

I N D E X

Name of work & Location

Re-Carpeting of road of CENSUS residential Colony,
Aliganj, Lucknow

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NIT amounting to ₹ 62,50,915 /- (Rupees Sixty Two Lakh Fifty Thousand Nine Hundred Fifteen Only) is approved.

Certified that this N.I.T. contains 1 to 93 (One to Ninety Three) pages only.

**Executive Engineer(L)-I
CPWD, Lucknow.**

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PART-A

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INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR E-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE

(Applicable for inviting open bids)

The **Executive Engineer, Lucknow-I, C.P.W.D., Lucknow** for & on behalf of President of India invites online Percentage rate bids from approved and eligible contractors of CPWD for the following work(s):

S. No.	NIT NO.	Name of work and location	Estimated cost put to bid (Rs.)	Earnest Money	Stipulated Period of Completion of work (in months)	Last date of online submission of bid, copy of receipt of deposition of original EMD and other documents as specified in the bid document.	Time & date of opening of tender
1	2	3	4	5	6	7	8
1	47/EE/Lucknow-I/2026-27	Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow	Civil:- Rs. 62,50,915/- Total Rs. 62,50,915/-	Rs. 1,25,018/-	06 Months	Upto 15:00 PM on 29.08.2026	At 15:30 PM on 29.08.2026

- 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.
- Information and Instructions for bidders posted on website shall form part of bid document.
- 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 <https://etender.cpwd.gov.in> or www.cpwd.gov.in free of cost.

* To be filled by Executive Engineer.

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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 Insurance Surety Bonds, Account Payee Demand draft or Bankers Cheque or Fixed Deposit Receipts or/ and Bank Guarantee including e-Bank Guarantee (for balance amount as prescribed) from any of the Commercial Bank towards EMD in favour of Executive Engineer 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 who are not registered or have not updated their profile on the website mentioned above, are required to get registered / update their profile beforehand. The necessary training materials including the videos with step to step process are available on download section of <https://etender.cpwd.gov.in>
6. The intending bidder must have valid Class-III digital signature certificate with encryption key (combo type) to perform any operations / transactions on the e-tendering portal / website and the bidder should download and install the eMsigner on their system as per instructions available on download section of <https://etender.cpwd.gov.in>
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 in the prescribed column(s) meant for quoting rate in figures appears in yellow colour and the moment rate is entered, it turns sky blue.

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.

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

- (i.) Insurance Surety Bond, Demand Draft/ Account Payee Banker's Cheque / FDR/ Bank Guarantee of any commercial Bank against EMD.
- (ii.) Enlistment Order of the Contractor.
- (iii.) 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 under taking 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".

- (iv) Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer (including NIT issuing EE/AE), CPWD.
- (v) **Undertaking for site inspection:** Intending bidders must upload Undertaking regarding site inspection: "I/we have inspected and examined the site of work and it's surrounding and fully satisfy before submitting my/our bids."
- (vi) Copy of agency letter head having valid E-mail ID and Mobile Number.

Note: Bidder should ensure himself that above documents are uploaded in correct format and at correct location on the website.

**Executive Engineer
Lucknow-I
CPWD, Lucknow**

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Annexure-I.

RECEIPT OF DEPOSITION OF ORIGINAL EMD

(Receipt No.#..... / date#.....)

Name of Work: Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow.

1. NIT No. : **47/EE/Lucknow-I/2026-27**
2. Estimated Cost: **Rs. 62,50,915/-**
3. Amount of Earnest Money Deposit: **Rs. 1,25,018/-**

In favour of Executive Engineer, Lucknow Central Division-I, CPWD, Lucknow.

4. Last date & Time of submission of Bid : **29.08.2026 at 15:00**

Name of Contractor :#.....

1. Form of EMD#.....
2. Amount of Earnest Money Deposit#.....
3. Date of submission of EMD#.....

.....

Signature, Name and Designation of EMD
receiving officer (EE/AE(P)/AE/AAO) alongwith office stamp

* To be filled by EE inviting tender.

To be filled by EMD receiving EE.

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Annexure-II**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.

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..... (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. (Rupeesonly)
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 relating 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.

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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 liability against this guarantee is restricted to Rs. (Rupees only) and unless a claim in writing is lodged with us within the date of expiry or extended date of expiry 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.

2. Signature

Bank seal

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.

**In 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.

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CPWD-6 FOR e-Tendering

1. Percentage rate bids are invited on behalf of President of India from approved and eligible contractors of CPWD for the work of **Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow**

The enlistment of the contractors should be valid on the last date of submission of bids.

In case the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.

- 1.1 The work is estimated to cost **Rs. 62,50,915/-**. 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 bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.

- ~~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~~

- ~~1.2.1 Conditions for Non CPWD registered contractors only, if bids are also open to non CPWD Contractors.~~

~~For works estimated cost upto tendering limit of class I Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However, for Horticulture category, it may be modified as per bidding limit of CPWD class I contractors of Horticulture category).~~

- ~~(i) Three similar works each of value not less than Rs..... or two similar works each of value not less than Rs..... or one similar work of value not less than Rs..... (all figures rounded to nearest convenient figure) during the last 7 years ending last day of the month previous to the one in which tenders are invited.~~

- ~~(ii) For EPC tender under Mode I/II only (Applicable for CPWD enlisted contractors of appropriate class also).~~

~~One completed work costing not less than Rs. executed with the structural system technology as proposed by bidder in the letter of transmittal during the last 7 years ending last day of the month previous to the one in which tenders are invited. This work can be part of eligible work at 1.2.1 (i) above or as a separate work.~~

Note:-

~~For works costing above tendering limit of class II Buildings & Roads(erstwhile Composite/ Building/ infrastructure)category contractors but upto tendering limit of Class I Buildings & Roads(erstwhile Composite/ Building/ infrastructure) category Contractor (However, for Horticulture category, it may be modified as per bidding~~

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limit of CPWD class II and CPWD Class I contractors respectively of Horticulture Category) when bids are open to non CPWD contractors also, then class II contractors of CPWD registered shall also be eligible if they satisfy the eligibility criteria specified in 1.2.1 above.

~~1.2.2 Criteria of eligibility for CPWD as well as non CPWD contractors,~~

~~For works estimated to cost above the tendering limit of class I (Super) Buildings & Roads (erstwhile Composite/ Building/ infrastructure) category Contractor (However for Horticulture category, it may be modified as per bidding limit of CPWD class I contractors of Horticulture Category).~~

~~(i) Three similar works each of value not less than Rs..... or two similar works each of value not less than Rs..... or one similar work of value not less than Rs..... (all figures rounded to nearest convenient figure) during the last 7 years ending last day of the month previous to the one in which tenders are invited.~~

~~(ii) For EPC tender under Mode I/II only (Applicable for CPWD enlisted contractors of appropriate class also).~~

~~One completed work costing not less than Rsexecuted with the structural system technology as proposed by bidder in letter of transmittal during the last 7 years ending last day of the month previous to the one in which tenders are invited. This work can be part of eligible work at 1.2.2 (i) above or as a separate work.~~

~~The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of submission of bid. This is applicable for 1.2.1 as well as 1.2.2 (Para 1.2.1(i) and Para 1.2.2(i) are not applicable for CPWD enlisted contractors of appropriate class. Para 1.2.1(ii) and Para 1.2.2(ii) are also applicable for CPWD enlisted contractors of appropriate class).~~

~~To become eligible for issue of bid, the bidders shall have to furnish an affidavit as under:-~~

~~I/We undertake and confirm that eligible similar works(s) has/have not been got executed through another contractor 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 Deposit/Performance Guarantee. (Scanned copy to be uploaded at the time of submission of bid)~~

~~1.2.3 When bids are invited from non CPWD contractors and CPWD class II contractors as per provisions of clause 1.2.1 above, it will be mandatory for non CPWD contractors and CPWD class II contractors to upload the work experience certificate(s) and the affidavit as per the provisions of clause 1.2.2.~~

~~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.~~

2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7/8 (or other Standard Form as mentioned), which is available as a Govt. of India Publication and also

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available on website www.cpwd.gov.in. Bidders 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 **06 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. (i) The site for the work is available.

OR

~~The site for the work shall be made available in parts as specified below:-~~

.....

- (ii) The architectural and structural drawing for the work is available

OR

~~The architectural and structural drawings shall be made available in phased manner, as per requirement of the same as per approved programme of completion submitted by the contractor after award of work.~~

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 of Contract Form can be seen on website <https://etender.cpwd.gov.in> or www.cpwd.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 including e-Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks (drawn in favour of **Executive Engineer, Lucknow Central Division-I, CPWD, Lucknow**) shall be scanned and uploaded on 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 also. In such case, minimum 50% of earnest money or Rs. 20 lac, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee including e-Bank Guarantee of any Commercial bank having validity for a period of 90 days for single bid works and 180 days for two bid system or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

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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 within 30 days of declaration of result of technical bid evaluation.

Copy of Enlistment Order and certificate of work experience and other documents as specified in the notice inviting e- tender shall be scanned and uploaded on the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in e- tender notice shall have to be submitted by the lowest bidder 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 bid submitted shall be opened at 15:30 PM on **29.08.2026**.

10. The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:
- The bidder is found ineligible.
 - The bidder does not upload scanned copies of all the documents stipulated in the bid document.
 - 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 bid opening authority.
 - 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 contractor whose bid is accepted will be required to furnish performance guarantee in favour of **Executive Engineer, Lucknow Central Division-I, CPWD, Lucknow** 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, Account Payee Demand Draft, Fixed Deposit Receipt or Bank Guarantee from any of the Commercial Banks in accordance with the prescribed form.. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F', including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. 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 subcontractors, if any engaged by the contractor for the said work within the period specified in Schedule F.
12. **The description of the work is as follows: Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow.**

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

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- 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 bidders 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 bidders 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, for & 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.
 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 for rejection.
 15. The Competent Authority, for & on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders 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 gazetted officer in the Central Public Works Department or in the Ministry of Housing and Urban Affairs. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
 16. No Engineer of Gazetted Rank or other Gazetted Officer 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 prior 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 bids for the work shall remain open for acceptance for a period of 30 (thirty) days from the date of opening of bids in case of single bid system and ~~75 (seventy five) days from the date of opening of technical bids in case bids are invited in 2 or 3 bid system.~~

Further

- (i) If any tenderer withdraws his tender within 7 days after last date and time (15:00 Hrs.) of submission of bids, then the Government shall without prejudice to any other right or

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remedy, be at liberty to forfeit 50% of the earnest money absolutely, irrespective of letter of acceptance for the work is issued or not.

- (ii) If any tenderer withdraws his tender after expiry of 7 days after last date and time (15:00 Hrs.) of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.
 - (iii) Withdrawal of the tender, by the tenderer, shall only be made through e-tender portal. Any other method i.e. through letter / e-mail etc. shall not be considered. The tender inviting authority gets intimation through SMS and e-mail in this regard.
 - (iv) In case of forfeiture of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the re-bidding process of the same 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:-
- (a) 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.
 - (b) Standard C.P.W.D. Form 7/8 or other Standard C.P.W.D. Form as applicable.

20. **For Composite Bids**

~~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 document will include following three components:-~~

~~**Part A:** CPWD-6, CPWD-7/8 including Schedule A to F for the major component of the work, Standard General Conditions of Contract 2023 maintenance works as amended/ modified up to last date of submission of bids.~~

~~**Part B:** General / specific 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 (competent authority under Clause 2 and Clause 5 shall be same authority as mentioned in Schedule A to F for major components), General/specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.~~

~~20.1.3 The bidders must associate himself, with agencies as per NIT conditions.~~

~~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 for & 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(s).~~

~~EE of major component will operate Part A and Part B of the agreement.~~

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~~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 component corresponding to the estimated cost of the respective component of works.~~

~~20.1.8 The main contractor has to associate agencies for specialized component(s) conforming to eligibility criteria as defined in the bid document and has to submit detail of such agency(s) to Engineer in Charge of relevant component(s) within prescribed time. Name of the agency(s) to be associated shall be approved by Engineer in Charge of relevant 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 relevant specialized component(s).~~

~~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 MoU with agency(s) associated by him. Copy of such MoU shall be submitted to EE/DDH in charge of each relevant component as well as to EE in charge of major component. In case of change of associate contractor, the main agency(s) has to enter into MoU/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. The CMB shall be maintained independently by Engineer in Charge of major and minor components.~~

~~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.~~

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~~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 well 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 (Phone no 0522-2329438, e- mail Id eelcd1.cpwdlu-up@nic.in) or ERP helpline 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.
22. Price Preference to SC/ST individual contractor for item rate/percentage rate tender:
Price preference in quoted item rate/percentage rate tender shall be applicable to the individual enlisted/non-enlisted SC/ST contractor as under:-
- (i) For work(s) upto and equal to an estimated cost of Rs. 2.70 lakh a price preference upto 5% (with reference to the lowest valid tender) may be allowed in favor of individual SC/ST enlisted/non-enlisted contractor. No earnest money is required in such case(s).
 - (ii) For work(s) beyond an estimated cost of Rs. 2.70 lakh and upto and equal to estimated cost of Rs. 6.20 lakh, the price preference upto 5% (with reference to the lowest valid tender) may be allowed in favour of individual enlisted SC/ST contractor. However, earnest money at a reduced rate of ½% may be accepted in such cases.

The price preference upto 5% (with reference to the lowest valid price bid) may be allowed in favour of individual SC/ST contractor only. The above concession shall be allowed only after verification of the individual contractor's claim of belonging to SC/ST community

**Executive Engineer
Lucknow-I
CPWD, Lucknow**

**To be filled in by Executive Engineer.*

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GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT

CPWD-7

PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

(A) Tender for **Re-Carpeting of road of CENSUS residential Colony, Aliganj,**
the work of: **Lucknow**

- (i) To be uploaded by **15:00 PM** on **29.08.2026** at <https://etender.cpwd.gov.in> or www.cpwd.gov.in
- (ii) To be opened in presence of tenderers who may be present at **15:30 PM** on **29.08.2026** in the office of **Executive Engineer, Lucknow-I, C.P.W.D., Lucknow.**

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 **“Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow.”**

I/We hereby tender for the execution of the work specified for the President of India with in 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 Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such materials as are provided for, by, and in respect of accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for **Thirty (30)** days from the date of opening of technical bid 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 uploaded (strike out as the case may be). If I/We, fail 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 forfeit the said earnest money absolutely. 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.

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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.

I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back-to-back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering 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 Deposit / 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

Witness:

Postal Address

Address:

Occupation:

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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 (Rupees).

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

- (a)
- (b)
- (c)

For & on behalf of President of India

Signature

Dated:

Designation

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PROFORMA OF SCHEDULES

(Separate Performa for Civil, Elect. & Hort. Works in case of Composite Tenders) (Operative Schedules to be supplied separately to each intending tenderer)

SCHEDULE 'A'**Schedule of quantities****(Attached Page No. 91 to 93)****SCHEDULE 'D'**Extra schedule for specific requirements/document for the work, if any. **Nil****SCHEDULE 'E'**

Reference to General Conditions of contract – Applicable GCC is GCC for Maintenance works 2023, as modified and corrected up to previous day of last date of submission of bids.

Name of Work: Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow	
Estimated cost of the work:	
Civil Items of Work	Rs. 62,50,915/-
Electrical Items of Work	
Total	Rs. 62,50,915/-
Earnest money	Rs. 1,25,018/- (to be returned after receiving Performance Guarantee)
Performance Guarantee	a) 5% of the 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 tender amount.
Security Deposit	2.5% of the tendered value

SCHEDULE 'F'**GENERAL RULES & DIRECTIONS:**

Officer inviting tender	Executive Engineer, Lucknow-I, CPWD, Lucknow
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Definitions:2(vii) **Engineer-in-Charge**

For Civil items of work

Executive Engineer, Lucknow-I, CPWD, Lucknow.

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- For Electrical items of work ~~Executive Engineer (Elect.), Lucknow, CPWD, Lucknow~~
- For horticulture items of work ~~DD(Hort.), Lucknow Horticulture, CPWD, Lucknow~~
- 2(viii) Accepting Authority **Executive Engineer (Lucknow)-I, CPWD, Lucknow**
- 2(ix) Percentage on cost of materials and labour to cover all overheads and profits 15%
- 2(x) **Standard Schedule of Rates:**
- (a) Civil Items of Work: Delhi Schedule of Rates 2023 & Market rates.
- (b) ~~Electrical Items of Work: As mentioned in electrical part~~
- ~~Horticulture Items of Work: As mentioned in horticulture part.~~
- 2(xi) Department: Central Public Works Department
- 9(ii) Standard CPWD contract Form: GCC 2023 for Maintenance Works, CPWD Form-7/8 as amended/modified up to previous day of last date of submission of the bids.

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.	07 Days
	ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period as provided in (i) above	03 Days
Clause 2	Authority for fixing Compensation under Clause 2	Chief Engineer (Lucknow), CPWD, Lucknow.

Clause 5	Applicable	
	(i) Number of days from the date of issue of letter of acceptance for reckoning date of start	10 Days or date of handing over of site which ever is later.
	(ii) Time allowed for execution of work	06 Months
	(iii) Mile stones	See on Page No. 88

Clause 5.1 (iv) : Monthly time and progress chart containing upto date progress of work shall be for work done during previous month submitted by the agency on or before 5th day of every month failing which, a non

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refundable recovery @ Rs. 5000/- per week basis shall be made from running account bill without any notice in this regard.

Clause 5.4

(i)	Authority to convey the decision of shifting of mile stone and extension of time- Executive Engineer, Lucknow-I, CPWD, Lucknow.
(ii)	Authority to decide rescheduling of mile stone and extension of time- Chief Engineer (Lucknow), CPWD, Lucknow or successor thereof or Higher authority.
(iii)	Shifting of date of start in case of delay in handing over of site- Chief Engineer (Lucknow), CPWD, Lucknow or successor thereof or Higher authority.

PROFORMA OF SCHEDULE clause 5 Schedule of handing over the 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	10 (Ten) days
Part-B	Portion with encumbrances	NA	NA
Part-C	Portion dependent on work of other agencies	NA	NA

Clause 6 : Computerized Measurement Book/ Electronic Mode of Measurement : EMB through CPWD ERP Portal.

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 **Rs. 10 lakh**

Clause 7A Whether Clause 7A shall be applicable **Yes**
(No Running Account Bill shall be paid for the work till the applicable labour licences, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are submitted by the contractor to the Engineer-in-charge).

Clause 8 Competent Authorities to inspect and issue Part/ Final Completion Certificate **Executive Engineer (Lucknow-I), CPWD, Lucknow or successor thereof or Higher authority**

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Clause 8A Authority to decide compensation on account if contractor fails to submit completion plans. Executive Engineer (Lucknow-I), CPWD, Lucknow or successor thereof or Higher authority

Clause 10A List of testing equipment to be provided by the contractor at site lab. See as on Page 29 & 30

Clause 10 B (ii) Whether clause 10-B (ii) shall be applicable. **Not Applicable**

Clause 10C **Applicable**

Component of Labour expressed as percent of total value of work	25%
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Clause 10CC : **Not Applicable**

Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column.	12 Months
Schedule of component of other Materials, Labour, POL etc. for price escalation	
i) Cp- Cement component	15%
ii) Lp- Labour component	25%
iii) CMP- Civil component of other construction materials,	40%
iv) Sp- Reinforcement steel based/TMT bars/structural steel (including strands and cables) component.	20%
v) Fp- POL (Diesel) component.	Nil

Clause 11	Specification to be followed for execution of work:
For Civil items of work	CPWD Specifications 2019 Vol. 1 and Vol. 2 with correction slips issued up to day previous to last date of submission of tender (Hereinafter called CPWD specifications also)
For Electrical items of work	As per electrical component
For Hort. items of work	As per Hort. Component

(i) Building Information Model (BIM) is applicable and

BIM professional to be deployed by contractor- : **Not Applicable**

Clause 12		
Type of work	Maintenance Work	
12.2	Deviation limit beyond which Clause 12.2 shall apply	No Limit

Clause 16	Competent Authority for Deciding reduced rates:	
	For Civil items of work	Chief Engineer (Lucknow), CPWD, Lucknow or successor thereof or Higher authority.

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	For Electrical items of work	Chief Engineer (Lucknow), CPWD, Lucknow or successor thereof or Higher authority.
	For Horticulture items of work	Chief Engineer (Lucknow), CPWD, Lucknow or successor thereof or Higher authority.

Clause 18	List of machinery, tools & plants to be deployed by the contractor at site as & when required	As per Page No. 76
Clause 19C	Authority to decide penalty for each default	Chief Engineer (Lucknow), C.P.W.D., Lucknow or successor thereof.
Clause 19D	Authority to decide penalty for each default	
Clause 19G	Authority to decide penalty for each default	
Clause 19K	Employment of skilled / semi skilled workers.	Applicable

Clause 25 Conciliator /Arbitrator

(i) Conciliator	:	ADG(Lucknow), CPWD, Lucknow
(ii) Arbitrator Appointing Authority	:	Chief Engineer (Lucknow)
(iii) Place of Arbitration	:	Lucknow

Clause 32		Requirement of Technical Representative(s) and Recovery Rate					
Sl. No.	Minimum Qualification of Technical representative	Discipline	Designation (Principal Technical/Technical representative)	Minimum experience (Years)	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 32	
						Figures	Words
1	Graduate Engineer Or Diploma Engineer	Civil	Project Manager cum Planning /quality/Site/ billing Engineer	2 Or 5 respectively	1	Rs. 15,000/- per month per person	Rs. Fifteen Thousand per month per person

Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.

Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.

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Clause 38

- i) a) Schedule/ statement for determining theoretical quantity of cement & bitumen on the basis of **Delhi Schedule of Rates 2023** printed by CPWD **D.S.R. 2023 with** correction slips up to day previous to the last date of submission of bids

ii) **Variations permissible on theoretical quantities**

- a) Cement for works with estimated cost put to tender not more than Rs. 25 lakhs. **3% plus/minus**
- For works with estimated cost put to Tender is more than Rs. 25 lakhs **2% plus/minus**
- b) Bitumen all works **2.5% plus & nil on minus side.**
- c) Steel reinforcement and structural steel Sections for diameter, section and category. **2% plus/minus.**
- d) All other materials **Nil**

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GENERAL REQUIREMENTS FOR THE TENDER

Name of Work: Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow

- 1 The tenderer is advised to read and examine the tender documents for the work and the set of drawings available with Engineer-in-charge. He should inspect and examine the site and its surroundings by himself before submitting his tender.
- 2 Separate schedule of quantity is included in this tender for civil and electrical items of work. If the tenderer wants to offer any unconditional rebates on their rates, the same should also be offered in the respective components of civil and electrical schedule separately. The contractor shall quote the percentage rates in figures and words accurately so that there is no discrepancy in rates written in figures and words.
- 3 Time allowed for the execution of work is **06 Months**.
- 4 The contractor(s) shall submit a detailed program of execution in accordance with the master programme/milestone within ten days from the date of issue of award letter.
- 5 Contractor has to arrange and install **Fully-Automatic batching plant** in case, concrete is prepared at site during the currency of work and nothing extra will be paid on this account.
- 6 Quality of the project is of utmost importance. This shall be adhered to in accordance with the provisions of CPWD specifications and guidelines given in the relevant paras.
- 7 The contractor (s) shall make his own arrangements for electricity and water required for the execution of work.
- 8 **Cement shall be arranged by the contractor himself.**
- 9 **Steel Reinforcement shall be arranged by the contractor himself.**
- 10 Contractor has to use specialized agencies for specialized items of works such as water proofing treatment work, sewage treatment plant, effluent treatment plant, BIM Services and other specialized items as mentioned in the tender documents. Only those specialized agencies/firms who have satisfactorily executed works as per following criteria during last seven years are eligible for the specialized works-

(a) Three similar works each costing not less than 40% of estimated cost for concerned sub head.

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(b) Two similar works each costing not less than 60% of estimated cost for concerned sub head.

Or

(c) One similar work costing not less than 80% of estimated cost for concerned sub head.

Approval of the specialized agencies for each specialized work shall be obtained from the Engineer-in-Charge within one month of award of work. Even if, such specialized items of work shall be executed by the specialized agencies, the work shall be deemed to be executed by the tenderer for all purposes and the responsibility of the quality of items of works executed etc. shall continue to be that of the tenderer only.

- 11 Contractor has to deploy required Plant and machinery on the project. **Minimum number of plant and machinery to be deployed by him is indicated at Page No. 76.** In case the contractor fails to deploy the plant and machinery whenever required and as per the direction of the Engineer-in-charge, he (Engineer-in-charge) shall be at a liberty to get the same deployed at the risk and cost of the contractor.
- 12 The contractor shall submit the running bills in the shape of the computerised MB in pages of A-4 size as per the standard format of department and shall act as per modified clause 6 of CPWD-7
- 13 Contractor has to provide reinforcement cover blocks made of approved proprietary pre packed free flowing mortars (Conbe extra as manufactured by M/s Fosroc Chemical India Ltd. or approved equivalent) of high early strength.
- 14 The contractor shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time.

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PART-B

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MATERIAL AND QUALITY ASSURANCE

1. 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.
2. The contractor shall get the source of all other materials, not specified else where 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.
3. The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work, Steel truss 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.

4. Test Laboratories :

A) Laboratory at site : As per requirement and direction of Engineer-in-Charge.

The contractor shall at his on expense establish a testing lab at site and provide testing equipment and materials for the field tests mentioned in the list of mandatory tests given in CPWD Specifications 2019 Vol. 1 & 2. Nothing extra shall be payable to him on this account.

The representatives of the department shall be at liberty to inspect the testing facilities at site and conduct testing at random in consultation with Engineer in charge. The contractor shall provide all necessary facilities for the purpose. The laboratory shall be equipped, inter alia, with the following equipments:

a) Balances:

- i) 7 kg to 10 kg capacity, semi-self indicating type – Accuracy 10 gm.
- ii) 500 gm capacity, semi-self indicating type Accuracy 1 gm.
- iii) Pan Balance- 5 kg Capacity- Accuracy 10 gm.

b) Ovens- Electrically operated, thermostatically controlled upto 1100C- Sensitivity 10C.

c) Sieves: as per IS: 460

- i) IS Sieves – 450 mm internal dia of sizes 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm, complete with lid and pan.

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ii) IS Sieves – 200 mm internal dia (brass frame) consisting of 2.36 mm, 1.18 mm, 500 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.

d) Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.

e) Equipment for slump test- slump cone, steel plate, tapping rod, steel scale, scoop.

f) Equipment for concrete testing

- | | |
|--|---------|
| i) Concrete cube moulds 15x15x15cm. | 18 Nos. |
| ii) Pruning Rods 2Kg weight length 40cm and ramming face 25mm | 1 No. |
| iii) Extra Bottom plates for 15cm cube mould | 6 Nos. |
| iv) Standard Vibration table for cubes | 1 No |
| v) Dial gauges 25 mm travel- 0.01 mm/division Least count- | 1 No. |
| vi) Fully automatic compression testing machine of 100 tonne capacity. | 1 No. |
| vii) Construction water testing kits | 1 No. |

Not less than 90% tests for material be performed at site lab with above stated equipment's, however at least 10% testing of materials shall be got done from external laboratories. 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 the reasons the cost of such tests shall be borne by the contractor.

B) Other Laboratories :

B1 The contractor shall arrange carrying out all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including charges for testing for all materials which shall be borne by the contractor.

C) Sampling of Materials:

C1 Sample of building materials fittings and other articles required for execution of work shall be got approved from the Engineer-in-Charge. Articles manufactured by companies of repute and approved by the Engineer-in-Charge shall only be used. Articles bearing BIS certification mark shall be used in case the above are not available, the quality of samples brought by the contractor shall be judged by standards laid down in the relevant BIS specifications. All

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- materials and articles brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work.
- C2 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.
- C3 BIS marked materials except otherwise specified shall be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specifications described for the item/materials. Wherever BIS marked materials are brought to the site of work, the contractor shall if required, by the Engineer-in-Charge furnish manufacturers test certificate to establish that the material produced by the contractor for incorporation in the work satisfies the provisions of BIS codes relevant to the material and/or the work done.
- C4 The contractor shall procure all the materials in advance so that there is sufficient time to testing and approving of the materials and clearance of the same before use in work.
- C5 All materials 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.
- C6 The contractor shall be fully responsible for the safe custody of the materials issued to him even if the materials are in double lock and key system.
- C7 The Stone aggregate/stone, sand shall be brought from any quarries subjected to the said materials confirm CPWD specifications.
- 5 The day to day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the Engineer-in-Charge of work and which shall be duly signed by the contractor or his authorised representative.
- 6 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 be payable to the contractor on this account. However cost of photographs, slides, audio/videography etc shall be born by the department.

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- 7 The contractor shall be fully responsible for the safe custody of materials brought by him issued to him even though the materials are under double lock key system.
- 8 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.
- 9 Cement issued shall be for consumption at site only. No cement for factory made items and those not manufactured at site shall be issued.
- 10 In case there is any discrepancy in frequency of testing as given in the list of mandatory test and that in the individual sub-head of work as per CPWD Specifications 2019 Vol. 1 & 2 the higher of the two frequencies of testing shall be adopted.
- 11 Maintenance of Works Register:**
- (i) All the register of 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 test registers to be issued to the contractor are :
- Materials at site account register.
 - Cement register.
 - Master test registers.
 - Cube test register.
 - Paint register.
 - Drawing register.
- (iii) All the entries in the register will be made by the designated engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE.
- (iv) Contractor shall be responsible for safe custody of all the test registers.
- (v) 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.

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ADDITIONAL CONDITIONS FOR CEMENT

- 1 The contractor shall procure PPC conforming to IS: 1489 (Part 1) as required in the work from reputed manufacturers of cement such as ACC, Ultratech, Shree Cement, JK Cement, Century Cement, Prism Cement, Ambuja or from any other reputed cement manufacturer having a production capacity not less than 1 million tons per annum as approved by Chief Engineer / ADG, CPWD, Lucknow.
- 2 The supply of cement shall be taken 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 relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected, and it 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.
- 3 The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer- in- charge. The cement godown of the capacity to store a minimum of 2000 bags of cement or decided by NIT approving authority in case less than 100 MT cement is required for work, shall be constructed by the contractor at site of work for which no extra payment shall be made.
- 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 keys 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.
- 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 testing laboratories. **All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.**
- 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 38 of the contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical

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consumption including permissible variation, recovery at the rate so prescribed shall be made after ensuring structural soundness and stability on the basis of testing. In case of excess consumption, no adjustment shall be made.

- 7 The cement brought to the 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.
- 8 The damaged cement shall be removed from the site immediately by the agency on receipt of a notice in writing from the Engineer-in-charge. If he does not do so within 3 days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.

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SPECIAL CONDITION FOR STEEL REINFORCEMENT BARS

1. The contractor shall procure TMT bars /Low Alloy Steel of Fe 500 D (BAR SET-I) or more grade from steel producers such as **SAIL, Tata Steel Ltd, RINL, Jindal Steel & Power Ltd and JSW Steel Ltd** or their authorized dealers.
 - 1.1 TMT bars (BAR SET-I) shall meet the provisions of IS 1686 (latest version) (Indian Standard specifications for high strength deformed steel bars and wires for concrete reinforcement) pertaining to Fe 500 D (BAR SET-I) or more grade of steel. (DG, CPWD, New Delhi OM vide No. CSQ/SE(TAS)/Steel/2024/262-H dated 14-08-2024 may be referred copy attached)
2. The contractor shall have to obtain manufactures certificate stating the process of manufacture, chemical composition and test sheet giving results of each mechanical test applicable to the materials and submit and furnish to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work. Each test certificate shall indicate the number of cast to which it applies, corresponding to the number or identification mark to be found on the material.
3. 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. Samples of each confinement shall be taken and got tested by the Engineer-in-charge for chemical composition and physical properties (including bend and re-bend test) as per the provisions in this regard in the relevant BIS codes from any Govt. or approved laboratory. 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 of written orders from the Engineer-in-charge to do so.
4. The steel reinforcement shall be brought to the site in bulk supply of 30 tonnes or more or as directed by the Engineer-in-charge.
5. The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent distortion & 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.
6. For checking nominal mass, tensile strength, bend test, re-bend test etc. specimens of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

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

7. **All the expenditure to be incurred for testing of samples, e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor.**
8. If the quantity of steel actually used in the work is found to be more than the theoretical quantity of steel including authorised variation, nothing extra shall be payable to the contractor on this account. In the event of it being discovered that at any stage or after the completion of the work the quantity of steel used is less than the quantity ascertained as herein before provided (allowing variation on the minus side as stipulated in clause 38). The cost of quantity of steel so less used shall be recovered from the contractor at rate as specified in schedule 'F'. Decision of the Engineer-in-Charge in regard to theoretical quantity of steel which should have been actually used and recovery of the rate specified shall be final and binding on the contractor. 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.
9. 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.
10. 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

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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.

11. If the derived weight as in para 10 above is lesser than the standard weight as in para 9 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 9 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.

12. 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.
13. Tolerances on Nominal Mass (individual sample) shall be as under:-

Sl. No.	Nominal size mm	Tolerances on the Nominal Mass, percentage
1	Upto and including 10	-8%
2	Over 10 upto& including 16	-6%
3	Over 16	-4%

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	 भारत सरकार केंद्रीय लोकनिर्माणविभाग तकनीकीअनुप्रयोग एवंमानक एकाई कमरा सं० 418 ए-विंग, निर्माणभवन, नईदिल्ली। टैलीफैक्स-011-23062339 ईमेल-delsetascsq.cpwd@nic.in	
E-9156762 No. CSQ/SE(TAS)/Steel/2024/ 262- <i>Red</i>		
Dated: 14/08/2024		

OFFICE MEMORANDUM

Subject:- Guidelines for use of TMT steel /Low Alloy Steel reinforcement Bars in CPWD worksand enlistment of the steel manufactures in respect of TMT steel /Low Alloy Steel reinforcement Bars in CPWD.

1. The Ministry of Steel, through notification dated 12.05.2016 and order dated 9.8.2016, abolished classification of steel producers as Integrated steel producers, primary steel producers, secondary steel producers, main producers, major producers or others as well as on the basis of process route of steel manufacturing in India.
2. The Ministry of Steel, vide Circular No. 4(13)/2016-SD(I) dated 14.12.2016, reiterated their Notification dated 12.05.2016. They further issued an order dated 09.08.2016, asking the users to ascertain the quality of the steel products, to be procured, as per relevant BIS standards.
3. Para 27.2 of Works Manual 2014 was modified through OM No. DG/MAN/382 dated 06.02.2019. In this OM, under the heading "Special Condition of Steel reinforcement bars", eligibility criteria and other technical parameters were set for steel manufactures. In the eligibility criteria, incorporation details of the company, various licences, certifications, in house testing facility at plant, and refining technologies used for manufacturing of steel and TMT bars (like BF-BOF route, COREX-BOF Route, DRI-EAF route) were cited. Those manufacturers, who met the aforesaid eligibility criteria, could be included in the preferred make list of Notice Inviting Tenders (NITs) of CPWD works.
4. However, CPWD Works Manual 2014 was replaced by CPWD Works Manual 2019 and came into force with effect from 07.03.2019. In CPWD Works manual 2019, para 4.10.1 deals with use of steel and cement in works and states that "Special conditions shall be incorporated by the NIT approving authority keeping in view the guidelines issued by the Directorate from time to time in this regard which are available on CPWD website".
5. Since no Criteria /guidelines were available for approval of TMT bars manufacturer after release of the CPWD works manual 2019, an Office Memorandum No. CE(CSQ /SE(TAS) /EE(TAD) /Steel/ 2019/ 497-H dated 27.12.2019 was issued. This OM specified that (i) only ISI marked TMT bars of various grades shall be procured for use in CPWD works, (ii) SDG/ADG shall approve the steel manufacturers based on eligibility criteria and other technical parameters as per OM No. DG/MAN/382 dated 06.02.2019
6. The OM 497-H dated 27.12.2019 was withdrawn and modified guidelines for use of reinforcement bars in structures was issued vide OM No. 50-H dated 17.02.2021. The use of corrosion resistant steel (CRS) reinforcement bars in structures was also mandated vide OM No. 50-H dated 17.02.2021. Further,

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clarification regarding corrosion resistant steel was issued vide OM No. 257-H dated 23.06.2022.

7. The single bench of Hon'ble High Court at Calcutta in the case of SRMB Srijan Private Limited & others V/s Union Of India & Others (W.P.A 9990 of 2020) SRMB Srijan Private Limited & others Vs. Union of India & others With (W.P.A 24267 of 2019) has quashed the modified Clause 27.2 of the CPWD Works Manual of 2014, para 4.10.1 of the CPWD Works Manual of 2019, and consequential Memorandums issued by the CPWD and directed to implement the Notification of the Ministry of Steel, Government of India dated May 12, 2016, the Order dated August 9, 2016 and the reminders of the said Ministry dated December 14, 2016 and February 7, 2017.
8. Subsequently an appeal was filed in Division Bench (DB) of Hon'ble High court at Calcutta by CPWD. In the said case, Hon'ble High court at Calcutta, passed the judgment dated 15.04.2024. The operative part of this judgement reads as *"Accordingly we find no grounds to interfere with the order passed by the Learned single bench except with regard to the direction issued in paragraph 53 of the impugned order whereby the modified clause 27.2 of the CPWD Works Manual has been quashed and instead of quashing the said modified clause 27.2 we direct the CPWD to appropriately amend their Works Manual to be in consonance with the notification issued by the Ministry of Steel, Govt. of India as done by the notifications referred to above."*
9. In compliance of the above directions of the Hon'ble High Court at Calcutta, an Expert Committee was constituted by DG CPWD vide OM No. CSQ/SE(TAS)/EE(TAD)/Steel/2024/190-H dated 10.06.2024 for deciding the criteria for the selection of steel manufacturers for CPWD works. The expert committee has conveyed their final recommendation {enclosed as annexure I(d)} vide Minutes of Meeting dated 24th July 2024 and the same has been accepted by DG, CPWD. The brief of these recommendations are as follows:

Steel Bars shall be classified as:

- a) Bar Set I, if it complies with the requirements given in the latest version of IS 1786, and additional requirement (e.g. Chemical Composition Requirement for Manganese and Copper, Tempered Martensite (TM) Ring Requirement, Marking Requirement and compliance of the provisions of ISO 9001:2015 and ISO 14001:2004) mentioned in the recommendations.

And

- (b) Bar Set II, if it complies with the requirements given in the latest version of IS 1786.

The committee has also recommended use of above mentioned Steel Bar sets considering the importance of quality in construction of public structures in different projects of CPWD, on the basis of (a) earth quake zones, (b) environment conditions (coastline and exposure condition), (c) Structure category, and (d) heights of buildings and structures.

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10. Accordingly, it is decided that the reinforcement steel bars produced by plants of SAIL, RINL, TATA, JSW & JSPL which are in wider use in CPWD may be continued to be used as preferred make in the NIT in respect of Bar Set-I mentioned in para no. 9 above and Annexure-1(c). Further, it has also been decided that DG, CPWD may enlist more manufacturer plants for TMT steel/Low Alloy Steel reinforcement Bars on the basis of selection criteria recommended by the Expert Committee. These enlisted manufacturers plants for particular bar set may also be considered for stipulation as preferred make in the NIT depending upon their use.
11. The procedure for enlistment of the steel manufactures in respect of TMT steel /Low Alloy Steel reinforcement Bars in CPWD works is also enclosed herewith as Annexure-I and I (a) to I (f)

This issues with the approval of DG, CPWD.

Encl: As above


(Dinesh Kumar Ujjainia)
 Superintending Engineer (TAS)
 14/9/24

Copy to (Through CPWD Website):

The SDG (Chennai) / SDG (Chandigarh) / SDG (Kolkata) / SDG (Mumbai) for information please.

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Annexure-I

PROCEDURE FOR ENLISTMENT OF THE STEEL MANUFACTURES IN RESPECT OF TMT STEEL / LOW ALLOY STEEL REINFORCEMENT BARS IN CPWD WORKS.

1. The following procedure shall be adopted for enlistment of the manufacturers, in respect of TMT steel / Low Alloy steel reinforcement bars of different diameter and grades for use in CPWD works.
 - i. All manufacturers having their manufacturing plants in India are eligible for enlistment in CPWD subject to the condition that they are producing steel bars of different grades conforming to the latest version of IS 1786.
 - ii. The Thermo Mechanically Treated (TMT) steel / Low Alloy steel reinforcement bars conforming to IS:1786 must be manufactured using iron ore, virgin or processed with necessary refining facilities. The rolling / processing facilities, from iron making to finished steel reinforcement bar, may be owned by the same company or its subsidiary company (ies). In this regard the necessary proof may be submitted along with application.
 - iii. The eligible manufacturer shall apply **online** to CPWD website portal to **SDG (Chennai, Chandigarh, Kolkata, & Mumbai)** on their letter head along with requisite details in prescribed application (**as per Annexure-I(a)**) along with documents (**as per Annexure-I (b)**). The manufacturer shall mention name and location of plants to be enlisted for supply of steel reinforcement bar and shall pay enlistment fee of Rs. 1,00,000.00 (Rs. One Lac Only) per plant. The manufacturer is required to pay total enlistment fees to CPWD through e-payment in **Account Number 244189- AE(Cash), CSQ, NirmanBhawan, New Delhias per Annexure-I (f)** and receipts of payment shall be enclosed with the application form.
 - iv. The enlistment fee, once paid, is non-refundable due to any reason. Therefore, manufacturers are advised to ensure that they fulfil the eligibility requirements and possess all necessary documents for enlistment before payment.
 - v. The online application submitted along with documents will be scrutinized by the **CE (Works & TLQA) O/oSDG (Chennai,**



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Chandigarh, Kolkata, & Mumbai) and shortcoming (s) or deficiency (ies) in the submitted application, if any, will be communicated to the applicants through online portal. The applicants will be allowed to submit clarifications or information online within a period of one month from the date of intimation of shortcomings.

- vi. If the manufacturer fails to submit the required clarifications or information within one month from the date of intimation of shortcomings, the application shall be summarily rejected and no further communication shall be entertained. The enlistment fees shall be forfeited.
- vii. All the relevant clarifications and/or information received within the time period shall be considered and if found in order, such manufacturer shall be informed about the dates of plant (s) visit by the team of CPWD officers consisting of **one SE, one EE and one AE (to be nominated by respective SDG)**.
- viii. On site verification of documents, submitted at the time of application, will be done by the CPWD team, during the plant(s) visit. Further, the testing of individual bars of particular grade (s), at each plant, shall be carried out in the lab available at plant in presence of CPWD team and representative of manufacturer (**as per Annexure-I(c)**). The entire testing process shall also be video recorded.
- ix. CPWD team, at each plant, shall also collect the samples (i.e. one sample consist of three bars) of each diameter of different grades and sealed in presence of manufacturer's representative. The type testing of these samples shall be done in one of the designated lab of National Test House, IITs, NITs and NCCBM in presence of CPWD representatives. The dates of testing of samples in the designated laboratory shall be decided by the manufacturer in consultation with the lab authorities and CPWD team. The entire testing process, including opening of sealed samples, shall be video recorded.
- x. After plant visit by the CPWD team, a report along with photographs / video of the plants and results of the tests conducted during visit shall be uploaded on the portal within 5 working days.
- xi. The results of the type tests, conducted in the designated lab, shall be uploaded on the portal within 5 working days of receipt of the same.

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- xii. After getting all the test reports, complete case along with documents and recommendation of respective SDG (**Chennai, Chandigarh, Kolkata, & Mumbai**) will be sent to CE, CSQ (Civil), CPWD, Nirman Bhawan, New Delhi.
2. A committee comprising of following officers will evaluate the case received from SDG (**Chennai, Chandigarh, Kolkata, & Mumbai**) for the enlistment of steel manufactures' plant for reinforcement bar of different grades on the basis of criteria given in **annexure-I(d)** in CPWD Directorate, Nirman Bhawan, New Delhi.

ADG (Tech) - Chairman
 CE (Project) - Member (to be nominated by ADG (Tech))
 CE, CSQ (Civil) - Member
 SE (Design) - Member (to be nominated by ADG (Tech))
 SE (TAS) - Member Secretary

The committee will recommend the steel manufacturers' plant for enlistment or otherwise to DG, CPWD for his approval.

3. The approval of the competent authority shall be intimated to the respective manufacturer in respect of a particular plant for each diameter of different grades of steel under category Bar Set I / Bar Set-II
4. If, no bar diameter of specific grade of steel of the particular plant of a manufacturer is found suitable, then he will be intimated accordingly. The manufacturer may apply afresh next time when applications are re-invited for enlistment. In case of rejection of application, the decision of the CPWD shall be final and binding on the applicants.
5. **Validity of Enlistment:** The enlistment of manufacturer's plant for particular bar diameter and grade of steel shall be valid for a period of 3 (three) years from the date of issue of enlistment order. The enlistment shall be open to review by the enlisting authority i.e. Director General, CPWD at any time. In case any adverse report is received against the manufacturer, the enlistment is liable to be suspended/cancelled/or manufacturer can be black listed for future enlistment in CPWD or any other action as deemed fit (as per **Annexure-I(e)**).



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Annexure-I(a)

Application for Enlistment OF THE STEEL MANUFACTURES IN RESPECT OF
TMT STEEL / LOW ALLOY STEEL REINFORCEMENT BARS and re-enlistment
(Supporting documents annexed with the application form should be uploaded
as per Annexure-I(b))

1. (a) Name of the applicant

(b) Status of entity (Limited Liability Partnership/Ltd. Company).....

2. Address

(a) Registered Office.....

(b) Head Office (if different from Registered office).....

3 Contact Details

(a) Name of contact person and Designation.....

(b) Telephone Number.....

(c) Mobile Number

(d) Email Id.....

(e) Website URL (If any)

4 Detail of Plant (s) for which Enlistment applied:

i. (a) Name of Plant.....

(b) Location.....

ii. (a) Name of Plant.....

(b) Location.....

5. Enlistment fee(s) detail (Fees Rs. 1,00,000.00 per Plant) :

(a) Transactions Reference Number

(b) Transaction Date.....

(c) Amount.....

6. Certificates (Strike out whichever is not applicable)

- a. I/We (including all partners) certify that I/we have read the Rules for
Enlistment of steel manufacturer in CPWD as amended upto date and shall
abide by them.



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- b. I/We certify that I/we are not enlisted and will not get myself / ourselves registered as steel manufacturer in the Department under more than one name.
- c. I/We have neither employed nor shall we employ any person within one year of his retirement from the Government except with the prior permission of the Government.
- d. I/We will not make changes in the owner ship of the company without prior intimation to department.
- e. I/We have not declared or is in the process of being declared bankrupt, insolvent, wound up, dissolved or partitioned.
- f. I/We have not been removed/suspended/blacklisted/debarred/restrained from the business by any central /state government department/PSUs.

I/We certify that the information given above is true to the best of my/our knowledge. I/We understand that if any information is found incorrect, our enlistment is liable to be cancelled and I may be blacklisted / suspended / debarred for future enlistment in CPWD.

Place :

Signature of applicant

Date:

(Authorized Signatory)



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Annexure-I (b)**A. Documents required to be submitted with application:**

1. Documents regarding Ownership / Promoters of the manufacturing plant, its head office address, location and address of steel manufacturing facility.
2. If any subsidiary company(ies) exists, then documents regarding Ownership / Promoter ship of the subsidiary company, Subsidiary company's address and its relation with main company, location and address of manufacturing units of subsidiary company.
3. Copies of Certificate of Incorporation & Memorandum of Article of Association of Main Company.
4. Approval/ enlistment of manufacturer company by CPWD (in past), or any other Central/State Government departments/PSUs for use of steel reinforcement bars.
5. Document and Production process flow diagram / chart of steel making for production of TMT and Low alloy steel (Corrosion Resistant Steel) Reinforcement bars for Fe 415D, Fe 500D, and Fe 550D of bar sizes 8 mm to 45 mm dia.
6. Document related to Quality Assurance Plan adopted in manufacturing of steel and calibration record of measuring and testing equipments.
7. Authenticated copies of BIS certificate for billets (IS 2830 : 2012) & BIS certificate for TMT bars (IS 1786 :2008) (with up to date Amendment)
8. Copy of ISO-9001:2008 (Quality Management System), Quality Management System, ISO-14001:2004 (Environment Management System).
9. The CO2 emission per kg of steel production.
10. Whether manufacturer is blacklisted/suspended/debarred/restrained from business by any Central / State Government Department or PSU for poor quality of reinforcement steel bar (if any) supplied by the company.
11. Test results of bars as per Annexure-I(c).

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Annexure- I(c)

Testing requirement for individual reinforcement bar diameter of Particular Grade of steel:

Tests required for Fe 415D, Fe500D, Fe550D grade of steel and Low alloy steel reinforcement bars:

A. FOR BAR SET- I

1. Tests as per IS 1786 (latest version) and specified therein

1.1 Chemical Properties

Ladle analysis of steel for above grades for maximum percentage of constituents

- i. Carbon (C), (ii) Sulphur (S) and (iii) Phosphorous (P) and (iv) Nitrogen and Carbon Equivalent

1.2 Physical Properties

- (i) 0.2 percent proof stress / yield stress, minimum, N/mm².
- (ii) Ratio of Tensile Strength (Ts) to Actual Yield Strength (or 0.2 % of yield stress (Ys)) of the test piece N/mm².
- (iii) Elongation, percent, Minimum, on gauge length $5.65\sqrt{A}$, where A is the cross-sectional area of the test piece.
- (iv) Total elongation at maximum force, percentage, minimum on gauge length $5.65\sqrt{A}$, where A is the cross-sectional area of the test piece.
- (v) Bend test and re-bend test.
- (vi) The mean area of ribs (in mm²) per unit length (in mm) above the core of the bar, projected on a plane normal to the axis of the bar.
- (vii) Pull-out testing in accordance with IS 2770 (Part 1)

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2. Additional requirement

2.1 Permissible limit for Manganese and Copper as follows:

Constituent	Permissible Limit (% of cast metal quantity)		
	Fe 415 D	Fe 500 D	Fe 550 D
Manganese (Mn)			
Maximum	1.60	1.60	1.60
Copper (Cu)			
Maximum	0.80	0.80	0.80
Minimum	0.20	0.20	0.20
Notes: The above composition shall be obtained as per latest version of IS 228 1. Manganese using Periodate Spectrophotometric Method (Part 12), and 2. Copper using Thiosulphate Iodide Method (Part 15) or Spectrophotometric (Diethyl Dithiocarbonate) Method (Part 21)			

2.2 Tempered Martensite Ring Test as per Annexure-I (d).

2.3 The process of manufacturing steel shall comply with the provisions of ISO9001: 2015 and ISO14001: 2004.

(B)FOR BAR SET-II

1. The test requirements given in para 1.1 and 1.2 above.

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Annexure-I(d)

1. CRITERIA FOR CLASSIFICATION OF BARS

The steel bars manufactured in India shall be classified as specified hereunder for the purposes of their use in works of CPWD.

1.1 Process of Classification

Steel Bars shall be classified as *Bar Set I* and *Bar Set II*. The bars shall be placed under one of these categories based on *Type Test* (the test performed to select the bars) performed as specified hereunder. These tests to be performed are those specified in the latest version of **IS 1786** published by the Bureau of Indian Standards, and the additional tests mentioned in Para 2 of this document.

The *Type Test* shall be performed at any one of the National Test Houses, IITs, NITs, and NCCBM, subject to:

- (a) The test samples being collected from the manufacturing facility by the representative engineer of CPWD,
- (b) The availability of the required test facility at the said laboratory, and
- (c) The test being witnessed by representative engineer of CPWD.

1.2 Classification of Steel Bars

The bar shall be classified as:

- (1) *Bar Set I*, if it complies with the requirements given in the latest version of **IS: 1786**, and those given in Para 2 of this document, and
- (2) *Bar Set II*, if it complies with the requirements given in the latest version of **IS 1786**.

2. ADDITIONAL REQUIREMENTS

Four additional requirements as specified hereunder.

2.1 Chemical Composition Requirement

The permissible limits of additional elements shall be as per **Table 1**.

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Table 1: Permissible limits of additional elements

Constituent	Permissible Limit (% of cast metal quantity)		
	Fe 415 D	Fe 500 D	Fe 550 D
Manganese (Mn)			
Maximum	1.60	1.60	1.60
Copper (Cu)			
Maximum	0.80	0.80	0.80
Minimum	0.20	0.20	0.20
Notes: The above composition shall be obtained as per latest version of IS 228 : (1) Manganese using Periodate Spectrophotometric Method (Part 12), and (2) Copper using Thiosulphate Iodide Method (Part 15) or Spectrophotometric (Diethyl Dithiocarbonate) Method (Part 21).			

2.2 TM Ring Requirement

The following two requirements shall be met with:

- (1) Does the *Tempered Martensite(TM) Ring* satisfy the visual analysis as per **Step 1** of **Table 2**; and
- (2) The thickness of the TM Ring obtained as per **Step 2** of **Table 2** shall be between 0.07f and 0.15f, where f is the *original nominal diameter* of the bar.

(a) Test Procedure

The following is the procedure:

- (1) The test setup to capture the *Cross-Sectional Phase Distribution (CSPD)* of the TMT bars shall be as shown in **Figure 1**.
- (2) Steel bars may be cut using handsaw or an abrasive cutter with continuous supply of coolant to limit the temperature of steel, and thereby avoid any transition or changes in *Tempered Martensite(TM)* and *Ferrite-Pearlite (FP)* phases (**Figure 2**). The sharp edges of cut bars should be smoothened using

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silicon carbide abrasive sheets. A metal polishing machine can be used to achieve effective smoothening.

- (3) The smoothened steel specimen shall be moulded in cold setting epoxy with good surface finish. Setting time of epoxy is about 10-15 minutes.
- (4) The moulded specimen surface shall be course polished using abrasive sheets of 80, 150, 220, 320, and 600 grit sizes in sequence. Specimens shall be micro-etched using Nital (5% Nitric acid in alcohol) to capture the CSPD.

(b) Measurements

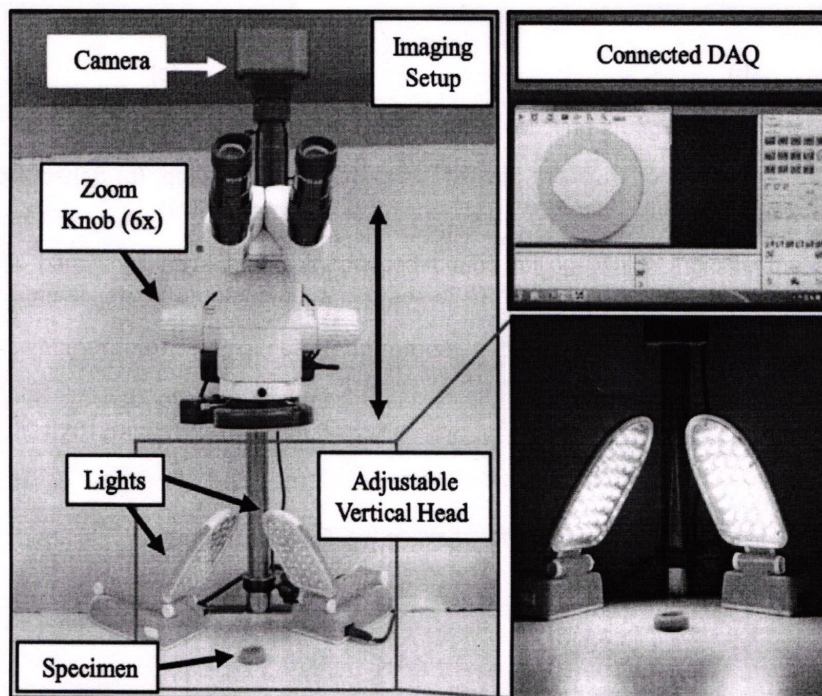
The procedure for obtaining the CSPD of the TM Ring along the perimeter shall be as per **Table 2**.

2.3 Marking Requirement

All bars shall have marks introduced during rolling, which indicate the *name of manufacturer or brand name, and grade of steel*.

2.4 Manufacturing Process Requirement

The process of manufacturing steel shall comply with the provisions of ISO 9001:2015 and ISO 14001:2004.



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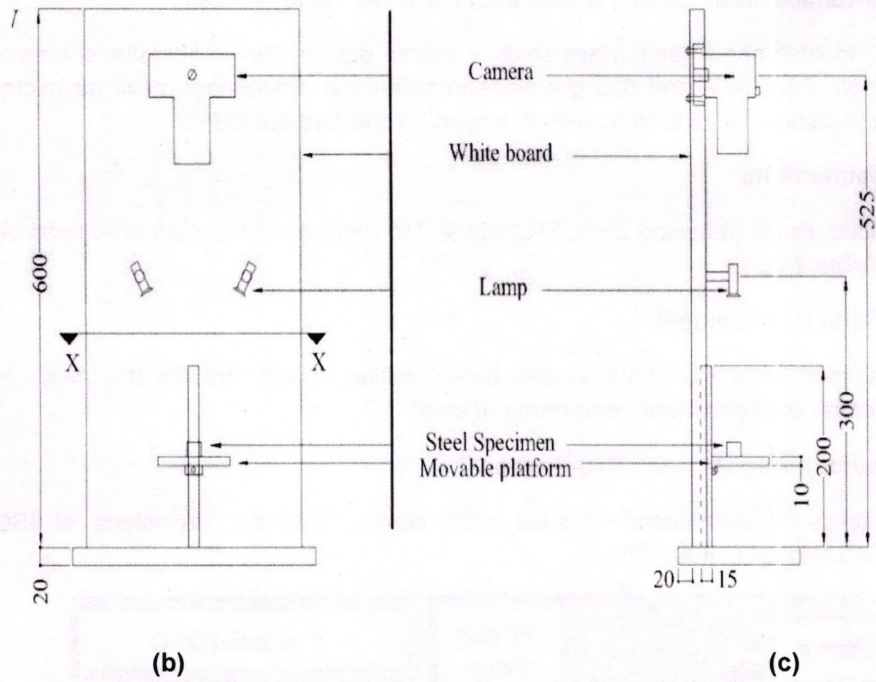


Figure 1: Test setup for CSPD of the TMT bars: (a) Imaging Setup, (b) Schematic Front View (c) Schematic Side View

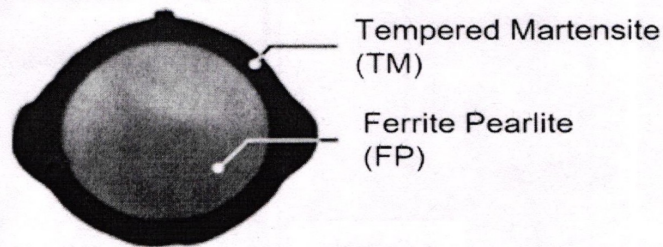


Figure 2: Cross-section of the steel bar showing the TM and FP areas

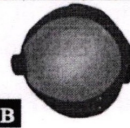
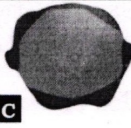
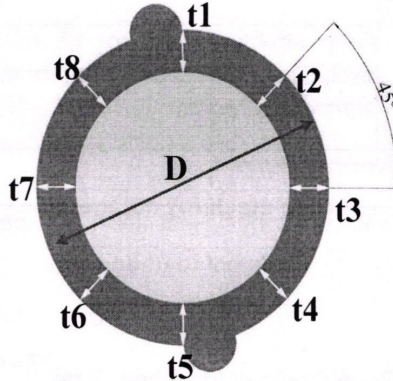
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Table 2: Method of obtaining CSPD of TM Ring

Step 1: Visual Analysis of etched Cross-Section			
			
	A	B	C
	Acceptable	Not acceptable	Not acceptable
1.	Is a dark grey peripheral region and light grey core seen as in Case A?		Yes/No
2.	Does the dark grey peripheral region form a continuous outer ring?		Yes/No
Step 2: Dimension Analysis of TM-Ring thickness			
3.	Diameter D (mm) of the steel bar		
4.	Geometry		
			t_1
			t_2
			t_3
			t_4
			t_5
			t_6
			t_7
			t_8
	Measured t_{min} (mm)		
	Measured t_{max} (mm)		
5.	Is the measured $t_{min} \geq 0.07 f$?		Yes / No
	Is the measured $t_{max} < 0.15 f$?		Yes / No

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3. GUIDELINES FOR USE OF STEEL BARS IN DIFFERENT PROJECTS

Considering the importance of quality in construction of public structures, the basis for use of bars in different projects of CPWD shall be as given in **Table 3**.

Table 3: Use of Bar Sets I and II in CPWD Projects

S.No.	Consideration	Bar Set I	Bar Set II
1.	Earthquake Zones	All zones	Only <i>Earthquake Zone II</i>
2.	Environment Conditions		
	(a) Coastline	All conditions	Beyond 10 km from the coastline of India
	(b) Exposure Conditions	All exposure conditions as per IS 456 (latest version)	Only <i>Mild</i> and <i>Moderate</i> Exposure Conditions as per IS 456 (latest version)
3.	Structure Category	All categories	Only <i>Normal Buildings</i> as per Table 4 and standalone <i>Normal Structures</i> as per Table 5 .
4.	Heights of Buildings and Structures	All heights	Only structures up to 12 m height excluding <i>staircase headroom</i> and <i>liftmachine rooms</i>

Table 4: List of Normal Buildings

Residential or Non-Residential Buildings with occupancy less than 100 persons, *excluding*:

- (1) Educational buildings,
- (2) Buildings of strategic importance,
- (3) Buildings and structures identified by Government of India and State Governments to be critical for governance or Disaster Management,
- (4) Hospital buildings,
- (5) Buildings that house the control or operations of utilities (for example, water, power, and sewage disposal), and lifeline (for example, communication and transportation facilities) structures,
- (6) Buildings related to defense and space applications,
- (7) Buildings identified by Government of India, State Governments and UT Administrations to be of *Special Importance*, and
- (8) Any other building identified with the approval of DG, CPWD.

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Table:5 List of Standalone Normal Structures

Water Tanks and Water Sumps up to 50,000 liters, and Pump Rooms of area less than 20 m ²
Septic Tanks, Sewage Treatment Plants, and Effluent Treatment Plants up to 10,000 liters/day
Bridges and Culverts of spans up to 6 m
Earth Retaining Structures up to 4 m
Compound Walls, Entry Gates, and Small Reception Rooms
Storm Water Drains
Cable Trenches
Parking Structures of single storey
Security Cabins and Sentry Post
Any other structure identified with the approval of Technical Sanctioning Authority of CPWD

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Annexure-I(e)

Grounds for Removal/ Suspension/ Blacklisting/ Debarring of manufacturer from CPWD

1. The manufacturer may be removed/suspended/blacklisted/debarred, if any of the following is established:
 - i. If found to have given false particulars at the time of Application; or
 - ii. Has indulged in any type of forgery or falsification of records; or
 - iii. Changes in the ownership of the company without prior intimation to department.
 - iv. Declared or is in the process of being declared bankrupt, insolvent, wound up, dissolved or partitioned or
 - v. Violates the labour rules and regulations or
 - vi. Is involved in complaints of serious nature received from any source which have been proved; or
 - vii. Ceases to fulfil eligibility criteria based on which manufacturer's name was approved; or
 - viii. Is considered as not required to be in list of CPWD enlisted manufacturer for any other reason considered fit by the enlisting authority; or
 - ix. Received reports from field units of CPWD for supply of sub-standard quality of steel in more than one occasion; or
 - x. Has been removed/suspended/blacklisted/debarred/restrained from the business by any central /state government department/PSUs.

2. Whenever, any type of complaint mentioned above at serial number (i) to x), is received against a manufacturer. The manufacturer will be served with suitable show cause notice to give reply within a period of 15 days. After considering the reply/non-reply of the Show cause notice and other facts on records, further action will be taken as deemed fit. In case of Removal/ Suspension/ Blacklisting/ Debarring of the manufacturer, the minimum period will not be less than three years from the date of issue of the order. The re-application/application already under consideration for fresh enlistment of such manufacturer shall not be processed till the period of Removal/ Suspension/ Blacklisting/ Debarring is over. The manufacturer has to apply afresh for enlistment after period of Removal/ Suspension/ Blacklisting/ Debarring is over.

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Annexure-I (f)

Procedure for online payment of enlistment fee

1. Log on to home page of NTR portal on <https://bharatkosh.gov.in>.
2. Go to "Quick Payment" link on the home page.
3. Select the Ministry/Department "030-Housing and Urban Affairs" from the drop-down menu.
4. Select the purpose as "Enlistment fee from contractor" from the drop-down menu.
5. Click NEXT and Select the DDO as" 244189-AE(CASH),CSQ, NIRMAN BHAWAN, NEW DELHI" from the drop-down menu.
6. Enter the amount of enlistment fee(s) in the amount window.
7. Under Remarks write "enlistment fee for enlistment of steel manufacturer for the plants (i)...., (ii)...,(iii)...., ".
8. After filling all the mandatory fields in "Depositor's detail", click" Next".
9. Confirm the information entered in the preview and click the "Confirm" button.
10. After confirmation, the portal will open the Payment Gateway.
11. Make payment using the Payment Gateway and download the system generated electronic receipt.



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GENERAL TERMS AND CONDITIONS

1 The order of preference in case of any discrepancy may be read as the following:

- i) Nomenclature of items as per schedule of quantities.
- ii) Particular specification and special condition, if any.
- iii) CPWD specifications.
- iv) Architectural Drawings
- v) Indian standard specifications of B.I.S.
- vi) Sound Engineering Practice

A reference made to any Indian Standard specification in these documents, shall imply to the latest version of that standard. Including such revision/amendments as issued by the bureau of Indian standard upto 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.

2 Except for the items, for which particular specifications are given or where it is specifically mentioned otherwise in the description of items in the schedule of quantities the work shall generally be carried out in accordance with the “CPWD Specifications 2019 Vol. 1 and Vol. 2 (with upto date corrections slips). (Hereinafter to be referred to as CPWD specifications) and instructions of Engineer-in-Charge. Wherever CPWD specifications are silent the latest IS codes/specification shall be followed.

3 Unless otherwise provided in the Schedule of Quantities/Specifications, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the work and nothing extra shall be payable to him on account of the same. Extra payment for centering/shuttering, if required to be done for heights greater than 3.5 m shall however be admissible at the rates arrived at in accordance with clause 12 of the agreement, if not already specified.

4 The proposed building is a prestigious project and quality of work is 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 works, stone flooring, structural glazing, PVDF coating aluminium composite panel and other specialised flooring work, Wood work will specially require engagement of skilled workers having experience particularly in execution of such items.

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- 5 a) The contractor (s) shall inspect the site of work before tendering and acquaint himself with the site conditions and no claim on this account shall be entertained by the department.
- b) 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.
- 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 of site. However, no claim on the alleged inadequacy or incorrectness of the soil data shall be entertained.
- 7 The tenderer shall see the approaches to the site. In case any approach from main road is required by the contractor, the same shall be made good, improved and maintained by the contractor at his own cost. No payment shall be made on this account.
- 8 The contractor (s) shall give to the Municipality, Police and other authorities all necessary notices etc. that may be required by law and obtain all requisite Licenses for temporary obstructions, enclosures etc. and pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the adjoining property whether public or private and shall supply and maintain light and other illumination on for cautioning the public at night.
- 9 The contractor 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 dangers and incidents caused to existing / new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.
- 10 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
- 11 The contractor shall make his own arrangement for obtaining electric connection(s) if required and make necessary payments directly to the department concerned.
- 12 Other agencies doing works related with this project may also simultaneously execute their works and the contractor shall afford necessary facilities for the same. The contractor shall

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- leave such necessary holes, openings etc. for laying/burying in the work, pipes cables, conduits, clamps, boxes and hooks for fan clamps etc. as may be required for the other agencies. Nothing extra over the Agreement rates shall be paid for doing these.
- 13 Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on account of the same.
 - 14 The contractor shall fully comply with all legal orders and directions of the Public or local authorities or municipality and adhere by their rules and regulations and pay all fees and charges for which he may be liable in this regard. Nothing extra shall be paid/reimbursed for the same.
 - 15 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.
 - 16 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.
 - 17 It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
 - 18 The structural and architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless otherwise given in writing by the Engineer-in-charge.
 - 19 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.
 - 20 The entire royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingle sand etc. collected by him for execution of the work, directly to the Revenue authority or authorized agents of the State Government concerned or the Central Government, as the case may be.

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21 PROGRAMME CHART

- i) The contractor shall prepare an integrated programme 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 as indicated in the mile stones under clause 5 of the contract and submit the same for approval to the Engineer-in-Charge within ten days of the award of the contract.
- ii) The programmes chart should include the following:-
- Descriptive note explaining sequence of various activities.
 - Net work (PERT/CPM/BAR CHART)
 - Programme for procurement of materials by the contractor
 - Programme of procurement of machinery/equipment's having adequate capacity commensurate with the quantum of work to be done within the stipulated period by the contractor.
 - Programme for engagement of labourers (skilled /unskilled) in number.
- 22 If 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 within the stipulated time for completion.
- 23 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 his 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.
- 24 If the work is carried out in more than one shift or during night no claim on this accounts shall be entertained.
- 25 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.

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- 26 The contractor shall be responsible for the watch and ward/guard of the buildings, safety of all fittings and fixtures including sanitary and water supply 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.
- 27 The contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department.
- 28 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 for extra cement considered in consumption on this account.
- 29 The contractor shall take instructions from the Engineer-in-charge for stacking of materials. No excavated earth or building materials etc. shall be stacked/collected in areas where other buildings, roads, services, compound walls etc. are to be constructed.
- 30 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.
- 31 The contractor shall submit for the approval of Engineer-in-Charge names of specialized agencies of repute along with their technical capacity proposed to be engaged by him, who must have executed satisfactorily works of value as specified in mandatory conditions.
- 32 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 there of 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.
- 33 The contractor shall take all precautions to avoid accidents by, exhibiting caution boards day and night, speed limit boards, red flags, red light and providing necessary barriers and other measures required from time to time. The contractor shall be responsible for all damages and accidents due to negligence on his part.

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- 34 Other agencies will also simultaneously execute and install the works of electrification, air conditioning, lifts, fire-fighting etc. for this work and the contractor shall provide necessary facilities for the same. The contractor shall leave such recesses, holes openings etc. as may be required for the electric, air-conditioning and other related works (for which inserts, sleeves, brackets, conduits base pinion, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work & brick work, if required and nothing extra shall be payable on this account.
- 35 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 off 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.
- 36 All 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.
- 37 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. Articles bearing BIS certifications mark shall only be used unless no manufacturer has got BIS mark for the particular material. Any material/fitting whose sample has not been approved in advance and any other unapproved material brought by the contractor shall be immediately removed as soon as directed.
- 38 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.
- 39 On completion of work, the contractor 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:

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- a) Route of all piping and their diameters including soil waste pipes & vertical stacks.
- b) Ground and invert levels of all drainage pipes together with locations of all manholes and connections upto outfall.
- c) Route of all water supply lines with diameters, location of control valves, access panels etc.
- 40 The contractor shall provide 01 No. temporary site office accommodations of approximately 20.0 sqm. built-up area at location as specified by Employer, including but not limited to following-**
- (i) The site office accommodation shall be provided with all necessary furniture, fitted with all electrical items like light, fans, Air conditioners, all office utilities, and complete wiring, water supply, sewerage and drainage etc. along with services of one MTS (multi-tasking services) employee. The contractor shall provide the office accommodation within 01 (One) month from the date of commencement of work failing which the compensation @ Rs. 30,000/- per month shall be recovered from the contractor.
- (ii) The contractor shall arrange to maintain the site offices which includes watch and ward, day to day up keeping of the office and surroundings, periodic whitewashing/ color washing of the building including utilities, payment of telephone/electrical/water supply bills etc.
- (iii) The cost of construction, cost of all furniture, fittings/fixtures /electrical fittings etc. and cost of maintenance and the related service charges of the building, payment of telephone bills/electricity bills/water charges etc. (till completion of project) is deemed to be included in the quoted rates of work and nothing extra shall be payable. Six months after completion of work, the site office accommodation shall be dismantled and removed from the site after due approval of Engineer-in-Charge and nothing extra shall be paid to the agency on account of this. This site office accommodation shall be maintained properly till completion of work and no claim what so ever shall be entertained on the ground whether the delay in completion of work has been attributable to the Department or to the contractor.
- 41** No extra payment will be made for operation/activity mentioned at Sl. No. 1 to 40 above unless specifically mentioned otherwise.

42 Condition regarding secured advance :-

Secured advance shall be admissible only on those bonafide materials which are likely to be used in the work in a period not exceeding six months from the date of secured advance payment. If agency fails to use the material (in respect of which secured advance have been paid) in the work in this specified period of six month, the said component of secured advance shall be recovered from next running account bill paid to the agency. Secured advance on the same material shall not be paid again.

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PARTICULAR SPECIFICATION

1. EARTH WORK

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.

2. **RCC WORK**

The work shall be done as per CPWD specifications.

- 2.1 If the quantity of cement actually used in the work is found to be more than the theoretical quantity of cement including authorised 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 38) 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.
- 2.2 For non-scheduled items, the decision of the Superintending/Chief Engineer regarding theoretical quantity of the cement which should have been actually used shall be final and binding on the contractor.
- 2.3 Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-Charge.
- 2.4 In case the contractor brings surplus quantity of cement 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.
- 2.5 Cement register for the cement shall be maintained at site.
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.

PROFORMA FOR THE CEMENT REGISTER

PARTICULARS OF RECEIPT

Date of receipt	Quantity received	Progressive total	Date of issue	Quantity issued	Items of work for which issued
1	2	3	4	5	6

PARTICULARS OF ISSUE

Qty. returned at the end of the day	Total issued	Daily balance in hand	Contractor's initial	JE's initial	Remarks (AE/EE's periodical check)
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2.6 DESIGN MIX CONCRETE:

The contractor shall be required to submit two separate design mix of concrete with and without using plasticizers, separately. The decision of the engineer-in-charge to specify the design mix of concrete based on above shall be final.

2.6.1 Coarse aggregate: As per CPWD Specifications

2.6.2 Fine Aggregate: As per CPWD Specifications.

2.6.3 Water: It shall conform to requirements laid down in IS:456 : 2000 and CPWD specifications.

2.6.4 Cement: Cement arranged by the contractor will be PPC (in bags) conforming to IS: 1489-Part-I. If for any reasons, cement other than that specified in this para for example OPC of grade 43 or higher grade is brought to site by contractor, the issue, payments rate as well as the quantity to be used in the design mix concrete will remain unchanged.

2.6.5 Slump: Design slump should be clearly specified in the mix design.

2.6.6 Admixtures shall not be used without approval of Engineer-in-charge. Wherever required, admixtures of approved quality shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The contractor shall not be paid anything extra for admixture required for achieving desired workability without any change in specified water cement ratio for RCC/CC work.

2.6.7 The concrete mix design/laboratory tests with and without admixture shall be got done by contractor at his own cost and will be carried out by the contractor through one of the following laboratory/Test houses:

- (i) IIT- BHU, Roorkee
- (ii) IET- Lucknow
- (iii) HBTI- Kanpur
- (iv) MNNIT- Allahabad
- (v) KNIT- Sultanpur
- (vi) Approved Lab/Govt. Engineering Institutions as directed by the Engineer-in-charge.
- (vii) MMM Engineering College, Gorakhpur (UP)

The various ingredients for mix design / laboratory tests shall be sent to the test houses through the Engineer-in-Charge and the samples of such aggregate & cement shall be preserved at site by the department

2.6.8 The contractor shall submit the mix design report from any of above approved laboratory for approval of Engineer-in-Charge with in 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the mix design is approved by the Engineer-in-charge. In case of white cement and the likely use of admixtures in concrete with PPC/white cement the contractor shall design and test the concrete mix by using trial mixes with white cement and/or admixtures also for which nothing extra shall be payable.

2.6.9 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 report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-Charge.

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2.7 APPROVAL OF DESIGN MIX

The mix design for a specified grade of concrete shall be done for a target mean compressive strength $T_{ck} = F_{ck} + 1.65 s$.

Where F_{ck} = Characteristic compressive strength of 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 below:

Grade of Concrete	For “Good” quality of control
M 25	4.00
M 30	5.00
M 35	5.00
M 40	5.00

Of the six specimen 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

- 2.8 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the contractor.
- 2.9 The batching plant shall conform to IS:4925. It shall have the facilities of presetting the quantity to be weighed with automatic cutoff when the same is achieved. Concreting at places may have to be resorted to through concrete pump for which nothing extra shall be paid.
- 2.10 All other operations in concreting work like Mixing, Slump, Laying Placing of concrete, compaction curing etc. not mentioned in this particular specification for Design Mix of concrete shall be as per CPWD specification.

2.11 WORK STRENGTH TEST

TEST SPECIMEN

Work strength test shall be conducted in accordance with IS: 456 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 SAMPLE

The test result 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 more, the test results of the sample are invalid. 90% of the total test shall be done at the laboratory established at site by contractor and remaining 10% in the laboratory of CPWD 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 according to the following:-

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Quantity of concrete in the work cubic metre per day	Number of samples.
1-10	1
11-30	2
31-60	3
61-100	4
101 & above	4 + one additional sample for additional 50 cubic metre or part thereof.

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

2.12 STANDARDS OF ACCEPTANCE- As per CPWD specifications/IS 456 Code

2.13 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 contractors. However the Engineer-in-Charge may order for additional test (like cutting cores, ultrasonic pulse velocity test, load tests on structure or 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.

2.14 Only MS centering/shuttering and scaffolding material unless & otherwise specified shall be used for all RCC. 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 on approval by the Engineer-in-Charge.

2.15 Necessary arrangements shall be made for field tests and all required equipment's shall be arrange by establishing field lab by the Agency for mandatory tests of the materials as specified in CPWD specifications or as per direction of Engineer-in-Charge. No extra payment shall be paid on this account.

3. READY MIX CONCRETE (RMC)/BATCH MIX CONCRETE FROM RMC PRODUCER

The contractor shall arrange Ready Mix Concrete (RMC) from the approved RMC producing plants as given in the list of preferred make.

The contractor shall, within a period of 15 days of award of the work, submit text of MOU proposed to be entered between purchaser (the contractor) and supplier (RMC producer) to the Engineer-in-Charge for his approval. The contractor shall draw the MOU with approved RMC producer and submit to the Engineer-in-Charge within a week of such approval. The contractor will not be allowed to use ready mix concrete without completion of above stated formalities.

Notwithstanding the approval granted by the Engineer-in-Charge in aforesaid manner

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or provisions in CPWD Specifications 2019, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.

The Engineer-in-Charge will reserve right to inspect at any stage and reject the concrete if he is not satisfied about quality of product at the user's end.

The Engineer-in-Charge reserves the right to exercise control over the:-

- (i) Ingredients, water and admixtures purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials, recording of test result and declaring the materials fit or unfit for use in production of mix.
- (ii) Calibration check of the RMC plant.
- (iii) Weight and quantity check on the ingredients, water and admixture added for batch mixing.
- (iv) Time of mixing of concrete.
- (v) Testing of fresh concrete, recording of results and declaring the mix fit or unfit for use. This will include continuous control on the workability during production and taking corrective action, if required.
- (vi) For exercising such control, the Engineer-in-Charge shall periodically depute his authorized representative at the RMC plant. It shall be responsibility of the contractor to ensure that all necessary equipment, manpower & facilities are made available to the Engineer-in-Charge and/or his authorized representative at RMC plant.
- (vii) The contractor shall arrange for sending an SMS on the mobile No. of authorised representative of Engineer-in-Charge as soon as the RMC is despatched from the plant, giving details such as time of despatched, grade of concrete, tipper registration number etc.

The contractor should therefore draw MOU/agreement with RMC producer very carefully keeping in view all terms and conditions/specifications forming part of this document.

All required relevant records of RMC shall be made available to the Engineer-in-Charge or his authorized representative. The Engineer-in-Charge shall as required, specify guidelines & additional procedures for quality control & other parameters in respect of materials, production & transportation of concrete mix which shall be binding on the contractor & the RMC plant. Only concrete as approved in design mix by the Engineer-in-Charge shall be produced in RMC plant and transported to the site.

3.1 QUALITY CONTROL OF READY MIXED CONCRETE

It shall be the responsibility of the contractor to ensure that RMC producer provides all necessary testing equipments and takes all necessary measures to ensure quality control of ready mixed concrete. In general the required measures shall be:-

(i) Control of purchased material quality

RMC producer shall ensure that all the materials purchased and used in the production of concrete conform to the stipulation of the relevant standards and the requirements of the concrete mix design and quality control procedures. This shall be accomplished by visual checks, sampling and testing, certification from material supplier and

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information/date from materials supplier. Necessary equipment for the testing of all materials shall be provided and maintained in calibrated condition at the plant by the RMC producer.

(ii) Control of material storage

Adequate and effective storage arrangement shall be provided by RMC producer at RMC plant for reliable transfer and feed systems, drainage of aggregate, prevention of freezing or excessive solar heating of aggregate, prevention from contamination etc.

(iii) Record of mix design and mix design modification

RMC producer shall ensure that record of mix design and mix design modification is readily available in his computer at RMC plant for inspection of Engineer-in-Charge or his authorized representative at any time. Any modification in mix design shall be done only after the approval of the Engineer-in-Charge.

(iv) Transfer and weighing equipment

RMC producer shall ensure that a documented calibration procedure is in place. Proper calibration records shall be made available indicating date of next calibration due & corrective action taken. RMC producer shall ensure additional calibration checks whenever required by the Engineer-in-Charge in writing to contractor. RMC producer shall also maintain a daily production record including details of customers to whom RMC was supplied including details of mixes supplied. Record shall also be maintained of materials used for each day's production including water and admixtures.

The accuracy of measuring equipment shall be within + 2% of quantity of cement & + 3% of quantity of aggregate, admixture and water being measured.

(v) Maintenance of Plant, Truck Mixers and Pumps

Plant, Truck Mixers and Pumps should be well maintained so as to not hamper any operation of production, transportation and placement of concrete.

(vi) Production of concrete at RMC producing plant

- (a) Weighing (correct reading of batch date and accurate weighing):-For each load, printed or graphical records shall be made of the weights of the materials batched, the estimated slumps, the total amount of water added to the load, the delivery ticket numbers for that load and the time of loading the concrete into the truck.
- (b) Adequate testing equipments at the plant including equipment for measuring surface moisture content of aggregates shall be provided by the RMC producer.
- (c) Making corresponding adjustments at the plant automatically to batched quantities to allow for observed measured or reported changes in materials or concrete qualities.
- (d) Sampling of concrete, testing, monitoring of results.
- (e) Diagnosis and correction of faults identified from observation/complaints.
- (f) Control of designed and the prescribed mixes: a quality control system shall be operated to control the strength of designed mixes to the required levels. The system shall include continuous analysis of results from cube tests.
- (vii) Ready mix concrete shall be arranged in quantity as required at site of work. The ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-Charge. Noting extra shall be payable on this account.
- (viii) The Engineer-in-Charge reserves the right to approve RMC producing plants not mentioned in the list of approved RMC plants if they fulfil all the necessary

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conditions.

- (ix) In case of rejection of concrete for which cubes have failed to achieve the requirement of acceptance criteria as per the CPWD specification, the work done using that RMC shall be rejected and the work shall be redone at the cost of the contractor, however, the Engineer-in-Charge may order for additional tests (like ultrasonic pulse velocity and rebound hammer test 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 result and reduced rates shall be regulated in accordance with para 5.4.10.5 D (D-3) of CPWD Specifications 2019.

Laying of RMC concrete-All ready mixed designed concrete shall be laid with the help of concrete pump of adequate capacity.

3.2 Transportation, placing and Compaction of Concrete

Mixed concrete from the RMC 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 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 for the agitator shall neither be less than 2 rev/min nor more than 6rev/min of the drum. The numbers of revolution 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.

4 PRE-CAST RCC WORK

- 4.1 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.
- 4.2 Pre-cast units shall be clearly marked to indicate the top of member and its locations.
- 4.3 Pre-cast units shall be stored, transported and placed in position in such a manner that these are not damaged.

5 SANITARY INSTALLATIONS, WATER SUPPLY AND DRAINAGE

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.

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.

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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.

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.

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.

The work in general shall be carried out as per CPWD specifications. Rate includes all materials, labour and all the operations mentioned in the respective items unless and otherwise specifically mentioned.

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.

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.

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.

6. **WATER PROOFING TREATMENT**

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. A Noterized Guarantee Bond on stamp paper of Rs. 100/- should be submitted in the prescribed proforma attached with tender document shall be given by the specialized firm, for a period of 10 years from the date after the maintenance period prescribed in the contract, which shall be counter signed by the contractor as token of overall responsibility. In addition 10% (ten percent) of the cost of water proofing items shall be retained as guarantee to watch the performance of the work done. However half of this retained amount will be released after five years, if the performance of the work done is found satisfactory. If however any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of intimation. In case it is not attended to, the same will be got done by another agency at the risk and cost of the contractor. This guarantee deposit can however be released in full if a bank guarantee of equivalent amount for 10 years is produced and deposited with the department by the contractor.

7. **Water Supply & Sanitary Installation:**

A Notarized Guarantee Bond on stamp paper of Rs. 100/- should be submitted by the contractor in the prescribed proforma attached with tender document for performance of water supply & sanitary installation work. In addition 5% (Five percent) of the cost of water supply & sanitary installation items shall be retained as guarantee to watch the performance of the work done. Which shall be released after 02 (Two) year to be reckoned from the date after the expiry of maintenance period prescribed in the contract, if the performance of the work done is found satisfactory.

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CONDITIONS FOR ROAD WORK / BITUMINOUS WORK

1.0 GENERAL

- 1.0 The work, in general shall be executed as per the description of item, drawings, particular specifications & special conditions attached, MORT&H specifications for road and bridge works (Fourth revision) 2001, **CPWD Specifications 2019 Vol. I & II** with upto date correction slips, relevant IRC codes and IS specifications with correction slips issued upto the date of receipt of tender.
- 1.1 In case of discrepancy between the schedule of quantities, the specifications and/or the drawings; the following order of precedence will be followed: -
- Description of item in Schedule of Quantities
 - Particular specifications and special conditions.
 - Drawings.
 - MORTH specifications for road and bridge works (Fourth revision) 2001 with correction slips issued upto the date of receipt of tender.
 - IRC/ASTM Specifications.
 - CPWD Specifications 2019 Vol. I & II** with upto date correction slips issued upto the date of receipt of tender.
 - Indian Standard Specifications of B.I.S.
- 1.2 (a) The contractor shall, at his own cost, construct, equip and establish a testing laboratory at site with necessary apparatus, instruments and equipments such as weighing scale, graduated cylinder, standard sieves, thermometer, Slump Cones etc. and engage the experienced technical staff for conducting day to day tests and to ensure that material conforming to prescribed standard only are used in the work. The Engineer-in-Charge reserves right to conduct field tests to ensure that the quality is consistent with the prescribed specifications. If any material of end product is found defective or substandard, the same will have to be replaced/redone at the cost of contractor.
- (b) The contractor shall establish a material testing laboratory at site of work at his own cost for carrying out mandatory tests for materials and finished road works as per section 900 "Quality Control for Road Works" of MORT&H Specifications. For these tests as well as for the tests which are got conducted from the out side authorised testing laboratories, the contractor shall have to bear all the cost like testing fees and cartage/transportation etc. including cost of sample. The contractor's quoted rates shall be inclusive of all such cost and nothing extra will be payable on this account.
- 1.3 The necessary tests shall be conducted in the laboratory of CPWD, CRRI or IIT Delhi/IIT Kanpur or any other laboratory approved by the Engineer-in- charge.
- 1.4 The contractor or his authorised representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorised representative is not present or does not associate himself, the result of such tests and consequences there upon shall be binding on the contractor.
- 1.5 The work shall be executed mechanically unless otherwise directed by Engineer-in-Charge. Following major machinery is to be arranged by the contractor : -
- Hot Mix Plant fitted with Drum Type Hot Mix Plant equipped with computerised control for grading of aggregates, bitumen content, temperature control etc. at the point of manufacturing. **(Computerized batch slip is mandatory).**
 - Mechanical Paver finisher fitted with electronic sensing device.
 - Vibratory Road Roller.
 - Mechanical cleaner using compressed air.
 - Fully / semi – automatic thermoplastic paint applicator machine.

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- 1.6 All dismantled unserviceable material unless otherwise stated shall be the property and liability of the contractor who will take it away from the site of work and nothing will be paid on this account. The decision regarding unserviceability of material will rest with Engineer-in-Charge.

2.0 BITUMINOUS WORK

- 2.1 Tack Coat:- The work shall be done strictly in accordance with clause 503 and subclauses thereto of MORTH specifications for Roads & Bridge work (Fourth Revision), 2001. The tack coat will be applied by the bitumen distributor assembly capable of applying even and uniform tack coat of specified quantity.

- 2.1.1 The hot straight run bitumen for tack coat on road shall be conforming to IS:8887-1995. The hot straight run bitumen of approved grade shall be brought at site in one lot in sealed drums and shall be got verified and checked by the representative of Engineer-in-Charge before its use.

- 2.1.2 Cleaning and Preparation of the Surface

The surface on which the tack coat is to be applied shall be clean and free from dust, dirt, and any extra-neous material, and be otherwise prepared in accordance with the requirements of clauses 501.8 and 902 of MORTH Specifications(4th Revision)2001 as appropriate. Immediately before the application of the tack coat, the surface shall be swept clean with a mechanical broom, and high pressure jet, or by other means as directed by the Engineer-in-Charge.

2.2 DENSE BITUMINOUS CONCRETE

The work shall consist of constructing a single layer of specified compacted thickness of dense bituminous concrete consisting of crushed stone aggregate mixed with bituminous binder to serve as wearing course laid immediately after mixing, on a previously prepared base in accordance with the requirements of specifications as laid down in clause 509 & 521 and sub-clauses thereto of MORTH specifications for Road & Bridges work (Fourth Revision) 2001.

2.2.1 MATERIAL

2.2.1.1 BITUMEN

Bitumen shall conform to grade and quality as specified in nomenclature of item.

2.2.1.2 AGGREGATE

Aggregates shall consist of crushed stone aggregate conforming to grading & specifications as laid down in sub-clause 509.2.2 to 509.2.5 of MORT&H specifications for Road & Bridge work (4th Revision) 2001. No natural aggregate or sand shall be allowed.

2.2.1.3 FILLER

Filler shall consist of hydrated lime of grade & specifications conforming to clause 509.2.4 of MORT&H specifications for Road & Bridge work (4th Revision) 2001.

2.2.1.4 COMPACTION

The degree of compaction for various bitumen layers shall be established taking CORE from the laid bituminous layer. The bill of the contractor shall be paid only if the same qualifies as per specifications / requirements. Sand replacement method for verifying fine degree of compaction of laid bitumen layers will be not allowed.

2.2.1.5 RATE

The contract unit rate for Dense Bituminous Concrete using bitumen of required grade, shall be the payment in full for carrying out all the required operations including full compensation for all components listed in clause 501.8.8.2 (i) to (xi) of MORT&H specifications for Road & Bridge work (4th Revision) 2001. The rate shall cover the provision of bitumen in mix design @ **5.5 percent** of weight of total mix with provision that variation of quantity on minus side shall be recovered @ **Rs. 55,500/- per tonne** of modified bitumen, less used as per JOB MIX FORMULA. However, no extra payment would be admissible for use of extra bitumen if the variation is on higher side i.e. beyond **5.5 percent** of weight of total mix.

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2.3 BITUMINOUS MACADAM

The work shall consist of construction, in single course, of compacted crushed stone aggregates mixed with bituminous binder, to serve as base/binder course, laid immediately after mixing, on a previously prepared base in accordance with the requirement as per the specification as laid down in clause 504 and sub-clause thereto of MORT & H Specifications For Road & Bridge works 2001 (Fourth Revision) and as directed by Engineer-in-charge.

2.3.1 MATERIAL**2.3.1.1 BITUMEN**

Bitumen shall conform to grade and quality as specified in nomenclature of the item.

2.3.1.2 AGGREGATE

Aggregate shall consist of crushed stone aggregate conforming to grading & specifications as laid down in paras 504.2.2 to 504.2.4 of MORT & H Specifications 2001. No natural aggregate or sand shall be allowed.

2.3.1.3 RATE

The contract unit rate for the Bituminous Macadam shall be payment in full for carrying out all the required operations including full compensation for all components listed in clause 504.8 (i) to (vi) of MORT & H Specifications 2001. The rate shall cover the provision of bitumen in the mix design @ **5.5%** of weight of total mix with provision that variation of quantity on minus side shall be recovered @ **Rs. 55,500/- per tonne** of bitumen. However, no extra payment would be admissible for use of bitumen if the variation is on higher side i.e. beyond **5.5%** of weight of total mix.

2.4 JOB MIX FORMULA

The job mix formula of the ready mix plant will be accepted, if it has been done by a reputed test lab. The trial mix will be conducted by the agency in the presence of site staff. Decision of Engineer-in-charge shall be final and binding. Nothing shall be paid on this account.

2.5 Guarantee Bond:

The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-charge in writing, for **Bituminous work**. Guarantee in the prescribed proforma attached with tender document shall be given by the specialized firm, for a period of **05 years** from the date after the maintenance period prescribed in the contract, which shall be counter signed by the contractor as token of overall responsibility. In addition **10% (ten percent)** of the cost of **Bituminous** items shall be retained as guarantee to watch the performance of the work done. However half of this retained amount will be released after five years, if the performance of the work done is found satisfactory. If however any defect is noticed during the guarantee period, it shall be rectified by the contractor within seven days of intimation. In case it is not attended to, the same will be got done by another agency at the risk and cost of the contractor. This guarantee deposit can however be released in full if a bank guarantee of equivalent amount for **05 years** is produced and deposited with the department by the contractor.

2.6 Bitumastic sheet carpeting work should be done by Paver machine. Nothing extra shall be paid on this account.

2.7 No malba/garbage is allowed during execution and after completion of work.

2.8 Approval of hot mix plant shall be made before execution of work at site.

Suitable penalty shall be imposed by Engineer-in-charge for not following above conditions.

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**LIST OF MACHINERY, TOOLS & PLANTS TO BE DEPLOYED BY THE CONTRACTOR AT
SITE AS & WHEN REQUIRED**

Sl. No.	Name of Equipment	Numbers
1	Excavators (various sizes)	As per requirement of work and direction of Engineer-in-Charge.
	Equipment for hoisting & lifting	
1	Tower Crane	
	Equipment for Concrete work	
1	Fully-Automatic batching plant capacity of 20 cum per hours or as per direction of Engineer-in-Charge	
2	Concrete pump (Desirable)	
3	Concrete Transit Mixer	
4	Concrete mixer (diesel)	
5	Concrete mixer (electrical)	
6	Needle vibrator (electrical)	
7	Needle vibrator (petrol)	
8	Surface vibrator	
	Equipment for Building work	
1	Bar bending Machine	
2	Bar cutting machine	
3	Drilling machine	
4	Wall grooving machine for chase cutting	
5	Welding machine i/c transformer	
6	Rig machine	
7	Cube testing machines	
8	M.S. pipes	
9	Steel shuttering	
10	Steel scaffolding	
11	Grinding/polishing machines	
	Equipment for transportation	
1	Tippers	
2	Trucks	
	Pneumatic equipment	
1	Air compressors (diesel)	
	Dewatering equipment	
1	Pump (diesel)	
2	Pump (electric) (Desirable)	
	Power equipment	
1	Diesel Generator (minimum 200 KVA)	

- Note: 1.** The above list is only indicative and not exhaustive. The Bidder may be required to deploy more T&P as per requirement of work.
- 2.** All the above plants & equipments are to be deployed as and when required or directed by Engineer-in-Charge.

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LIST OF PREFERRED MAKES FOR CIVIL WORKS

Approved makes of materials to be used in the work are as under. In case of non-availability of these makes, the Engineer-in-charge may allow use of alternative BIS makes of materials in the work. Non BIS marked materials may be permitted by the Engineer-in-charge.

Sl. No.	Material description	Proposed make list
1	Acoustic Wall Paneling	
	i) Wooden Slats Panels	Armstrong, Gyptech, Anutone, BSR Calsi Ceilings, Bollard, Tranquil
	ii) Puffed Fabric Finish Panel	Armstrong, Gyptech, Anutone, Bollard, Tranquil
2	Aluminium section	Hindalco, Jindal, Indian Aluminium Co.
3	Aluminium shuttering	Knest, S-form, Durand forms (India) Pvt. Ltd, Mivan, Pabors
4	Aluminium Composite Panel 4 mm thick 'B1' Fire rated (external grade)	Viva, Alstone, Eurobond, Wonder Alu Board, Alutuff, Alex, Aldeko
5	Anodized aluminium hardware	Alualpha, Global, Classic, Ebco
6	AAC Block	MAX Blocks, Biltech ACE, UltraTech, Garvit, HIL
7	Adhesive -AAC block Adhesive	UltraTech, Ferrous Crete, Aneeb, JK Cement, Saint Gobain Weber, Ardex Endura, VURA, Berger, Astral
8	Adhesive -Tile Adhesive Grouts	STP Ltd, Kajaria, BASF, Don Building Chemicals (India) Pvt. Ltd., Ardex Endura, Aneeb, JK White, Don Construction Chemicals India Pvt. Ltd., JK Cement, Vura, Berger, Astral, Trimurti
9	CPVC Pipe & fitting	Astral, Superme, Raksha, Ashirwad, Prayag Polymers, Birla HIL, AKG, Kothari, Sparsh Pearl, Vigor
10	Cement (PPC/OPC)	ACC, Ultratech, Shree Cement, JK Cement, Century Cement, Prism Cement, Ambuja
11	Cement (White)	Birla White, JK White or equivalent
12	Centrifugally Cast (Spun) Iron Pipes & Fittings /Hubless pipes & fittings	NECO, Kapilansh, RPMF, SKF, RIF
13	a) CP brass bath fittings (Standard)	Jaquar (Essco), CERA, Johnson, Parryware, Euronics, Polyplast, Asian Paints (EssEss), Kerovit (Kajaria), Essel, RAK, Hindware Limited (Italian), Somany, Prayag, Astral, Sparsh Pearl
	b) CP brass bath fittings (Premium)	Jaquar, Grohe, Kholer, Essel, Roka. Hindware Limited (Queo), Asian Paints (Bathsense), Sparsh Pearl
14	DGU Glass	Gold Plus, Olumpus Toughened, Shankar Fenestration Glasses
15	Distemper- 1st quality acrylic distemper (washable/ ready mix / Low VOC)	Asian Paints (Tractor Aqua Lock Paint), Berger: Bison lite ICI-Dulux, JK MaxX (Jumbo)], Birla Opus Prime (D-20)
16	Dash fasteners / Clamps/ Anchors	Hilti, Bosch, AFT, Fischer, Wuerth
17	DI Pipes & fittings	Jindal, Electro steel, Tata Ductura, Kapilansh
18	Elastomeric Liquid W.P. membrane with acrylic polymer	Tikidan (Tiki Aquoseal ARR), Pidilite, MYK Arment, Berger, Astral, Technonicol
19	Extruded polystyrene insulation board	Dowcorning, Supreme, Analco, Tikidan (DANOPREN Range), Technonicol
20	False Ceiling System	
	i) GI Sections for frame work of Gypsum/ Calcium Silicate board	Saint Gobain, Hi-Steel, USG Boral, Western, BSR Calsi Ceilings

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	ii) T-grid of GI powder coated for Mineral / perforated Gypsum / Calcium Silicate / Metal/ Glass tiles /GRG ceiling	Saint Gobain, Hi-Steel, USG Boral, Armstrong, Bollard, Royal Kraft, BSR Calsi Ceilings
21	False Ceiling Tiles	
	i) Perforated GRG tiles	Saint Gobain, USG Boral, Armstrong, Gyptech, Anutone , BSR Calsi Ceilings
	ii) Mineral Fiber tiles	Saint Gobain, Hi-Steel, USG Boral, Armstrong, Anutone
	iii) Glass Fiber Reinforced Gypsum tiles	Saint Gobain, Anutone, BSR Calsi Ceilings
	iv) Metal tiles	Saint Gobain, Hi-Steel, USG Boral, Armstrong, Gyptech, Bollard, Royal Kraft, BSR Calsi Ceilings, Tranquil
	v) Calcium silicate tiles	Aerolite, Ramco Hilux or equivalent
22	Fire rated doors	Signum fire protection, Shakti Metdoor, Navair, Promat, Bhawani Fire, Asahi, Supreme Metwood
23	Fire rated stainless steel fittings	Geze, Dorma, Ozone, Dorset, KICH & KICH PR
24	Fire rated glass	AIS, Hero Fire S, Schott, Sanit Gobain, Asahi
25	Floor hardener	Ironite, Perma, STP Ltd., MYK Arment, Berger, Astral
26	Floor spring & door closer	Godrej, Dorset, Ozone, Dormakaba, Geze, KICH & KICH PR
27	Flooring (Epoxy, PU Flooring, Anti-Static, Terrazzo, Car Park Deck, Self-levelling compound)	Beger or equivalent.
28	Flush door shutters	Century, Durian, Green Ply, Jayna (Jain wood Industries), Airolam, Archidply, Black Cobra
29	FRP doors shutters & frame	Jayna, Fiberways, Jain doors Pvt. Ltd.
30	FRP Drain cover & frame	Dudhi, NECO, Fibreways or equivalent
31	FRP Chajja	Fibreways or equivalent
32	FRP Manhole Covers	Fibreways or equivalent
33	GI Sections for Dry Wall Cladding / Partition	Western or equivalent
34	Gypsum plaster	Ferrous Crete, Dudhi, Aneeb, Gyproc Saint Gobain, Ultra Tech, JK Cement 'Gypso MaxX', Western, Aneeb, Trimurti
35	Glass (Clear/ Float/ Frosted/ Refractive Glass/ Tinted/ Lacquered)	Saint Gobain, AIS, Modiguard, Gold Plus, Shankar Fenestration Glasses,
36	Glass -Mirror glass	Atul, Modi Guard, Golden Fish, Gold Plus
37	Glass Wool	Dow Corning, UP Twiga, Isover
38	Hand dryer	Euronics or equivalent
39	HDPE Pipes	Reliance, Jain Pipes, Raksha, Supreme, Kothari, Prayag, Astral
40	HDPE /PVC Membranes for water Proofing	Asian Paints, Berger, Pidilite, MYK Arment, Technicol
41	HDHMR Board	Black Cobra or equivalent
42	Hessain Based Bituminous Felt	MAK Felt 46 Kg, STP Ltd. or equivalent
43	Laminates	Action TESA, Greenlam, Century Ply, Airolam, Archidply, Durian, Black Cobra
44	Laminated Glass	Gold Plus, Olumpus Toughened, Shankar Fenestration Glasses
45	Matting's (Trapper, carpet, Aluminium Dust – Buster)	Euronics or equivalent
46	MS Tubular windows	Navair, Sukriti, Jangid Engineering Works
47	Melamine polish	Asian Paints melamine gold, Wudfin of Pidilite, Timbertone of ICI Dulux. Birla Opus Allwood

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48	Manhole covers – (CI Manhole covers, frames and Gratings)	NECO, SKF, RPMF, Kapilansh, Astral, Fibreways
49	Manhole covers – (SFRC Manhole covers, frames and Gratings)	KK, JAIN, Pargati
50	Modular Kitchen	Godrej, Evok by Hindware, Glanz
51	Modular Expansion Joint	Herculus, MNR, Sanfield India Ltd, DECG (FRANO), Vexcolt, Pinnacle Solutions, V.R. Engineer
52	Pressed Steel door frames	Navair, Sukriti, Jangid Engineering Works
53	Plywood / Veneer	Greenply, Durian, Century, Airolam, Archidply, Black Cobra
54	Multicell Polycarbonate Sheet	GE Plastic, LEXAN, MG Polyplast, Danpal, Fibreways
55	Profile steel sheet	Ezydeck of TATA, Lloyd Superdeck, JSW, Jindal, Fibreways
56	Particle board	Action TESA, Merino, Archidply, Greenlam
57	Paver block & Kerb stone	Pavcon, Mayur, KK, Power, Navya
58	Paint -Acrylic emulsion	Asian Paints: (Premium Interior Emulsion Paint), Nerolac: Beauty Gold, Berger: Rangoli Total Care, ICI Dulux: Super Cover, JK MaxX (Trendz), Birla Opus Prime (I-50/Calista Everclear), JSW Paints (Profect/Pixa Elegant Interior)
59	Paint-Premium acrylic	Asian Paints: (Royale Luxury Emulsion), Nerolac: Impression, Berger: Silk, ICI Dulux: Velvet Touch, JK MaxX (Majesta), Birla Opus Prime (One Pure Elegance), JSW Paints (Halo Majestic Emulsion)
60	Paint-Plastic emulsion	Asian Paints (Apolite), Nerolac: Impression, Berger (easy clean), ICI Dulux 3in 1, Birla Opus Prime (I-50/Calista Everclear), JSW Paints (Profect/Aurus Regal Interior)
61	Paint -Textured Exterior Paint	Luxture, Asian Paints, Nerolac, Berger Paints, JK MaxX Paints, Birla Opus Prime, UTTPL, JSW Paints Textured
62	Paint -Acrylic smooth exterior paint	Asian Paints: (Apex), Nerolac: Excel Super, Berger: Weather Coat, ICI Dulux: Weather Shield, JK Armour, Birla Opus Prime (E-30/E-50/ Calista Neo Star), JSW Paints (Profect/Aurus Regal Exterior)
63	Paint -Premium acrylic smooth exterior paint with silicon additive	Asian Paints: Apex Ultima, Nerolac: Excel Total Super, Berger: Long life7, ICI Dulux : Weather Shield Max, JK MaxX (Maximo), Birla Opus Prime (E-70/One True Look), JSW Paints (Profect/Halo Majestic Ext)
64	Paint -Synthetic Enamel Paint	Asian Paints: Apolite Premium Gloss Enamel, Nerolac: Synthetic Hi gloss, Berger: Luxol Hi gloss, ICI Dulux: Gloss Synthtic enamel, JK MaxX (JK Enamlo), Birla Opus Prime (N-52/N-53/ Sparkle Gloss/ Style Cover Max), JSW Paints (Profect Hi Gloss)
65	Primer-Cement Primer	Nerolac, Berger (BP white), Asian (Decoprime WT), ICI (White primer), JK MaxX (JK Primera), Birla Opus Prime (I-10/Calista Pro Hide), JSW Paints (Profect Classic Eco)
66	Primer -Steel primer (Red Oxide Zinc Chromate Primer)	Asian Paints, Nerolac, Berger, ICI, JK MaxX, Birla Opus – (Red Oxide Primer / CMP RO Primer/ SGE RO Primer), JSW Paints
67	Primer -Wood primer	Asian Paints, Nerolac, Berger, ICI, JK MaxX, Birla Opus, JSW Paints
68	Paint- Epoxy paint	Asian Paints, Nerolac, Berger, ICI, JK MaxX, Birla Opus
69	Paint- Fire retardant paint	Asian Paints, Akzo Nobel, Wuerth Promat, JK MaxX, Birla Opus
70	PVC Water Tank	Syntex, JS Polyplast, Prayag, Astral, Vectus
71	PVC/WPC Jali	Black Cobra or equivalent
72	PVC Flushing Cistern	Sparsh Pearl or equivalent
73	PVC Seat Cover	Sparsh Pearl or equivalent
74	PTMT fittings	Shakti, Polyplast, Prima, Raksha, Prayag Polymer, Vectus, Sparsh

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75	Pipe-GI/MS Pipe	Tata, Jindal (Hisar), Prakash Surya
76	Pipe Fittings -GI	Unik, AVR, Zoloto
77	PVC door shutter and frame	Rajshri, Sintex, Jain Door Pvt. Ltd., Black Cobra
78	Polyurea coating for Water Proofing	Asian Paints, Berger, Pidilite, MYK Arment, Technonicol
79	Polyurethane over deck insulation foam	Berger, Technonicol or equivalent
80	Puf Sandwich Panel	Fibreways or equivalent
81	Ready Mix Concrete (RMC Plant)	RMC India, Ultratech Concrete, ACC Ready Mix, AVR M India Pvt. Ltd., J.P. Group
82	Reinforcement- (Steel TMT bars)	SAIL, Tata Steel, Rashtriya Ispat Nigam Ltd. (RINL), JSW Steel Ltd, Jindal Steel & Power Ltd
83	Stainless steel railing, Accessories etc.	Jindal, Dormakaba, Ozone, Godrej, Hardwyn, KICH & KICH PR
84	SS fittings for doors & window	Jindal, Dormakaba, Global, Dorset, Godrej, Ozone, Geze, Prayag, KICH & KICH PR
85	Sealant – (Silicon based water repellant / weather sealant)	Dow Corning, Waker, BASF, Pidilite (Dr. Fixit / Roff). STP Ltd., Makphalt, Tikidan (Tiki Siliseal / Tikiseal PU Range), MYK Arment, Berger
86	Sealant (Poly-Sulphide)	Fosroc, Pidilite (Dr. Fixit/Roff), CAC, BASF, Sika, Makphalt, Tikidan (Tiki Polyseal Range), MYK Arment, Berger
87	SW Pipes (BIS approved)	Anand, Parry, Perfect
88	a) Sanitary ware, fittings & accessories (Standard)	Jaquar (Essco), CERA, Johnson. Parryware, Euronics, Asian Paints (EssEss), Kerovit (Kajaria), Essel, RAK, Hindware Limited (Italian), Somany
	b) Sanitary ware, fittings & accessories (Premium)	Jaquar, Grohe, Kholer, Essel, Roka. Hindware Limited (Queo), Asian Paints (Bathsense),
89	Soap & Paper dispenser	Euronics, Jaquar, Essel, Kholer, KICH & KICH PR, Sparsh Pearl
90	Stainless steel Grab Bars & Rails	Euronics, Jaquar, Essel, Dormakaba, KICH & KICH PR
91	Stainless Steel grating	Neer, Asian Paint, Essel, Euronics, Sparsh Pearl
92	Stainless steel sink	Neelkanth, Niralli, Essel, Jayna, Plato, Prima, Prayag
93	SCI S&S Pipes & fittings	RIF or equivalent
94	Tiles- Mosaic tiles/ Chequered Tiles	Ultra Tiles, Nitco, Pavcon
95	Tiles- Glazed Ceramic	Kajaria, Johnson, Somany, RAK, Nitco, Aparna Vitero, Italica, AGL
96	Tiles- Vitrified Tiles (Antiskid / Matt / Glazed)	Kajaria, Johnson, Somany, RAK, Nitco, Aparna Vitero, Italica, AGL
97	Tile Grouts	Aneeb, MYK Arment or equivalent
98	Toilet Cubicles	Merino (Titan Series), Greenlam (Sturdo Classic) or equivalent
99	Toughened Glass	Gold Plus, Olumpus Toughened, Shankar Fenestration Glasses
100	uPVC door/ window / ventilator	Fenesta, Veka, Duroplast, Aluplast, Prominace, Koemmerling, AdvikaFenster, Okotech [IS:17953:2023], Eumax [IS 17953:2023], Yashpoly (IS 17953:2023), Pabros, Rajshri, Simta Astrix
101	uPVC doors and window hardware	Roto, Dorset, GEZE
102	uPVC pipe and fittings	Astral, Supreme, Raksha, Ashirwad, Prayag Polymers, Birla HIL, AKG, Kothari, Sparsh Pearl, Vigor
103	Water proofing compounds, (admixtures, plasticizer, super plasticizer, curing compounds)	Fosroc, ROFF/Dr. Aneeb, Fixit (Pidilite Industries), CAC, Perma, Sika, BASF, STP Ltd., Tikidan (Danomix Range), Birla Opus Prime, Penetron, MYK Arment, Berger, Technonicol
104	Water proofing compound (Integral) (with cement for plaster	Fosroc: Conplast 421, CAC, Aneeb, Perma, Dr. Fixit : LW+, Sika: Sikacim, STP Ltd., Tikidan (Danomix LW Range), Birla Opus

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	& mortar)	Prime, Penetron, MYK Arment, Berger, Technonicol
105	Water proofing compound (for bathroom/ toilet /balcony & other wet areas)	Fosroc: Bush Bond, Aneeb, Dr. Fixit : Pidifine 2K, Asian Paints: Damp Block 2K, Perma, CICO: Tapecrete, STP Ltd., Tikidan (Danocrte Range), Birla Opus Prime (C2K, C2K+), MYK Arment, Berger, Technonicol
106	Water proofing compound (Crystalline)	Fosroc: Bushbond TGP, CAC, Dr. Fixit : Dr. Fixit Krystalline, Sika: Sika 101h, Aneeb, Perma, STP Ltd., Tikidan (Tiki-cryst-BC Range), Penetron, MYK Arment, Berger, Technonicol
107	Water Proofing Coatings (Polyurethane, Polyurea, Acrylic Cementitious, SRI Coating, Food grade epoxy coating, Coal tar epoxy, Silicone water repellent coating)	Aneeb, Berger, Technonicol or equivalent
108	WTP -MBBR Reactor, Multigrade Filter and Activated carbon Filter	Degremont, OSDPL, Thermax & Ion Exchange
109	WTP- MBBR Media	Cooldeck, MM Aqua, Eco Aqua & Ion Exchange
110	WPC door shutter and frame	Alstone, Jamex, Rajshri, Plasto Green, Black Cobra
111	Wall putty (cement based)	Asian Paints, Birla Wall Care, Trimurti, JK White, Dudhi, Wonder, JK Cement (JK wall MaxX), JSW Paints (Profect)
112	WPC Board	Jamex, Alstone, Rajshri, Black Cobra

Note : Contractor shall provide applicable warranty of the products/materials being used in the work to the Engineer-in-Charge at time of approved of the product/material & contractor shall finally submit warranty taken from the manufacturer to Engineer-in-Charge for record.

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Annexure-IV**GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECT AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

The Agreement made thisday oftwo thousand and betweenson ofof(hereinafter called the **Guarantor** of the one part) and the PRESIDENT OF INDIA (hereinafter called Government of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the Contract) dated and made between the **GUARANTOR** of the one part and the Government of the other part, whereby the Contractor, inter alia, undertook to render the buildings and structures in the said contract recited completely water and leak – proof.

AND WHEREAS **GUARANTOR** agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for ten years from the date of giving of water proofing treatment.

NOW THE **GUARANTOR** hereby guarantees that water proofing treatment given 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 after the maintenance period prescribed in the contract.

Provided that the guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose;

- (a) Misuse of roof shall mean any operation which will damage water proofing treatment, like chopping of firewood 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 construction adjoining to existing roof whereby proofing treatment is removed in parts;
- (c) The decision of the Engineer-in-charge with regard to cause of leakage 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 at his cost, and shall commence the work for such rectification within seven days from the date of issue of the notice from 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.

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That if **GUARANTOR** fails to execute the water proofing or commits breach thereunder then the **GUARANTOR** will indemnify the Principal and his successors 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 the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligor and by and for and on behalf of the PRESIDENT OF INDIA on the day, month and year above written.

Signed, sealed and delivered by OBLIGOR in the presence of –

1.
2.

Signed for and on behalf of THE PRESIDENT OF INDIA byin the presence of –

1.
2.

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Annexure-V

**TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER
COMPLETION IN RESPECT OF EPOXY/PU FLOORING**

The agreement made this _____ day of _____ Two Thousand and _____ between _____ son of _____ (hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part.)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated _____ and made between the GUARANTOR OF THE ONE PART AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable, sound material and workmanship.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guaranteed against faulty material and workmanship, finishing for 2 (Two) years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable and guaranteed against faulty material and workmanship, finishing for two years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defects shall be final.

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from 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 risk and cost. 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 or commits breach thereunder, 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

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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 WITNESS 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 ON BEHALF OF THE PRESIDENT OF INDIA BY

_____ in the presence of :

1. _____
2. _____

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Annexure-VI**GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF SANITARY INSTALLATIONS / WATER SUPPLY / DRAINAGE WORK.**

The agreement made this..... day of (Two Thousand only)..... betweenS/o(hereinafter called the GUARANTOR of the one part) and the PRESIDENT OF INDIA (hereinafter called the Government of the other part)

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated and made between the GUARANTOR OF THE ONE PART

AND the Government of the other part, whereby the contractor inter alia, undertook to render the work in the said contract recited structurally stable, leak proof and sound material, workmanship, anodizing, colouring, sealing.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable, leak proof and guaranteed against faulty material and workmanship, and finishing for five years from the date of completion of work.

NOW THE GUARANTOR hereby guarantee that work executed by him will be free from any leakage, seepage, cracks in pipes, fittings, floor traps and guaranteed against faulty material and workmanship, defective galvanizing for five years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

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 to satisfaction of Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from 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 defects or commits breach thereunder, 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

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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 WITNESS WHEREOF these presents have been executed by the Obligor and by and for and on behalf of the PRESIDENT OF INDIA on the day, month and year above written.

Signed, sealed and delivered by OBLIGOR in the presence of –

1.
2.

Signed for and on behalf of THE PRESIDENT OF INDIA byin the presence of –

1.
2.

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Milestones of the Contract

Sl. No.	Description of mile stone	Period for completion from date of start in months	Withheld amount for non achievement of mile stone.
1	25% of tendered amount.	02 Months	1.25% of the accepted tendered value.
2	50% of tendered amount.	04 Months	1.25% of the accepted tendered value.
3	75% of tendered amount.	05 Months	1.25% of the accepted tendered value.
4	100% of tendered amount.	06 Months	1.25% of the accepted tendered value.

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SCHEDULE OF QUANTITY						
Name of work : Re-Carpeting of road of CENSUS residential Colony, Aliganj, Lucknow						
SLNo	Description	Qty	Unit	Rate	Rate i.c CI @ 5%	Amount
1	EARTH WORK					
1.1	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lif upto 1.5 m, as directed by Engineer-in- Charge:					
1.1.1	All kinds of soil	1231	sqm	129.85	136.34	167835.00
2	CEMENT CONCRETE (CAST IN SITU)					
2.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
2.1.1	1:5:10 (1 cement : 5 coarse sand (zone-III) derived from natural sources : 10 graded stone aggregate 40 mm nominal size derived from natural sources)	93	cum	6518.60	6844.53	636541.00
3	ROAD WORK					
3.1	Supplying and stacking at site.					
3.1.1	90 mm to 45 mm size stone aggregate	97	cum	2098.4	2203.32	213722.00
3.1.2	63 mm to 45 mm size stone aggregate	73	cum	1636.05	1717.85	125403.00
3.1.3	53 mm to 22.4 mm size stone aggregate	73	cum	1842.3	1934.42	141213.00
3.1.4	Stone screening 13.2 mm nominal size (Type A)	20	cum	2034.35	2136.07	42721.00
3.1.5	Stone screening 11.2 mm nominal size (Type B)	15	cum	2247.75	2360.14	35402.00
3.1.6	Red Bajri	26	cum	1564.90	1643.15	42722.00
3.2	Laying, spreading and compacting stone aggregate of specified sizes to WBM specifications in uniform thickness, hand picking, rolling with 3 wheeled road/vibratory roller 8-10 tonne capacity in stages to proper grade and camber, applying and brooming requisite type of screening / binding material to fill up interstices of coarse aggregate, watering and compacting to the required density .	200	cum	1046.95	1099.30	219860.00
3.3	Providing and applying tack coat using hot straight run bitumen of grade VG - 10, including heating the bitumen, spraying the bitumen with mechanically operated spray unit fitted on bitumen boiler, cleaning and preparing the existing road surface as per specifications :					

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3.3.1	On W.B.M. @ 0.75 Kg / sqm	800	sqm	60.50	63.53	50824.00
3.3.2	On bituminous surface @ 0.50 Kg / sqm	2570	sqm	48.20	50.61	130068.00
3.4	Providing and laying Bitumen Penetration Macadam with hard stone aggregate of quality, size and grading as specified, with bitumen of suitable penetration grade, including required key aggregate as specified, spreading coarse aggregate with the help of self propelled/ tipper tail mounted aggregate spreader and applying bitumen by a pressure distributor and then spreading key aggregate with the help of aggregate spreader complete, including consolidation with road roller of minimum 8 to 10 tonne capacity to achieve specified values of compaction and surface accuracy:					
3.4.1	For 50 mm compacted thickness using coarse aggregate of size 50-20 mm graded @ 0.60 cum per 10 sqm key aggregate of size 12.5 mm graded @ 0.15 cum per 10 sqm. With paving asphalt grade VG - 10 @ 50 kg/ 10 sqm.	1285	sqm	505.65	530.93	682245.00
3.5	Providing and laying bituminous macadam using crushed stone aggregates of specified grading premixed with bituminous binder, transported to site by tippers, laid over a previously prepared surface with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specifications and directions of Engineer-in-Charge.					
3.5.1	50 to 100 mm average compacted thickness with bitumen of grade VG-30 @ 3.50% (percentage by weight of total mix) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	60	cum	8505.65	8930.93	535856.00
3.6	Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.					

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3.6.1	40/50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity.	152	cum	12126.20	12732.51	1935342.00
3.7	Providing and applying 2.5 mm thick road marking strips (retro- reflective) of specified shade/ colour using hot thermoplastic material by fully/ semi automatic thermoplastic paint applicator machine fitted with profile shoe, glass beads dispenser, propane tank heater and profile shoe heater, driven by experienced operator on road surface including cost of material, labour, T&P, cleaning the road surface of all dirt, seals, oil, grease and foreign material etc. complete as per direction of Engineer-in-charge and accordance with applicable specifications.	144	sqm	747.80	785.19	113067.00
3.8	Providing and laying factory made chamfered edge Cement Concrete paver blocks in footpath, parks, lawns, drive ways or light traffic parking etc, of required strength, thickness & size/ shape, made by table vibratory method using PU mould, laid in required colour & pattern over 50 mm thick compacted bed of sand, compacting and proper embedding/laying of inter locking paver blocks into the sand bedding layer through vibratory compaction by using plate vibrator, filling the joints with sand and cutting of paver blocks as per required size and pattern, finishing and sweeping extra sand. complete all as per direction of Engineer-in-Charge.					
3.8.1	60 mm thick cement concrete paver block of M-35 grade with approved colour, design & pattern.	1231	sqm	1045.65	1097.93	1351552.00
	Total					6424373.00
	Modified Estimated Cost after using correction factor on DSR 2023 on account of GST @ 0.973					6250915.00
	Grand Total					6250915.00

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