing extra shall be payable for using combination of marble, granite and kota in the required pattern at various locations unless otherwise specified.

10.4 The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

10.5 Whenever flooring is to be done in patterns of tiles and stones, the contractor shall get samples of each pattern laid and approved by the Engineer-in-charge before final laying of such flooring. Nothing extra shall be payable on this account.

10.6 Different stones / tiles used in pattern flooring shall be measured separately as defined in the nomenclature of the item and nothing extra for laying pattern flooring shall be paid over and above the quoted rate. No additional wastage, if any, shall be accounted for any extra payment.

10.7 Proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard etc. so that the wash water flows towards the direction of floor trap. Any reverse slope if found, shall be made good by the contractor by ripping open the floor/grading concrete and nothing shall be paid for such rectifications.

10.8 No extra cement mortar shall be paid on account of level matching with combination of different types of flooring materials like Kota stone, granite, tiles of different typedue to thickness differences in such types flooring material. Contractor shall plan this type variation during casting of slabs itself and shuttering shall be fixed accordingly at staircases, rooms, balconies and in toilets etc. Contractor shall make such changes as may be required to achieve, as aforesaid, in the levels of different floor levels, provided in different architectural and structural drawings issued by the department.

10.9 The stone slabs used for providing and fixing in the sills, soffits and jambs of doors, windows, ventilators and similar locations shall be in single piece unless otherwise directed by the Engineer-in-Charge. Wherever stone slab other than in single piece is allowed to be fixed, the joints shall be provided as per the architectural drawings and as per the directions of the Engineer -in-Charge. In the cabin areas, the joints in sills shall preferably be provided in line with the partition wall. Depending on the number of joints, as far as possible, the stone slabs shall be procured and fixed in slabs of equal lengths as per the architectural drawings and as directed by Engineer in-Charge.

10.10 All the flooring works specified under this sub -head shall be adequately protected by a layer of plaster of paris which shall be laid over a 400 micron PVC film. The protective layer shall be maintained throughout the execution of works and removed just before handing over of the site for which nothing extra shall be payable.

10.11 All holes, rebates, recesses etc. for providing fixing and inserts shall be predrilled and precut and worked using precision machine tools. Nothing extra on this account shall be payable.

10.12 SAMPLES FOR STONE WORK:Samples of each item of stone work either individually or in combination shall be prepared for approval of Engineer-in-Charge before commencement of work.

10.13 Sequence of execution for cladding work shall be suggested by the contractor for approval of Engineer-in-Charge.

11.0 SCAFFOLDING

11.1 Double steel scaffolding having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed.

11.2 Scaffolding system to be provided by the agency for all the items mentioned in schedule of quantity and nothing shall be paid extra in this account.

12.0 WOOD WORK

12.1 The wood work in general shall be carried out as per CPWD Specifications - 2019 Vol.I& II with upto date correction slips.

12.2 The samples of species of timber to be used shall be got approved and deposited by the contractor with the EE before commencement of the work. The contractor shall produce cash vouchers and certificates from kiln seasoning or/and chemicaltreatment plants about the timber section to be used on the work having been kiln seasoned or/and chemically treated by them.

12.3 Factory made shutter as specified shall be obtained from factories approved by the Engineer in charge. The contractor shall inform well in advance to the Engineer-in-charge the names and address of the factory from where the contractor intends to get the shutters manufactured. The contractor will place order for manufacture of shutters only after written approval of the Engineer-in-charge in this regard is given. The contractor is bound to abide by the decision of the Engineer-in-charge and recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will however be accepted only if this meet the specified tests. The contractor will also arrange stage wise inspection of the shutters at factory to the Engineer-in-charge or his authorized representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer-in-charge in part or in full lot due to bad workmanship / quality even after inspection of factory. Such shutters will not be measured and paid and the contractor shall remove the same from the site of work within 7 days after the written instruction in this regard are issued by Engineer in Charge or his authorized representative.Laminates and wooden edge beading on flush doors shall be machine pressed in factory only. The design and pattern of laminates shall be as per the approval of engineer in charge.

12.4 All fittings and fixtures shall be got approved from the Engineer-in Charge before procurement well in advance and the approved samples shall be kept at site till completion of the work.

12.5 Glazing for toilets shall be of translucent type.

12.6 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.

13.0 FALSE CEILING WORKS:

The luminaries, air grills / diffusers, signage's etc. shall be as far as possible independently supported to avoid any over loading of the ceiling system which may result in excessive deflection or twisting of grids. Any strengthening of grid system by providing additional hangers, fasteners, runners, cross tees etc. or providing additional bracing may be carried out as required for any specific locations or for specific purpose for which nothing extra shall be payable. Various false ceiling systems shall include cost of all inputs of labour, materials,wastage if any, T&P, scaffolding, staging or any other temporary enabling structure /services etc. and all other incidental charges including making necessary cut outs forA.C diffusers, Light fittings, grills, Fire detection, alarm, sprinklers devices and fittingsetc. No deduction in the area shall be made for openings nor anything extra shall bepayable for making the openings. Also nothing extra shall be payable on account ofany wastage in materials. Also nothing extra shall be payable on account

of anystrengthening of the supporting suspension system for the false ceiling, around theopenings in the false ceiling by using additional hangers, fasteners, runners, crosstees, cross channels, etc.

14.0 STEEL WORK

14.1 Work shall be carried out as per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.

14.2 The rate of T- angle iron frame shall include the following.

(a) M.S. sill/tie of 10mm dia bar welded to T-iron frames to keep the frames vertical in correct position. The sill / tie shall be embedded in floor concrete. No tie is necessary for window frames.

(b) Each T – iron frame for doors shall have 4 Nos. M.S. lugs 15x3mm, 10 cm long welded to each vertical member of the frame.

(c) M.S. flat 6 x 25mm, 100mm long having threaded holes (No. of flats shall correspond to the no. of butt hinges to be fixed to door / window shutters) shall be welded at appropriate places at the back of the T-iron frames for fixing the required butt hinges to the frame with machine screws.

14.3 All welded structural steel work shall be tested for quality of weld as laid down in IS:822-1970 before actual erection if required.

15.0 FLOORING

15.1 All work in general shall be carried out as per CPWD Specifications- 2019 - Vol.I& Vol. II with upto date correction slips.

15.2 Whenever flooring is to be done in patterns tiles/ stone, the contractor shall get samples of each pattern laid and approved by the Engineer-in-Charge before final laying of such flooring for which nothing extra shall be paid.

15.3 Different stones/ tiles used in pattern flooring as per the approved architectural drawings and nothing extra for laying pattern flooring shall be paid. No additional wastage if any shall be accounted for any extra payment.

15.4 The proper gradient shall be given to flooring for toilets, varrandah, kitchen, court yard, etc. as per the directions of Engineer-in-Charge. For this there may be extra thickness of dry mortar below the tiles/stone slabs. These gradients should be insured in the shuttering itself. Nothing extra shall be paid for this as this is included in the tendered cost.

15.5 The rate of items of flooring is inclusive of providing sunken flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The samples of flooring, dado & skirting as per approved pattern shall be prepared & got approved from the Engineer-in-charge before execution of work.

15.6 Ceramic Tiles/Vitrified Tiles Work/ Granite stone flooring

15.6.1 Work shall be carried out as per CPWD Specifications- 2019 Vol I & II with up to date correction slips and as per manufactures specifications.

15.6.2 Rates shall be inclusive of all operations including labour, material, T&P, scaffolding etc. complete. Nothing extra shall be payable on any account.

15.6.3 One-piece Granite stone for treads / risers in staircase shall be used and nothing extra shall be paid on this account.

16.0 STAINLESS STEEL RAILING/HANDRAILS:

16.1 GENERAL: The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipment necessary for the completion and protection of all stainless-steel work.

16.2 MATERIAL: All stainless-steel pipes and plates shall conform to AISI 316/304 grade and the relevant clauses associated with this grade of steel to be followed.

16.3 SURFACE FINISH: Surface finish of all the stainless-steel materials will be in 240 grit satin finish / matt finish.

16.4 ACCESSORIES: The S.S. railing to be fixed to staircase and all other location shall be modular and of design and make as approval by the Engineer-in-charge and as per list of approved makes. Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer-in-charge and welding if required to be done at any isolated place, to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus fluoric acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated.

16.5 COATING MASS: All stainless-steel material will have to be coated by a solution of Inox to avoid finger in prints and avoidance of settlement of environment / atmospheric dust.

17.0 WATER PROOFING TREATMENT

17.1 Work shall be executed as per CPWD Specifications, 2019 Vol I & II with upto date correction slips.

17.2 The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-charge in writing, for water proofing treatment for basement/lower ground floor, underground tank and on roofs.

17.3 The brick bats shall be from over burnt bricks. The water proofing compound used in integral water proofing treatment shall satisfy all the performance requirements indicated in IS:2645 and shall be got tested before its use. The compound shall be used @ 2% by weight of cement used or as recommended by the manufacturer.

17.4 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approved of the Engineer-in-Charge in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained. It shall be ensured that the consumption of the compound is as per specified requirements.

17.5 The finished surface after water proofing treatment for roof slab shall have smooth slope with minimum gradient of 1 in 80.

17.6 Before commencement of treatment on roof surface, it shall be ensured that the outlet drain pipes/ spouts have been fixed and the spout opening have been eased and rounded off properly for easy flow of water.

17.7 The surface where the water proofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales mortar splashes etc. shall be removed and dusted off. The surface shall

be treated with neat cement slurry admixed with proprietary water proof compound to penetrate into crevices and fill up all the pores in the surface.

17.8 This cement slurry shall be applied at the junction of parapet and terrace slab including the vertical face of the parapet.

17.9 After the slurry coat is laid, layer of over burnt brick bats shall be laid in cement mortar of mix as specified by specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound to required gradient and joints filled to half the depth. The bricks bat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. Curing of this layer shall be done for 2 days.

17.10 After curing the surfaces shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.

17.11 Joints of bricks bat layer shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound and finally top finished with average 20 mm thick layers of cement mortar 1:4 (1 cement : 4 coarse sand) and finished smooth with cement slurry mixed with proprietary water proofing compound. The finished surface shall have marking of 300x300 mm false squares to give the appearance of tiles.

17.12 Curing of water proofing treatment shall be done for a minimum period of two weeks by flooding the water by making compartments etc.

17.13 MESUREMENTS: The measurements shall be taken for plan area of terrace only. Length and breadth shall be measured correct to one centimeter and area shall be worked out to nearest 0.01 sqm. No deduction in measurements shall be made for either opening or recesses for chimneys, stacks, roof lights and the like of areas up to 0.10 sqm nor anything extra shall be paid for forming such openings. For similar areas exceeding 0.10 sqm, deductions will be made in measurements for full openings and nothing extra shall be paid for making such opening.

17.14 Rates: The rate shall include the cost of all labour and materials involved in all the operations described above.

17.15 GUARANTEE:

The water proofing work shall carry Ten Years guarantee to be reckoned from the date of completion of the entire work under the contract against faulty workmanship, finishing, unsound materials, efficiency of water proofing treatment and other related problems.

Ten Years Guarantee bond in prescribed Performa attached herewith as **Annexure-II** shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the main contractor.

Ten percent of the cost of water proofing workshallbe retained as security deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the contract, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

However, the security deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer in charge, if so decided by the Engineer in charge.

The Security deposit against this item of work shall be in addition to the security deposit mentioned elsewhere in contract form.

18.0 FINISHING:

18.1 The work shall be carried out as per CPWD Specifications- 2019 Vol.-I & Vol. II with upto date correction slips.

18.2 All painting material shall be brought to the site of work in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days of work. The material shall be kept under the joint custody of contractor and representative of the Engineer-in-Charge. The empty contains shall not be removed from the site till the completion of the work without permission of the Engineer-in-Charge.

18.3 Rates quoted in item of Gypsum plaster shall be deemed to be inclusive of item of providing and applying bond coat over RCC surface and providing fixing glass fibre mesh of density 80 gsm of width 300 mm over joint of different materials before application of gypsum plaster. Nothing extra, whatsoever shall be paid or entertained on this account.

19.0 SANITARY INSTALLATIONS, WATER SUPPLY AND DRAINAGE

19.1 The scope of work comprises supply, laying, installation, commissioning and testing of water supply, sewerage and drainage works including sanitary fixtures and fittings. These works shall be executed as per the specifications of items attached and CPWD specifications- 2019 Vol. I & II with up-to-date correction slips up to the date of tender submission.

19.2 The work of water supply and sanitary installations shall be got executed by the agency as approved by Engineer-in-Charge.

(i) The entire plumbing drawing and sanitary installation drawing/ details shall be submitted by the contractor and got approved by the Engineer-in-Charge before the execution.

(ii) The entire responsibility for the quality of work will however rest with the building contractor only.

19.3 The work of water supply, internal sanitary installations and drainage etc. shall be carried out as per the bylaws of the Municipal Corporation or any other local body and the contractor shall produce necessary completion certificates from such authority after completion of work.

19.4 All water tanks, taps, sanitary, water supply and drainage pipes fittings and accessories etc. shall conform to the bylaws and specifications of the Municipal Body/Corporation where CPWD specifications are not available.

19.5 The contractor shall engage licensed plumbers for the work and the materials (fixtures/fittings) tested by the local Municipal Body/Corporation wherever required at his own cost. Nothing extra shall be paid/reimbursed for the same.

19.6 All sanitary wares and fittings shall conform to IS standards and to be procured from approved makes. The contractor shall submitminimumthree samples of different makes of approved make list for all fittings and fixtures proposed to be used to the Engineer-in-charge for his approval and decision of engineer-in-charge regarding selection of any sample shall be final and binding. The approved samples shall remain with the Engineer-in-charge till the completion of the work.

19.7 P or S and floor traps (long arm upto90 cm length or more) in WCs shall be of deep seal type of RIF make or equivalent and shall have a minimum water seal of 75 mm. Floor traps (long arm upto90 cm length or more) shall have a minimum water seal of 50 mm.

19.8 The pig lead to be used in jointing 100 mm, 75mm, 50 mm SCI pipe joints shall not be less than 0.98 kg, 0.88 kg and 0.77 kg per joint respectively. A variation of 5% is allowed on higher side. However, in case of variation on lower side, the quantity of pig lead less used shall be recovered from the contractor at market rate to be determined by the Engineer-in-Charge whose decision in the matter shall be final.

19.9 All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per architectural requirements. Wherever necessary the fittings centered to dimensions and pattern desired.

19.10 The piping stack shall be installed at least 50mm using MS brackets, away from the finished / plastered shaft wall. The Item of Brackets and Clamps shall be paid for separately. From floor traps to outside CI fittings only single piece connection pipe shall be used.

19.11 All vertical Sanitary & water supply pipes shall be fixed to pre primered and pre painted M.S supporting frame with "U" shaped G.I bolts, threaded at both ends, as specified, with GI nuts, GI washers, GI cleats etc. as approved by the Engineer-in-charge. Supporting frame shall be fixed with approved anchor fasteners / plumbing nails as directed by the Engineer-in-charge. In all cases, pipelines shall be fixed, minimum 50 mm away from the finished wall face and shall not be fixed directly to the walls. The cost of providing and fixing GI supporting frame, "U" bolts, GI nuts, GI washer, anchor fastener etc., for clamping the pipes to the supporting frame shall be paid for separately under relevant item.

19.12 The rates shall include the cost of cutting chases, holes in walls, floors, RCC slabs etc. Wherever required and making good the same for which nothing extra shall be paid.The work in general shall be carried out as per CPWD specifications.

19.13 Rate includes all materials, labour and all the operations mentioned in the respective items unless and otherwise specifically mentioned.

19.14 The SCI pipe wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall paid for on this account.

19.15 All the works shall be completely concealed either within shafts or chases or in fills and dropped ceilings, unless specifically shown in drawings or required otherwise.

19.16 All the works shall be adequate protected against corrosion, so that the whole work is free from damage throughout.

19.17 The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.

19.18 The contractor shall give a satisfactory performance test of the entire installation (s) before the work is finally accepted and nothing extra shall be payable to the contractor on this account.

19.19 The contractor shall be responsible for all the protection of sanitary, water supply fittings and fixtures against pilferage and breakage during the period of installation until the completion / handing over of the work.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

19.20 Before the work is handed over, the contractor shall clean all fixtures removing all plaster, stickers, rust stains and other foreign matter, leaving every part in acceptable condition and ready for use to the satisfaction of the Engineer-in-charge.

19.21 The contractor shall submit completion plans for water supply internal sanitary installations and building drainage work within thirty days of the date of completion. These plans are to be submitted on drawings prepared preferably through computers (1 original copy + 3 photocopies) on suitable scales to show the general arrangement and desired details.

19.22 INSPECTION AND TESTING

Inspection and testing of water supply sewerage and drainage installations shall be carried out as per National Building Code 2016 with up to date amendments.

20.0 SPECIALISED ITEMS

20.1 List of Specialized Items has been provided in Annexure-I of Section-16 ofCPWD Works Manual.

20.2 **PROCEDURE FOR EXECUTION OF THE SPECIALIZED ITEMS:**

Such items should be got executed only through associated agencies specialized in these fields. The contractor shall indicate the name(s) of his associated specialized agencies those fulfilling the eligibility conditions within one month of award of work to Engineer-in-Charge for approval of competent authority, incase the same has not been provided in the agreement.

Specialized Agencies for works shall be approved by the competent authority. The contractors shall quote the rates after careful study of contract conditions, specifications, drawings & schedule of quantities.

It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub-contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.

For specialized items, the main contractor cannot work as a specialized agency unless his name is already included in the list of approved specialized agencies for these items. The contractor shall get these items executed through the specialized agencies as approved by competent authority.

20.3 **ELIGIBILITY CONDITIONS FOR APPROVAL OF SPECIALIZED AGENCIES:**

The Contractor(s) shall submit his proposal for the approval of the Engineer-in-Charge, the names of specialized agencies of repute along with their technical capability /experience proposed to be engaged by him. The agency must be currently actively engaged in execution of the said specialized item and must have who have satisfactorily executed similar work during last 5 (Five) years as below:

- Three works each of value not less than 40% of corresponding cost of the specialized item

or

- Two works each of value not less than 60% of corresponding cost of the specialized item

or

- One work of value not less than 80% of corresponding cost of the specialized item

For calculation purpose only, cost of the specialized item as per accepted tendered value of the all the items corresponding to the specialized item under consideration. For ascertaining the above criteria, contractor shall provide certified copy of Income tax TDS certificates for payments made, work order copy, completion certificate, performance certificate against each completed similar work for verification by Engineer in charge. In case required and directed by Engineer in charge, contractor shall get such similar completed work inspected by Engineer in charge and contractor shall extend all necessary help for same at no extra cost to the department. Decision as to approve or reject the proposed specialized agency based on the inspection of the completed work shall be final and binding on the contractor and no claim, whatsoever, shall be admissible on this account and the contractor shall be required to propose another specialized agency as per the required eligibility criteria.

List of items to be executed through specialized agencies

The bidder must associate with himself, specialized agencies of the appropriate eligibility to components of specialized nature of items/work of major component listed below individually. Such works shall be got executed only through associated agencies specialized in these fields.The bidder whos etender is accepted shall indicate the name(s) of his associated specialized agencies those fulfilling thee ligibility criteria laid down below as early as possible and within one month of award of work for the approval of the Engineer-in-Charge whose decision shall be final and binding.

S.No.	Specialized work(s)/ item of work(s)	Criteria / Acceptable names of associated agencies
1.	**Water proofing treatment work.	Should have completed threespecializedworks of similar nature of each costingnot less than amount equal to 40% of Estimated amount of corresponding specialized item(s) , or two specialized works of similar nature each costingnotless than amount equal to 60% of Estimated amount of corresponding specialized item(s) or one similar work costing not less than amount equal to 80% of Estimated amount of corresponding specialized item(s) in last 7 year sending last day of the month previous to the one in which the tenders are invited. The specialized agency shall be got approved from the Engineer –in-Charge well in advance. **Note:-** **For these works, Specialized Agencies shall have to be associated by the CPWD / Non CPWD Contractors in case the Contractor does not possess the requisite eligibliity and experience as per the NIT conditions to carry out these works..
2.	Steel work in steel bridge work, space frames for long span structures, steel towers.	
3.	**Special foundations including all types of piles.	
4.	RCC Overhead Tank with independent staging.	
5.	Structural Repair and Rehabilitation/ Retrofitting works.	
6.	Soil Investigation and Survey Work.	
7.	**Facade cleaning system and façade cleaning.	
8.	Custom made wooden	

	furniture (factory made).	
9.	Water Treatment Plants	

The main agency shall have to submit credentials of such specialized agency along with full technical details of works executed, to whom he want to engage for the work and shall have to obtain prior approval from the engineer in charge.

The responsibility of the quality of work executed by the specialized agency shall be owned jointly by the specialized agency and main agency. However, prime responsibility shall be owed by the main agency.

21.0 SPECIAL CONDITIONS FOR CEMENT:

21.1 The contractor shall procure 43 grade Ordinary Portland Cement (OPC) conforming to IS:8112/Portland Pozzolana Cement (PPC) conforming to IS: 1489 (Part-I) as required in the work, from reputed manufacturers of cement, such as ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, J.K. Cement, Wonder cement **or from any other reputed cement Manufacturer having a production capacity not less than one million tonnes per annum as approved by ADG for the sub region.**

The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially.

Supply of cement shall be made in 50 kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of the relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not confirm to the relevant BIS code the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-charge to do so.

21.2 The cement shall be brought at site in bulk supply of approximately **10 tonnes** or as decided by the Engineer-in-Charge.

21.3 The cement godown of the capacity to store a minimum of **1000 bags** of cement shall be constructed by the contractor at site of work for which no extra payment shall be made.

21.4 Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the key of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.

21.5 The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to test laboratories.**The cost of tests shall be borne by the contractor**

21.6 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall

be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate show prescribed shall be made. In case of excess consumption, no adjustments need to be made.

21.7 The cement brought to site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in-Charge.

21.8 The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do show within three days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.

21.9 Cement bags shall be stored in separate godowns to be constructed by the contractor at his own cost as per sketch (which is only indicative and actual size will depend on the site requirements) given in CPWD specifications with weather proof roofs and walls. Each godown shall be provided with a single shutter door with two locks. The key of one lock shall remain with Engineer-in-charge or his authorized representative and that of the other lock with the authorized agent of the contractor at the site of work so that the cement is issued from the godown according to the daily requirements with the knowledge of both parties and proper account for the same is maintained in the standard proforma.

21.10 Separate cement registers showing the receipt of the OPC and PPC shall be maintained at site. The contractor shall construct separate godowns for storage of OPC & PPC at site and nothing extra on this account shall be payable.

21.11 In order to have an effective control over the issue of cement, the following drill should be observed:

(i) The cement godown(s) should be properly and effectively double locked, keys of one of the locks remaining with the department and that of the other with the contractor.

(ii) The pages of the Cement Register should be as per Appendix-28 of CPWD Works Manual, machine numbered and each page initialed by the Executive Engineer.

(iii) Periodical checking of cement godown.: The cement godown and the Cement Register should be checked by the Assistant Engineer-I/Executive Engineer- in-charge of the work as per following schedule:

(iv) At least weekly or fortnightly, respectively, in case of works at the headquarters of the Assistant Engineer-I/Executive Engineer.

(v) Whenever they visit the site of work in case of works that are located outside the Sub-Divisional/Divisional headquarters.

22.0 SPECIAL CONDITIONS FOR STEEL REINFORCEMENT BARS:

22.1 The CPWD/Contractor shall procure IS marked TMT bars of various grades from Primary Steel manufacturer such as **SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd and JSW Steel Ltd** or any other steel manufacturer or their authorized dealers (as per following selection criteria)having valid BIS license for IS:1786-2008 (Amendment -1 November 2012).

a) **The procured steel should have following qualities:**

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

(i) Excellent ductility, bend ability and elongation of finished product due to possible refining technology.

(ii) Consumption of steel should be accurate as per design.

(iii) Steel should have no brittleness problem in finished product.

(iv) Steel should carry the quality of corrosion and earthquake resistance.

(v) Quality steel with achievement of proper level of Sulphur and Phosphorus as per IS: 1786:2008.

b) **Selection Criteria of steel manufacturers:**

The supply of reinforcement steel for all CPWD works should have following selection criteria of steel manufacturers:

Steel producers of any capacity using iron ore/processed iron ore as the basic raw material adopting advanced refining technologies as given hereunder:

(i) DRI-EAF (Direct Reduced iron – Electric arc furnace)

Or

(ii) BF-BOF (Blast furnace – Basic oxygen furnace)

Or

(iii) COREX-BOF (COREX – Basic oxygen furnace)

For production of liquid steel to finish product at single/multiple locations with NABL or any other similarly placed accrediting Government body which operates in accordance with ISO/IEC17011 and accredits labs as per ISO/IEC 17025 conforming to IS:1786-2008(Amendement-1 November 2012).

The check list for incorporation any quality steel producer is enclosed for technical assessment is given in Annexure-1.

Chief Engineer CSQ (Civil) Unit, Directorate of CPWD shall approve the steel manufactures.

22.2 The contractor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.

22.3 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-Charge to do so.

22.4 The steel reinforcement bars shall be brought to the site in bulk supply of **10 tonnes** or more as decided by the Engineer-in-charge.

22.5 The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

22.6 For checking nominal mass, tensile strength, bend test, re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Size of bar	For consignment below 100 tonnes	For consignment above 100 tonnes
Under 10mm dia. bars	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof
10mm to16mm dia bars	One sample for each 35 tonnes or part thereof	One sample for each 45 tonnes or part thereof
Over 16mm dia bars	One sample for each 45 tonnes or part thereof	One sample for each 50 tonnes or part thereof

22.7 The contractor shall supply free of charge the steel required for testing including transportation to testing laboratories. The cost of tests shall be borne by the contractor.

22.8 The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption, no adjustment needs to be made.

22.9 Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

22.10 Steel bars brought by the contractor for use in the work shall be got checked from the Engineer-in-Charge or his authorized representative of the work on receipt of the same at site before use.

22.11 In case the contractor brings surplus quantity of steel the same after completion of the work will be removed from the site by the contractor at his own cost after approval of the Engineer-in-Charge.

22.12 Reinforcement including authorized spacer bars and overlaps shall be measured in length of different diameters, as actually (not more than as specified in the drawing) used in the work, nearest to a centimeter. Wastage and unauthorized overlaps shall not be measured.

22.13 The standard sectional weights referred to as in Table 5.4 under para 5.3.4 in CPWD Specifications for works 2019 Vol. 1 will be considered for conversion of length of various sizes of MS bars, Tor steel bars and TMT bars into standard weight.

22.14 Records of actual sectional weight shall also be kept dia-wise & lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as derived actual weight.

22.15 If the derived weight as in para 2.14 above is lesser than the standard weight as in para 2.13 above, the derived actual weight shall be taken for payment. If the derived actual weight is found more than the standard weight then the standard weight as worked out in para 13 above shall be taken for payment. In such case nothing extra shall be paid for the difference between the derived actual weight and the standard weight.

22.16 Mixing of different type of steel/different grades of steel shall not be allowed in the same structural members as main reinforcement to satisfy clause 26.1 of IS:456.

22.17 Tolerances on Nominal Mass (individual sample) shall be as under:

S. No.	Nominal size mm	Tolerances on the Nominal Mass (in %age)
1	Upto and including 10 mm	-8%
2	Over 10 upto& including 16 mm	-6%
3	Over 16 mm	-4%

23.0 *SPECIAL CONDITIONS FOR PREVENTION OF AIR WATER LAND POLUTION, GREEN BUILDING CONSTRUCTION:*

23.1 The contractor shall not store/dump construction material or debris on metalled road.

23.2 The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

23.3 The contractor shall take appropriate protection measures like raising wind breakers wall/barricading of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area nothing extra shall be paid on this account unless provided otherwise.

23.4 The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purpose or are carrying construction material like cement, sand and other allied materials are fully covered. The contractor shall take all necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air / contaminate air.

23.5 The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.

23.6 The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

23.7 The contractor shall ensure that C&D waste is transported to the C&D waste site only and due record shall be maintained by the contractor.

23.8 The contractor shall ensure compulsory use of wet jet in grinding and stone cutting.

23.9 The contractor shall ensure that all DG sets comply emission norms notified by MoEF.

23.10 The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 KMPH. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.

23.11 The contractor shall ensurethat the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.

23.12 The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

23.13 The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction phase. The contractor shall implement the Erosion and Sedimentation Control Plan (ESCP) provided to him by the Engineer in Charge as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan (ESCP) Guidelines from the Engineer in Charge and then prepare working plan for the following month activities as a CAD drawing showing the construction management, staging & ESCP. At no time soil should be allowed to erode away from the site and sediments should be trapped where necessary.

23.14 The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractors shall take the clearance of the Engineer in Charge before any excavation. Top soil should be stripped to a depth of 20 cm (centimeters) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention and shall be reapplied to site during plantation, land scaping etc. of the proposed vegetation. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (millimeter) diameter. The stored top soil may be used as finished grade for planting areas.

23.15 The Contractor should follow the construction plan as proposed by the Architect / Engineer in Charge to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.

23.16 The contractor shall not change the natural gradient of the ground unless specifically instructed by the Engineer in Charge. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Engineer-in-charge.

23.17 The contractor shall not carry out any work which results in the blockage of natural drainage.

23.18 The contractor shall specify and limit construction activity in preplanned/ designated areas and shall start construction work after securing the approval for the same from the Engineer in Charge. This shall include areas of construction, storage of materials, and material and personnel movement.

23.19 The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots should be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash, oil, paint, and other materials detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not to be permitted.

23.20 The contractor shall take steps to protect trees or saplings identified for preservation within the construction site using tree guards of approved specification.

23.21 Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) approved by Engineer in Charge.

23.22 The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. Separate the zones of movement of heavy equipment, parking, or excessive foot traffic from the fenced plant protection zones.

23.23 The contractor shall ensure that construction activities during construction period shall be performed as needed to ensure that the vegetation remains healthy.

23.24 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. A project-wide policy of nothing leaves the Site, should be followed, in such a case when strictly followed; care would automatically be taken in ordering and timing of materials such that excess does not become waste. The Contractor ingenuity is especially called towards meeting this prerequisite/ credit (as per IGBC LEED India, New Construction v1.0 & GRIHA, MNRE). Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or commingled collection of recyclable material, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. The diversion may include donation of materials to charitable organizations and salvage of materials on-site.

23.25 Contractor shall collect all construction waste generated on site. Segregate these wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.

23.26 The contractor shall provide potable water for all workers

23.27 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at their camp/labour site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard. Adequate toilet facilities shall be provided for the workman within easy access of their place of work. The total no. to be provided shall not be less than 1 per 30 employees in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so

constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided. Natural or artificial illumination shall be provided.

23.28 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall ensure the following activities to prevent air pollution during construction:

(i) Clear vegetation only from areas where work will start right away
(ii) Vegetate / mulch areas where vehicles do not ply.
(iii) Apply gravel / landscaping rock to the areas where mulching / paving is impractical
(iv) Identify roads on-site that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (smaller than 0.075mm) to 10 - 20%
(v) Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles donot get choked.
(vi) Water spraying shall be done on:
(i) Any dusty materials before transferring, loading and unloading
(ii) Area where demolition work is being carried out
(iii) Any un-paved main haul road
(iv) Areas where excavation or earth moving activities are to be carried out
(v) The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
(vi) All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
(vii) Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / leaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas
(viii) Provide dust screens, sheeting or netting to scaffold along the perimeter of the building
(ix) Cover stockpiles of dusty material with impervious sheeting
(x) Cover dusty load on vehicles by impervious sheeting before they leave the site
(xi) Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminium can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program

23.29 The contractor shall ensure that no construction wastage (e.g. cement slurry etc.), is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including, recycling of wasteful material, curing processes, collection, basic filtering and reuse.

The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).

23.30 Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.

23.31 The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 Constructional practices and safety, 2016, National Building code of India, Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to causalities. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.

23.32 The contractor shall ensure the following activities for construction workers safety, among other measures:

(i) Guarding all parts of dangerous machinery.
(ii) Precautionary signs for working on machinery
(iii) Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
(iv) Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
(v) Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
(vi) Provide protective equipment; helmets etc.
(vii) Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
(viii) Provide sufficient and suitable light for working during night time.

23.33 The storage of material shall be as per standard good practices as specified in Part 7, Section 2. Storage, stacking and Handling practices, NBC 2016 and shall be to the satisfaction of the Engineer in Charge to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipment's with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipment's at different stages of construction shall be considered.

23.34 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labelled in both Hindi and English with suitable symbols.

23.35 The contractor shall prepare and submit spill prevention and control plans before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

23.36 Contractor shall collect & submit the relevant material certificates for materials with high recycled (both post-industrial and post-consumer) content, including materials like RMC mix with fly-ash, glass with recycled content, calcium silicate boards etc..

23.37 Where possible, the contractor shall select materials/vendors, harvested and manufactured regionally, within a 800-km radius of the project site.

23.38 Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.

23.39 The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.

23.40 Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with IGBC LEED India New Construction v1.0 & GRIHA program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.

WATER USE DURING CONSTRUCTION

23.41 Contractor should spray curing water on concrete structure and shall not allow free flow of water. Concrete structures should be kept covered with thick cloth/gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

23.42 The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non-serviceable (malba) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well-formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided.

23.43 The contractor shall provide O & M Manuals wherever applicable.

23.44 The contractor shall make himself conversant with the Site Waste Management Program Manual and actively contribute to its compilation by estimating the nature and volume of waste generated by the process/installation in question.

RESOURCES CONSUMED DURING CONSTRUCTION

23.45 The contractor shall ensure that the water and electricity is not wasted during construction. The Engineer in Charge can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.

23.46 The contractor shall install necessary meters and measuring devices to record the consumption of water, electricity and diesel on a monthly basis for the entire tenure of the project.

23.47 The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.

23.48 The contractor shall use treated recycled water of appropriate quality standards for construction, if available.

CONSTRUCTION WASTE

23.49 Contractor shall ensure that wastage of construction material is within 3%.

23.50 All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type. Employ measures to segregate the waste on site into inert, chemical, or hazardous wastes.

23.51 All construction debris shall be used for road preparation, back filling, etc., if possible and as per the instructions of the Engineer in Charge, with necessary activities of sorting, crushing, etc.

23.52 No construction debris shall be taken away from the site, without the prior approval of the Engineer in Charge.

23.53 The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos.

23.54 If and when construction debris is taken out of the site, after prior permissions from the Engineer in Charge, then the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.

23.55 **DOCUMENTATION**

a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a monthly basis:

i) Water consumption in litres

ii) Electricity consumption in .kwh. units

iii) Diesel consumption in litres

iv) Quantum of waste (volumetric/weight basis) generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.

v) Digital photo documentation to demonstrate compliance of safety guidelines as specified here and in the Appendix on Safety Conditions.

b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a fortnightly basis:

i) Quantities of material brought into the site, including the material issued to the contractor by the Engineer in charge.

ii) Quantities of construction debris (if at all) taken out of the site

iii) Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc. as guided by the Engineer in Charge

c) The contractor shall submit a document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disturbed during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. (Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction

d) The contractor shall submit to the Engineer in Charge after construction of the buildings, a detailed as built quantification of the following:

i) Total materials used,

ii) Total top soil stacked and total reused

iii) Total earth excavated

iv) Total waste generated,

v) Total waste reused,

vi) Total water used,

vii) Total electricity,

viii) Total diesel consumed.

e) The contractor shall submit to the Engineer in Charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.

f) The contractor shall submit to the Engineer in Charge, a detailed narrative (not more than 250 words) on provision for safe drinking water and sanitation facility for construction workers and site personnel.

g) Provide supporting document from the manufacturer of the cement specifying the fly ash content in PPC used in reinforced concrete.

h) The contractor shall submit the following information to the Engineer-in-charge at the end of construction, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:

(i) Source of products: Supplier details and location of the supplier.
(ii) Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
(iii) Recycled Content: Submit information regarding product postindustrial recycled and post-consumer recycled content. Use the Recycled Content Certification Form, to be provided by the Commissioning Authority appointed for the Project.
(iv) Product Recyclability: Submit information regarding product and product's component's recyclability including potential sources accepting recyclable materials where ever applicable.

(v) Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.

(vi) Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project. Provide total support to Engineer in Charge and Green Building Consultants appointed by the Engineer in charge in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor's letterhead whenever required.

23.56 Nothing extra, whatsoever, shall be paid beyond the quoted rates on the account of compliance of conditions and instructions prescribed under special conditions for prevention of air water land pollution, green building construction and its sub clauses thereof, and the rates already quoted by the contractor shall be deemed to be inclusive of all such provisions except for provided otherwise.

24.0 Samples of various materials required for testing as per the frequency prescribed in CPWD specifications/BIS codes/Contract, whichever is higher shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise mentioned, shall be borne by the contractor and testing shall be got conducted in labs approved by Engineer in Charge. All other expenditure required to be incurred for taking the samples; conveyance, packing etc. shall also be borne by the contractor himself. No extra payment shall be made on this account.

25.0 For certain an item, if frequency of tests is not mentioned in the CPWD Specifications, then relevant IS code shall be followed and tests shall be carried out as per the frequency specified therein.

26.0 Door/window frames/shutters and other factory-made materials shall be procured from reputed and approved manufacturers or their authorized dealers as approved by Engineer in charge. Decision of Engineer-in-charge in this regard shall be final and binding.

27.0 All CP brass water supply fittings and fixtures mentioned anywhere in the agreement shall be single lever in case of mixers and quarter turn in case of rest and shall be of make and model as per the list of approved makes provided in the agreement.

28.0 All the CP brass/ SS Fittings and fixtures for toilets like towel rod, towel rack, rob hook, angle valve and other such wellness products shall be of make and model as per the list of approved makes provided in the agreement, except otherwise mentioned.

29.0 CP brass nipple/GI hexa nipple of appropriate dia and length, wherever required to be provided, shall be of make as per list of approved makes and nothing extra shall be paid on this account and the overall quoted cost shall be deemed to be inclusive of all such provisions.

30.0 All sanitary wares and fittings shall conform to IS standards and to be procured from approved makes. The contractor shall submit minimum three samples of different makes of approved make list for all fittings and fixtures proposed to be used to the Engineer-in-charge for his approval and decision of engineer-in-charge regarding selection of any sample shall be final and binding. The approved samples shall remain with the Engineer-in-charge till the completion of the work.

31.0 The items of stainless steel railing mentioned in the agreement shall be modular in construction as per the list of approved makes provided in the agreement. Welding as means of jointing shall be resorted to in exceptional cases only with the approval of engineer-in-charge.

32.0 All kind of hardware to be used for fire doors like door closer, hinges, panic bar, trim latch, mortice latch and lock etc. shall be certified having valid certificate of approval from third party reputed International certifying agency like certifire or equivalent.

33.0 Items of aluminium provided for shutter and fixed portion in the agreement shall be of section compatible with euro hinges/ butt hinges/concealed hinges/3d hinges or rollers for used in casement / sliding shutters as directed by the engineer-in-charge for which nothing extra shall be paid and the decision of engineer-in-charge in this regard shall be final and binding.

34.0 All the aluminium doors and windows shall be factory fabricated through specialized agencies as per the list of approved makes. In case no agency is provided in the list of approved makes, specialized agency shall be got approved from engineer-in-charge after submitting all required document like previous work done, completion certificate, copy of work order, IT TDS certificates for the work done etc. as may have been prescribed in the agreement to the satisfaction of the engineer-in-charge including inspection of work if required. The decision of engineer-in-charge regarding acceptance or rejection of such agency proposed by the contractor shall be final and binding. In no case fabrication of aluminium door and windows shall be allowed at site.

35.0 As per direction of engineer-in-charge and as directed, contractor shall have to strictly abide and follow all the terms and conditions prescribed by ministry of environment and forest (MoEF), GOI, NGT, CPCB, state PCB, available on their website or any other appropriate government authority for construction works in Mussoorie or elsewhere, for which nothing extra shall be paid on this account except for provided otherwise in the agreement. The quoted rate shall be deemed to be inclusive of all such provision and conditions and provisions as aforementioned. In case of non-fulfillment of any of the conditions/provisions prescribed by the aforementioned authorities, as the case may be, engineer-in-charge shall get it done at the risk and cost of contractor after giving him a notice in writing and such decision of engineer-in-charge shall be final and binding to the contractor.

36.0 Contractor shall be mandatorily be required to provide to the engineer-in charge certified copies of original invoices of all kind of materials, T&P etc. being used or procured for this agreement. Failure to provide any of such information to engineer-in-charge to his satisfaction shall render the contractor ineligible for payment for such items and no claim what so ever on this account shall be admissible and decision of engineer-in-charge in this regard shall be final and binding.

37.0 Contractor shall provide minimum three samples of three different makes for each item of work as per the list of approved makes for the approval of engineer-in-charge. It shall be the description of engineer-in-charge to approved any of the three samples to be submitted by the contractor and decision of engineer-in-charge in this regard shall be final and binding.

38.0 The site for execution of work is very congested and there is no space for labour hutments, batching plant or stacking of construction materials. Therefore, the agency shall have to arrange space outside the campus at its own risk and cost for labour huts, batching plant and stacking of materials required for construction, cost of which may be factored in, while quoting for the work. No claim, whatsoever, shall be admissible on account of hindrance or additional cost being incurred for these activities.

39.0 The land for labour camps & batching Plant and storage/dumping of contribution materials shall be arranged by the contractor at his risk and cost. The lease/rent charges shall be borne by the

contractor. The Engineer-in-Charge shall extend necessary help and issue necessary recommendations etc. to the concerned clients / department for temporary allotment of land during construction period if land is available with them. In such cases, the contractor shall vacate the land after completion of work in same condition as was at the time of allotment.

40.0 Rates being quoted by the tenderers shall be deemed to be inclusive of all kind of multiple handling of materials including manual carriage and wastage involved thereto, including all lifts and leads up to the work site. No claim, whatsoever, shall be admissible on account of hindrance or additional cost being incurred for these activities.

41.0 Rates quoted by the tenderers shall be deemed to be inclusive of loading, unloading, carrying away and dumping the malba, rubbish or additional earth being generated during construction or due to dismantling, outside the campus including all lifts and leads, at any government approved location or any other suitable location in conformity with the laws of land at contractors risk and cost. The entire responsibility and any kind of legal and financial liabilities arising out of such activity including identification of suitable dumping ground (government/private) shall lie completely over the contractor.

42.0 Only river sand/fine aggregates shall be allowed for concrete/mortar/plaster works. M sand shall not be allowed.

43.0 Item of chain link fencing, gabions shall be of heavy zinc coating not less than 270 gsm or as provided in the agreement and specifications, whichever is higher.

44.0 The ridges used in metal sheet roofing shall be cut and notched down as per the directions of the Engineer in charge in the trough/valley portions of the metal sheet roofing. In case of pre coated metal profile sheet roofing, self-tapping/drilling screws as per the specifications shall be provided on each crest/ridge on each purlin. The quoted rates shall be inclusive of all such operations and nothing extra shall be paid on this account.

45.0 All corner joints of tiles in dado shall be made by chamfering the edges of tiles to 45 degree to produce a fine mitred joint and filling same with matching grout. Nothing extra shall be paid on this account.

46.0 All joints of stones in wall claddings shall be made as per the architectural drawings or directions given by Engineer in charge. Making of all kind of such stone joints such as V groove, butt joint, partial butt joint etc., including polishing of the edge of stone in such groove/joint shall be deemed to be included in the quoted cost, unless mentioned otherwise and nothing extra shall be paid on this account.

47.0 Moisture barrier membrane required in the items of modular expansion joint shall be of EPDM membrane of minimum 1.1 mm thickness of make as approved by Engineer in charge. The cost of such membrane and fixing it using epoxy adhesive and putty is deemed included in the quoted cost of such item of expansion joint and nothing extra shall be paid on this account.

48.0 Painting on interior and exterior surfaces of building shall be done using rollers only and nothing extra shall be paid on this account.

49.0 **ROYALTY:** Contractor shall comply with all statutory rules and regulations w.r.t royalty and other levies and taxes. Royalty at the prevalent rates prescribed by govt., shall be paid by the Contractor or his associate supplier as per Government rules, on all applicable materials such as boulders, metals, all sizes stone aggregates, brick aggregates, coarse and fine aggregates,

moorum, river sand, gravels, earth and bajri etc. collected by him for the execution of the work, directly to the revenue authority of the state government concerned. Further, contractor needs to submit proof of submission of full royalty to the state government or local authority. Nothing extra shall be payable on this account.

50.0 The hindrances in execution of work, if any, whether on part of the contractor or department or FM clause, as required under clause 2 and clause 5 for determining extension of time/rescheduling of milestones etc., with or without levy of compensation, shall be judged/worked out/based on the correspondences and site order book records between the department and the contractor.

1. ***LIST OF APPROVED MAKES OF MATERIALS***

Approved makes of materials to be used in the work are as given in the table below. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative makes. Only BIS marked materials shall be used in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge only when BIS marked materials are not manufactured or the non BIS marked/approved materials confirm to higher specifications and life cycle than the corresponding criteria of BIS certified items.

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

LIST OF APPROVED MANUFACTURERS/MAKES FOR DIFFERENT MATERIALS TO BE USED FOR CIVIL WORKS

S. No.	Materials	List of Approved Make
1.	Ordinary Portland Cement/PPC	ACC / Ultratech / J.K. Cement /Shree / Jaypee.
2.	White Cement	Birla White / J.K. White / Ferrocement
3.	Reinforcement Steel TMT Bars	SAIL / Tata Steel Ltd. (TISCON) / Rashtriya Ispat Nigam Ltd (RINL) / JSW Steel Ltd. (NEO)/ Jindal Steel & Power Ltd. (PANTHER)
4.	Structural Steel	SAIL / Tata Steel / Rashtriya Ispat Nigam Ltd (RINL) / JSW Steel Ltd. / Jindal Steel & Power Ltd.
5.	Water Proofing Compounds, Admixtures, Plasticizer, Super Plasticizer, Curing Compounds	Fosroc / ROFF / Pidilite / CICO / Sika / BASF / Ardex Endura (Bal Endura) / MC Baucheme / Impermo / UltraTech / M/s Perma Const. Aids Pvt. Ltd. / STP Ltd. / Penetron / Rammers
6.	Integral Water proofing compound with cement (For Plaster & Mortar)	Fosroc: Conplast 421 / Dr. Fixit: LW+ / Sika: Sikacim/ Asian Paints: Smart care vitalia / & equivalent product of BASF / CICO / Ardex Endura / STP Ltd. / ASTRAL
7.	Water proofing for bathroom/toilet/balcony & other wet areas	Fosroc: Brush Bond / RFX / Nitocete 210 / CICO: Tapecrete / Dr. Fixit: Pidifine 2k / Sika: Nito Bond / Asian Paint: Damp Block 2 K / & equivalent product of BASF / Ardex Endura / STP Ltd. / Velosit / ASTRAL
8.	Crystalline water proofing compound	Fosroc: Fosroc Crystalline / Dr. Fixit: Dr. Fixit Crystalline / Sika: Sika Crystalline / Asian Paint: Crystalline Quart & equivalent product of BASF / CICO/ Ardex Endura / Penetron / Xypex / Crytone / STP Ltd. / Velosit / ASTRAL
9.	Polycarbonate Sheet	Fibreways Technology (Fibreways)/GE Plastic / LEXAN / MG Polyplast
10.	Profile steel sheet	Fibreways Technology (Fibreways)/Ezydeck of TATA / Lloyd Superdeck / JSW / Jindal / Hindalco
11.	Particle Board	Action TESA / Greenlam / Merino / Archid Ply

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

12.	Laminates	Action TESA / Greenlam / Century Ply / Merino / Sunmica / Decolam / Formica / Asislam
13.	Flush door shutters	Duro / Century / Durian / Green ply / Archidply / JAYNA (Jain Wood Industries) / Kutty flush door / Anchor / Kitlam / National / KITPLY / Kalpataru / Ecoboard/Black Cobra / NP Brand of Northern Plywood (Laminated door also). NOTE: Only ISI marked flush door shutters to be used.
14.	Fire Rated Doors	Signum Fire Protection / Shakti Metdoor / NAVAIR / Sukri / Promat International / Bhawani Fire Pvt. Ltd.
15.	Hardware/Fixtures/Fittings for Fire rated doors including Glazed fire rated doors	Briton / AssaAbbloy (King) / Dormakaba
16.	Fire Rated Glass	Saint Gobain / Pyran Schott / Pilkington / ASAI / Gold Plus Glass Industry Limited (Brand Name- “Gold Plus”)
17.	False Ceiling system	Armstrong / Hunter Douglas / Anutone, Dexune / USG Boral / Saint Gobain / Gyproc / Aerolite / Durlum / Interarch / Gyptech Systems / M/s Complete Infrastructure Pvt. Ltd. Of Make “BOLLARD” / Rajshri Plastiwood (Division of Rajshri Production Pvt. Ltd) / P.R. Ceiling Products (MCRA)/Metapro
18.	Plywood/Veneer	Green ply / Century / Merino / Duro / Durian/Black Cobra / NP Brand of Northern Plywood.
19.	Melamine Polish	Asian Paints Melamine Gold / Wudfin of Pidlite / Timbertone of ICI Dulux.
20.	Floor Spring & Door Closure	Godrej / Dorma / Dorset / Kich / Autoingress / Ozone
21.	Aluminium Section	Hindalco / Jindal / Indian Aluminium co.
22.	Aluminium door/Window/ Partitions Fabricators	AluK / Kalco / Schuco / Reynaer / Technal
23.	Anodised Aluminium Hardware (Heavy Duty)	Kilong / Alualpha / Classic / Ebco/McCoy
24.	Clear/Float/Frosted/Toughened Glass/Refractive Glass	Saint Gobain / AIS / Modiguard / Ashahi Float / Gold Plus Glass Industry Limited (Brand Name- “Gold Plus”)
25.	Stainless Steel Railing, Accessories etc.	JINDAL / Dorma / Kich / GEZE / Godrej / Hardwyn / Hettich / Hefele / Autoingress

26	S.S. Door /window & Fittings	Jindal / Dorma / Kich / Dorset / Godrej / Hardwyn / Hettich / Hefele, Autoingress / Rajshri Plastiwood (Division of Rajshri Production Pvt. Ltd)/ PRAYAG
27.	Silicon based water repellant/Weather Sealant	G.E. Plastics / Dow Corning / Wacker / BASF / Pidilite (Dr. Fixit/Roff) / STP Ltd. / ASTRAL
28.	Poly-Sulphide Sealant	Fosroc / Pidilite / Dow Corning / Wacker / BASF/STF, STP Ltd.
29.	Mosaic tiles/Chequered Tiles	Ultra Tiles / NITCO / Hyper (Mayur) / Pavcon / OSWAL
30.	Ceramic Tiles	Kajaria / Somany / RAK / NITCO / Johnson / AGL (Asian) / Orient Bell/ Italica Granito Pvt. Ltd. Note: The tiles manufactured at mother plant only to be used.
31.	Vitrified Tiles (Antiskid/Matt/Glazed) (only GVT vitrified tile permitted)	Kajaria / Somany / RAK / NITCO / Johnson / Italica Granito Pvt. Ltd. Note: The tiles manufactured at mother plant only to be used.
32.	Grouts, Tile Adhesive	Latecrete / Kerokoal / BASF / Ardex Endura / Ferrous Crete / STP Ltd. / OSWAL / ASTRAL/Himalayan Adhesives
33.	Paver block & Kerb Stone	Pavcon / Hyper Tiles/Dynamic Industries/Mayur / KK/ Power / Sharda, Navya / PSpectra / Elegant / Kseries / Paegant / Tulip / OSWAL/Singh Tiles
34.	Dash/Anchoring Fasteners	HILTI / Fischer / Bosch / Wurth.
35.	Cement Based Wall Putty	Birla wall care / JK White / Berger / Asian Paints / Ferrous / ASTRAL
36.	Oil Bound Washable Distemper/ Dry Distemper	Asian Paints / Nerolac / Berger / Dulux ICI
37.	1st Quality Acrylic Distemper/ Dry Distemper	Asian Paints / Nerolac / Berger / Dulux ICI
38.	Acrylic Emulsion Paints	Asian Paint (Tractor Aqua Lock Paint) / Berger: Commando or equivalent paints of Nerolac or ICI-Dulux
39.	Plastic Emulsion Paints	Asian Paints: (Apcolite Heavy Duty Premium Emulsion Paint) / Nerolac: Beauty Gold / Berger: Easy Clean / ICI-Dulux: 3 in 1
40.	Premium Acrylic Emulsion Paints (Interior)	Asian Paints: (Royal Luxury Emulson) / Nerolac: Impression / Berger: Silk / ICI Dulux: Velvet touch / ASTRAL

41.	Textured Exterior Paint	Asian Paints / Nerolac / Berger Paints / Ultratech Paints / Luxture
42.	Acrylic Smooth Exterior Paint	Asian Paints: (Apex/Professional Premium Exterior Emulsion) / Nerolac: XL / Berger: Weather Coat / ICI-Dulux: Weather Shield
43.	Premium Acrylic Smooth Exterior Paint with Silicon additive.	Asian Paints: Apex Ultima / Nerolac: XL Total / Berger: Weather Coat all guard / ICI-Dulux: Whether Shield max
44.	Cement Primer	Asian: Apcolite Premium gloss enamel / Nerolac: Synthetic Hi gloss / Berger: Luxol Hi gloss / ICI-Dulux: Gloss Synthetic enamel
45.	Steel Primer (Red Oxide Zinc Chromate Primer)	Nerolac / Berger / BP White(Berger) / Decoprime WT(Asian) / White primer(ICI)
46.	Wood Primer	Nerolac / Paints(Wood Primer-White/Pink) / Berger ICI / Nerolac
47.	Epoxy Paint	Asian / Nerolac / Berger / ICI / Kansai Akzo Nobel / Pidilite / CICO / Sika / ASTRAL
48.	Fire Paint	Asian Paints / Akzo Nobel Coatings India Ltd. / PROMAT / Jotun
49.	G.I./ M.S. Pipe	Tata / Jindal (Hisar) / Prakash Surya
50.	G.I. Fittings	Unik / AVR / Zoloto
51.	HDPE Pipes	Reliance / Jain Pipes / ORIPLAST / Supreme/ PRAYAG / Savoir Faire Manufacturing Co. Pvt. Ltd. (SFMC) / ASTRAL
52.	DI PIPES	Electrosteel / Jindal / TATA DUCTURA / Kapilansh / Kesoram
53.	DI PIPES	Electrosteel / Jindal / TATA DUCTURA / Kapilansh / Kesoram
54.	CPVC pipe and Fittings	Astral / Supreme / Prince / Ashirwad / Savoir Faire Manufacturing Co. Pvt. Ltd. (SFMC)/ Flowguard / Finolex / RAVINDRA (HISAR) of M/s Ajay Polymers/ PRAYAG / ASTRAL
55.	Centrifugally Cast spun) Iron Pipes & Fittings	NECO / SKF / RIF / Kapilansh / Electrosteel / ASTRAL
56.	C.I. Manhole covers, frames,& GI Gratings	NECO / BIC / SKF / Kapilansh / RAJ Iron Foundary Agra
57.	SFRC Manhole covers & gratings	K.K. Jain / PRAGATI / Tulip / ASTRAL
58.	CP Brass Fittings (Superior Range)	Jaqar(Florentine and higher) / Grohe / Roca / Kohler / ASTRAL

59.	CP Brass Fittings (Normal Range)	Hindware / Somany / Jaquar / Parryware / PRIMA (ISI marked) / CERA / ESS-ESS / Plumber / Kingston / ASTRAL
60.	Mirror Glass	Atul / Modi Guard / Golden Fish / Asahi / Saint Gobain / Gold Plus Glass Industry Limited (Brand Name- “Gold Plus”)
61.	Sanitary ware, Fittings & accessories (Superior Range)	Kohler / Roca / Jaguar / Somany / Kajaria / Hindware / Kartar Valves Pvt. Ltd / ASTRAL
62.	Sanitary ware, Fittings & accessories (Normal Range)	CERA / Parryware / Jaquar / Hindware / Kingston/ PRAYAG / ASTRAL/Somany
63.	Stainless Steel sink	Neelkanth / Niralli / Jyna, Hindware / Frankee / Cobra / Kingston / Prayag
64.	RCC Pipes (NP-2)	Lakshmi / Sood & Sood / Jain Pipe Co.(Newai) / Mahaveer Enterprises (Newai) / Work well spun pipes pali / Nagpur cement product / Eagle pipe Kolhapur/J.N. Sockted Cement Pipes Pvt. Ltd.
65.	UPVC Doors & Windows (PROFILE makers & their authorized Fabricators only)	Fibreways Technology (Fibreways)/Fenesta / KOMERLING / REHAU / Aluplast / Jangid Engg Works / Wintech / Duroplast / Saint Gobain / Rajshri Plastiwood (Division of Rajshri Production Pvt. Ltd)/Encraft/ Prominance
66.	Extruded Polystyrene Insulation Board	Dowcorning / Supreme / Taxas / Analco
67.	Heat Resistant Tiles	Swastik / Thermatek / OSWAL
68.	Gypsum Plaster	Ferrous Crete, Gyproc - Saint Gobain / Ultra Tech / USG Boral / India Gypsum / Aerolite
69.	Floor hardener	Ironite / Ferrok / hardonate
70.	Modular Expansion Joint	Herculus / Sanfield India Ltd. Vexcolt / Kemper (Kemperol)
71.	Glass wool	Dow Corning U.P. / Twiga, Isover
72.	UPVC doors and window hardware	Fibreways Technology (Fibreways)/Rotto / Dorset / Kinlong / Rajshri Plastiwood (Division of Rajshri Production Pvt. Ltd)/McCoy/ Encraft/ Prominance
73.	Ready Mixed Plaster	ACC / RMC India / Ultratech / Nuvoco / VALTECH / Armine / Ferrous Crete
74.	Aluminium Composite Panel	Alpolic / Aluco Bond / Reynobond / Euro bond / Al-strong / Virgo/VIVA COMPOSITE PANEL (P) LTD./Alex
75.	Designer coloured cement concrete floor tiles for outdoor use.	Ultra / Nitco / Hindustan / Raj-Tiles / OM Tiles

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

76.	Fibre Glass Shelf	Fibreways Technology (Fibreways)/Kamal / Bath King
77.	Float Glass	Modi Float / Saint Gobain / Tata / Gold Plus Glass Industry Limited (Brand Name- “Gold Plus”)
79.	FRP Shutters	Fibreways Technology (Fibreways)/Fibre Glass Engineers / Raipur / Om Ventures (E.P.Kamat Group)
80.	Glass Mosaic Tile	Bissazza / Saon / Gold Plus Glass Industry Limited (Brand Name- “Gold Plus”)
81.	Hydraulic Door Closer/ Spring	Dorma / Kich / Godrej / Hettich / Hefele / Autoingress
82.	Metal False Ceiling	Armstrong / Dexune / Anutone / Trac / Durlum / New Age / M/s Complete Infrastructure Pvt. Ltd. Of Make “BOLLARD”/Manraj Ceiling Products Private Limited/ VIVA COMPOSITE PANEL (P) LTD / P.R. Ceiling Products (MCRA)/ Hi Steel/Metapro
83.	Mineral Fibre Ceiling	Armstrong / Anutone / Daiken / Aerolite / USG Boral / M/s Complete Infrastructure Pvt. Ltd. Of Make “BOLLARD” / P.R. Ceiling Products (MCRA)/Hi Steel/Metapro
84.	Acoustic panels and ceiling	Armstrong / Anutone, Gyptech Systems / M/s Complete Infrastructure Pvt. Ltd. Of Make “BOLLARD” / P.R. Ceiling Products (MCRA)/ Hi Steel
85.	Clay tiles on Roof	Kenjai / Johnson.
86.	Orissa Pan	Hindware / Cera / Somany / Jaguar / Parryware / ASTRAL
87.	PPR Pipes	Savoir Faire Manufacturing Co. Pvt. Ltd. (SFMC) / Safe / Pioneer.
88.	Plastic Connection Pipe	Parryware / Kamal / Delux / Somany / Hindware
89.	PVC Rain Water Pipe & Fitting IS:13592 Type A & B	Finolex / Supreme / Plasto / Ashirvad / RAVINDRA (HISAR) of M/s Ajay Polymers / ASTRAL
90.	PVC Shutter	Fibreways Technology (Fibreways)/Rajshri / Sintex / Akal America/Black Cobra
91.	PVC Tank	Sintex / Star / Lotus / Plasto. / ASTRAL
92.	SS Railing	Metallica India / Stark steel Fabricator / Mobel Hardware / ICICH Industries / Essal / Kich / D-Line / Godrej / Dorma

93.	Towel Ring/Towel Rod/Towel Rack	Jaquar / Marc / Roca / Kohler / ASTRAL
94.	RMC (Ready mix concrete)	ACC / RMC India / Ultratech / Nuvoco
95.	Mangalore Tiles	Johnson / Kenjai / Monier
96.	RCC Door Frame	Ventura / Mahalaxmi
97.	Galvalum Sheet	Fibreways Technology (Fibreways)/Jindal / Tata Bluescope / JSW / Interach / Multicolour
98.	PTMT	Prayag / Supreme / Kingston
99.	Anti Carbonation Paint	Dulux (ICI) / Asian / Berger / ASTRAL
100.	Fly Ash Bricks	C'Cure / Shree adhe Enterprises
101.	AAC Block	Ultratech / Aerocon from HIL / Siporex India limited / Ultralite/ Insta Block / Shree / GCC Thermal.
102.	AAC Block Adhesive	Ultra Tech / Ardex Endura / Ferrous Crete / Bostik / M/s Delite Blocks Pvt. Ltd. / Siporex
103.	PUF sandwich Panel	Fibreways Technology (Fibreways)/Sintex / Llyod / Jindal / Multicolour / Interarch
104.	Polymer Based Contentious Water Proof Coatings/Polyurea treatment	Ardex Endura / Dow / BASF / Mc-Bauchemie / Sika / Fosroc / Pidilite / Berger / Asian Paint Smartcare / Xterra/ velosit / ASTRAL
105.	Expansion Joint filler/Joint wires	Vexcolt International Ltd. / Construction Specialities / Sainfield / Hercules / MIGUA / Mapei / Balco India / Z-tech / Inprocorp / Moldo Sports.
106.	Expansion Filler board	Supreme / Insuboard / Shalimar / Own corning / Technonicol.
107.	Roller/Roman/Vertical blinds	Vista / Mac or equivalent.
108.	WPC	Fibreways Technology (Fibreways)/Rajshree/ Alstone / Centuray/Black Cobra
109.	PEB Buildings	Fibreways Technology (Fibreways)/GB Enterprises Pvt. Ltd. (GB)
110.	FRP Manhole Covers & Gratings	Fibreways Technology (Fibreways) or Equivalent
111.	FRP Sheets & Gutters	Fibreways Technology (Fibreways) or Equivalent
112.	Solar Module Mounting Structures	GB Enterprises Pvt. Ltd. (GB) or Equivalent
113.	uPVC Door Window Reinforcement Channels	GB Enterprises Pvt. Ltd. (GB) or Equivalent
114.	Modular Containerized Shelters	GB Enterprises Pvt. Ltd. (GB) or Equivalent

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

115.	Light Gauge Steel Framing Systems.	GB Enterprises Pvt. Ltd. (GB) or Equivalent
116.	Grid Suspension Ceiling System (T-Grids)	GB Enterprises Pvt. Ltd. (Metapro) or Equivalent
117.	Polyurethene Binder	BASF, CONICA, HUNTSMAN
118.	VINYL/LINOLEUM/PVC FLOORING	TARKETT, GERFLOOR, POLYSTUL, FORBO, WONDER FLOOR
119.	LAMINTED WOODEN FLOORING	PERGO, UNITEX, MIKASA, ARMSTRONG
120.	FIBREGLASS REINFORCED ASPHALT ROOF SHINGLE	SAINT GOBIN, GAF
121.	CEMENT FIBRE BOARDS	EVEREST, VISHAKHA, RAMCO

NOTE :-

- The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material or engaging any of the specialized agencies. The Contractor shall make a detailed submittal with catalogues and highlighted proposed specifications, as well as full details of the works executed by the specialized agency, as specified.

- Unless otherwise specified, the brand/make of the material as specified in the item nomenclature, in the particular specifications and in the list of approved materials attached in the tender, shall be used in the work.

- In case of non-availability of the brand specified in the contract the Contractor shall be allowed to use alternate equivalent brand of the material subject to submission of documentary evidence of non - availability of the specified brand to the satisfaction of Engineer in charge. The necessary cost adjustments on account of above change shall be made for the material.

- Approved makes of materials to be used in the work are as given in the table below. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative makes. Only BIS marked materials shall be used in the work. Non-BIS marked materials may be permitted by the Engineer-in-charge only when BIS marked materials are not manufactured or the non BIS marked/approved materials confirm to higher specifications and have higher life cycle than the corresponding criteria of BIS certified items.

  Note: **C**E-Dehradun, CPWD, Dehradun or his successor reserves the right to add or delete any materials and Brands in the list of approved materials/brands on the recommendations of Engineer-in-charge.

ANNEXURE-I

GUARANTEE TO BE EXECUTED BY THE CONTRACTORFOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OFRR STONE MASONRY, FIRE CHECK DOORS AND STRUCTURAL GLAZING WORKS

This agreement made this..... day of ..... Two Thousand …… between .....M/s .....(hereinafter called the GUARANTOR on the one part) and the President of India (hereinafter called the Government on the other part)

WHEREAS THIS agreement is supplementary to a Contract No. …….dated ..... (Hereinafter called the Contract)and made between the GUARANTOR ON THE ONE PART AND the Government on the other part whereby the contractor inter alia undertook to render the work in the said contract structurally stable, workmanship, finishing and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable and guaranteed against faulty workmanship, finishing and materials for **five years** to be reckoned from the date after the expiry of construction period prescribed in the contract.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable and defect free for minimum period of **five years** to be reckoned from the date after the expiry of construction period prescribed in the contract.

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects, commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Engineer-in-Charge will be final and binding on both the parties.

IN WITHNESS WHEREOF these presents have been executed by the obligator .....and ..... by ..... for and on behalf of the President of India on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of:

1. ..... 2. .....

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY .....in the presence of:

1. ..... 2. .....

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

ANNEXURE-II

GUARANTEE TO BE EXECUTED BY THE CONTRACTORFOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OFWATERPROOFING WORKS

This agreement made this..... day of ..... Two Thousand ..... between M/s .....(hereinafter called the GUARANTOR on the one part) and the PRESIDENT OF INDIA (hereinafter called the Government on the other part)

WHEREAS THIS agreement is supplementary to a Contract No. ……..dated .....(Hereinafter called the Contract)and made between the GUARANTOR on the one part and the Government on the other part whereby the contractor inter alia undertook to render the building and structures in the said contract completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain water and leak proof, for **Ten Years** from the date of completion of the work under the contract.

NOW THE GUARANTOR hereby guarantee that work executed by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be **Ten years** to be reckoned from the date of completion of the work under the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structuraldefects or misuse of roof or alteration and for such purpose:

(a) Misuse of roof shall mean any operation which will damage proofing treatment, like chopping offirewood and things of the same nature which might cause damage to the roof;

(b) Alteration shall mean construction of an additional storey or a part of the roof or constructionadjoining to existing roof whereby proofing treatment is removed in parts;

(c) The decision of the Engineer-in-Charge with regard to nature and cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found render the building water proof to the satisfaction of the Engineer-in-Charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Engineer-in-Charge will be final and binding on both the parties.

IN WITHNESS WHEREOF these presents have been executed by the obligator .....and ..... by ..... for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of:

1. ..... 2. .....

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY .....in the presence of:

1. ..... 2. .....

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

SCHEDULE OF QUANTITY					
Name of Work:-Annual Repair and Maintenance of Residential Building of LBSNAA, Mussoorie. During 2026-27. (SH:- Painting work).					
SL No	Description	Qty	Unit	Rate	Amount
1	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete. **(Note : Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account).**	450.00	sqm	186.76	84042.00
2	Distempering with 1st quality acrylic distemper (ready mixed) having VOC (Volatile Organic Compound) content less than 50 gram/ litre, of approved brand and manufacturer including applying additional coats wherever required to achieve even shade and colour				
2.1	Old work (one or more coats) **Note :** **(i) Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account). (ii) Payment for the painting work shall be released only upon the allottee recording satisfaction through signature in the workbook issued by this office.**	4600.00	sqm	75.04	345184.00
3	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
3.1	One coat **Note :** **(i) Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account). (ii) Payment for the painting work shall be released only upon the allottee recording satisfaction through signature in the workbook issued by this office.**	7550.00	sqm	114.23	862437.00
3.2	Two coats **Note :** **(i) Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account). (ii) Payment for the painting work shall be released only upon the allottee recording satisfaction through signature in the workbook issued by this office.**	6400.00	sqm	170.90	1093760.00

Corrections - Nil
Insertions - Nil
Omissions - Nil AE(P) EE(C)

4	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete. **(Note : Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account).**	450.00	sqm	30.10	13545.00
5	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:				
5.1	One or more coats on old work **(Note : Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account).**	4250.00	sqm	123.02	522835.00
6	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade				
6.1	Old work (one or more coats applied @ 0.83 ltr/10 sqm). **(Note : Cost of scaffolding to all height shall be borne by the contractor & deemed to be included in the contract price, nothing shall be paid on this account).**	3150.00	sqm	105.98	333837.00
	Total				**32,55,640.00**

Assistant Engineer (P)
CPWD, Mussoorie

Executive Engineer
CPWD, Mussoorie

Corrections - Nil
Insertions - Nil
Omissions - Nil

AE(P) EE(C)