

निविदा आमंत्रण सूचना

NOTICE INVITING e-TENDERS

Name of Work : Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24

NIT No.:- : 04/AE/KCSD/EE/Pune-I/2026-27

Estimated Cost : Rs. 5,16,174 /-

EMD : Rs. 10,323/-

Time Limit : 7 Days

L

Last date time/Time of Tender submission: Up to 15.00 Hrson 30/10/2026

Date of Opening of bids :On and after 30/10/2026After 15.30 Hrs



सहायक अभियन्ता,
खडकवासला केंद्रीय उपमंडल,
केलोनिवि, खडकवासला, पुणे-२४

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Name of work **Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24**

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**INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e-TENDERING
FORMING PART OF NIT AND TO BE POSTED ON WEBSITE**

The Assistant Engineer, KCSD, C.P.W.D., Pune on behalf of 'President of India' invites online Percentage rate e-tenders from Approved and eligible contractor with CPWD for the following work:

S. No.	NIT NO.	Name of work and location	Estimated cost put to tender	Earnest Money	Period of completion	Last date and time of submission of Bid, Original EMD, Copy of Receipt for deposition of Original EMD, and other documents as specified in the press notice.	Time & date of Opening of tender
1	04/AE/KCSD/EE/Pune-I/2026-27	Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24	Rs. 5,16,174 /-	Rs. 10,323/-	01 (One) Month	Upto 3.00 pm On 30/10/2026	On or after 30/10/2026 On 3.30 pm

- 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 www.etender.cpwd.gov.in or www.cpwd.gov.in free of cost.

Applicants are advised to keep visiting the above mentioned web-sites from time to time (till the deadline for bid submission) for any updates in respect of the tender documents, if any. Failure to do so shall not absolve the applicant of his liabilities to submit the applications complete in all respect including updates thereof, if any. An incomplete application may be liable for rejection
- The Contractor can deposit original EMD in the office of the **Executive Engineer, PCD-I, CPWD, Pune**, within the period of bid submission. The contractor shall obtain the receipt of EMD from the concerned Executive Engineer in the prescribed format as uploaded by NIT issuing Executive Engineer. The bid document as uploaded can be viewed and downloaded free of cost by anyone including intending bidder.
- 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

bids submission. **(The EMD document shall only be issued from the place in which the office of receiving division office is situated)** and uploading the mandatory scanned documents such as Demand Draft or Pay order or Banker's Cheque or Deposit at call Receipt or Fixed Deposit Receipts and Bank Guarantee of any Scheduled Bank towards EMD in favour of **Executive Engineer, PCD-I, CPWD, Pune, as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer of CPWD** and other documents as specified.

6. The contractors already registered on the e-tendering portal will have option to continue by paying tender processing fee at existing rates up to one year from the date of registration or to switch over to the new registration system without tender processing fee any time. All new registrations from **01/04/2015** will be without tender processing fee.
7. Those contractors not registered on the website mentioned above are required to get registered beforehand. If needed they can be imparted training on online bidding process as per details available on the website.
8. The intending bidder must have valid class-III digital signature in order to submit the bid.
9. On opening date, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.
10. Contractor can upload documents in the form of **JPG format** and **PDF format**.
11. Contractor must ensure to quote his percentage rate (above/below) in the attached schedules.
12. **The lowest bidder shall physically submit within a week of date of opening of bid, the certified copy of all scanned and uploaded documents as below, in the office of tender opening authority.**

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

- (i) Treasury Challan/Demand Draft/Pay order or Banker's Cheque/Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against EMD.
 - (ii) Valid Enlistment Order of the Contractor in appropriate class of CPWD.
 - (iii) GST Registration Certificate and GST Return upto date filled.
 - (iv) Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer (including NIT issuing EE) CPWD.
- V) ERP Certificate

PART-A
CPWD-6 FOR e-Tendering
Government of India CPWD
Notice Inviting Tender for e-Tendering

The **Assistant Engineer, KCSD, C.P.W.D., Pune** on behalf of '**President of India**' invites online **Percentage ratee-tenders** from **Approved and eligible contractor** with CPWD, for the following work:

Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24

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. 5,16,174 /-** This estimate, however, is given merely as a rough guide. 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 the bidders, besides indicating the percentage above/below the combined estimated cost put to bid, should also indicate the amount in word for each component separately. The eligibility of bidder will correspond to the combined estimated cost of different components put to bid.
- 2.** Agreement shall be drawn with the successful tenderer on prescribed Form No. CPWD-7 which is available as a Govt. of India Publication and also available on website www.cpwd.gov.in. Bidder shall quote his rates as per various terms and conditions of the said form which will form part of the agreement. *The Percentage rate quoted by the tenderer shall be firm and inclusive of GST & all other applicable taxes, duties, cess, levies, Octroi etc. in respect of this contract and Government shall not entertain any claim whatsoever in this respect.*
- 3.** The time allowed for carrying out the work will be **07 Days** from the date of start as defined in schedule 'F' or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
- 4.** The site for the work is available. The architectural and structural drawings if required 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 from the web Site www.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 tender 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 components) but before last time and date of submission of tender as notified.

8. Earnest Money in the form of Treasury Challan or Demand Draft or Pay order or Banker's Cheque or Deposit at Call Receipt or Fixed Deposit Receipt (**drawn in favour of Executive Engineer, PCD-I, CPWD, Pune**) shall be scanned and uploaded to the e-Tendering website within the period of bid submission.

The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD with in the period of bid submission. (The EMD document shall only be issued from the place in which the office of receiving division office is situated). The EMD Receiving Executive Engineer, CPWD shall issue a receipt of deposition of EMD to the bidder in a prescribed format uploaded with this NIT.

This receipt shall also be scanned and uploaded to the etendering website by the intending bidders upto the specified online bid submission date and time.

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 of any scheduled bank **having validity for six months or more from the last date of receipt of bids** which is to be scanned and uploaded by the intending bidders.

Copy of Enlistment Order and Certificate of work experience and other documents as specified in the press notice shall be scanned and uploaded to the e-Tendering website within the period of bid submission. However, certified copy of all the scanned and uploaded documents as specified in press notice shall have to be submitted by the lowest bidder only within a week physical in the office of tender opening authority.

Online bid documents submitted by intending bidders shall be opened only of those bidders, whose Original Earnest Money declaration and other documents scanned and uploaded are found in order.

The bid submitted shall be opened at 03:30 PM on 30/10/2026

9. The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:
- (i) The bidder is found ineligible.
 - (ii) The bidder does not deposit original EMD with division office of any Executive Engineer, CPWD(The EMD document shall only be issued from the place in which the office of receiving divisionoffice is situated).
 - (iii) The bidder does not upload all the documents (including Service Tax Registration/VAT registration/ Sales Tax registration) as stipulated in the bid document including the copy of receipt for deposition of original EMD.
 - (iv) If any discrepancy is noticed between the documents as uploaded at the time of submission of bid and hard copies as submitted physically by the lowest bidder in the office of tender opening authority.
10. The contractor whose bid is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the Estimated cost put to tender amount with in the period specified in Schedule F. Along with **Performance Garuntee , Additional Performance Garuntee shall be applicable for abromally low bids as per DG MANUAL -2024-/20 dated 27/02/2026** This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call receipt of any scheduled bank/Banker's cheque of any scheduled bank/ demand Draft of any scheduled bank/Pay order of any Scheduled Bank of any scheduled bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the

State Bank of India 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 action will be taken as per EMD declaration given by the agency. 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 and Programme Chart (Time and Progress) within the period specified in Schedule F.

11. The description of the work is as follows:

Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24

Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

12. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.
13. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.
14. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidders shall be bound to perform the same at the rate quoted.
15. 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 as 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 Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
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 previous permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as afore said before submission of the tender or engagement in the contractor's service.
17. The bid for the works shall remain open for acceptance for a period of **Thirty (30) days** from the date of opening of bids. If any bidder withdraw his bids before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not

acceptable to the department, then contractor shall be suspended for one year and shall not be eligible to bid for CPWD tenders from date of issue of suspension order

18. 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 or other Standard C.P.W.D. Form as applicable.
19. **For Composite bids: -**
 - 19.1.1 **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.
 - 19.1.2 The bid document will include following components:

Part A: CPWD-6, CPWD-7 including schedule A to F for the major component of the work, **General Conditions of Contract 2023 Construction works as amended/modified up to date last date of submission of online bid.**

Part B: General / specific conditions, specifications and schedule of quantities applicable to major component of the work.
 - 19.1.3 The bidders will associate either obtain valid electric license at the time of execution of work or contractors having valid electric license of eligible class.
 - 19.1.4 The eligible bidder shall quote percentage below/above/at par of major as well as minor components of the work.
 - 19.1.5 After acceptance of the bid by competent authority, the EE in charge of major component of the work shall issue letter of award on behalf of the President of India. After the work is awarded, the main contractor will have to enter into one agreement with EE in charge of major component and has also to sign two or more copies of agreement depending upon number of EE's/DDH in charge of minor components. One such signed set of agreement shall be handed over to EE/DDH in charge of minor component. EE of major component will operate **Part-A** and **Part-B** of the agreement. EE / DDH in charge of minor component(s) shall operate along with **Part-A** of the agreement.
 - 19.1.6 Entire work under the scope of composite tender including major and all minor components shall be executed under one agreement.
 - 19.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of works.
 - 19.1.8 In case, required as per the terms & conditions given in the bid document, the main contractor has to associate agency(s) for minor 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 minor component(s) within prescribed time. Name of the agency (s) to be associated shall be approved by Engineer-in-charge of minor component(s).
 - 19.1.9 In case the main contractor intends to change any of the above agency/ agencies during the operation of the contract, he shall obtain prior approval of Engineer-in-charge of minor component. The new agency / agencies shall also have to satisfy the laid down eligibility criteria. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the contractor to change the agency executing such items of work and this shall be binding on the contractor.

- 19.1.10A** The civil contractors will either obtain valid electrical license or associate contractors having valid electrical license of eligible class”. The associated agency shall be of the appropriate class eligible to bid for each of the minor component individually.
- 19.1.10B** The main contractor has to enter into agreement with contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to EE(Elect) in charge of minor component as well as to EE in charge of major component. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.
- 19.1.11** 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.
- 19.1.12A.** *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.*
- 19.1.12B.** Final bill of whole work shall be finalized and paid by the EE of major component. Engineer in charge of minor component 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.
- 20.1** Contractor shall follow all COVID-19 protocols at site and nothing extra shall be paid on this account.
- 20.2** Construction site is inside the National Defence Academy campus and labours will not be allowed to stay there. Contractor has to arrange the stay of labourers outside and nothing shall be paid extra on this account.

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

- (i) Treasury Challan/Demand Draft/Pay order or Banker`s Cheque/Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against **EMD**.
- (ii) Valid Enlistment Order of the Contractor in appropriate class of CPWD.
- (iii) GST Registration Certificate and GST Return upto date filled
- (iv) Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer (including NIT issuing EE) CPWD.

Receipt of Deposition of Original EMD

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

SN	Particular	Details
1	Name of work	Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24
2	NIT No.	04/AE/KCSD/EE/Pune-I/2026-27
3	Estimated Cost	Rs. 5,16,174 /-
4	Amount of Earnest Money Deposit	Rs. 10323/-
5	Last date of online submission of bid	30/10/2026

Details to be filled by EMD Receiving officer of CPWD (EE/AE(P) / AAO)

S.No.	Particular	Details
1	Name of contractor	
2	Form of EMD Received & its Details	
3	Amount of Earnest Money Deposit Received	Rs.
4	Date of submission of EMD	/ /2026
<p style="text-align: right;">Signature, Name and Designation of EMD Receiving officer (EE/AE/(P)/AE/AAO) along with office stamp)</p>		

**GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
Percentage Rate Tender & Contract for Works**

Tender/bid for the work of: - **Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24**

- (i) To be submitted/uploaded by **15:00 Hours on 30/10/2026** to Assistant Engineer KCSD, CPWD, Pune.
- (ii) To be opened in presence of tenderers/bidders who may be present at **15:30 Hours on 30/10/2026** in the office of Assistant Engineer Pune-I, CPWD, Pune.

TENDER

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

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F' viz., schedule of quantities and in accordance in all respect with the specifications, designs, drawing and instructions in writing referred to in 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.

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

A sum of **Rs. 10,323/-** is hereby forwarded in cash/receipt treasury Challan / deposit at call receipt of a scheduled bank/fixed deposit receipt of scheduled bank/demand draft of a scheduled bank/bank guarantee issued by a scheduled bank as earnest money. 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 earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in **Clause 12.2 and 12.3** of the tender form. Further, I/We agree that in case of forfeiture of Earnest Money & Performance Guarantee as aforesaid. I/We shall be debarred for participation in the retendering process of the work.

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:
Witness:
Address:
Occupation:

Signature of Contractor
Postal Address

ACCEPTANCE

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

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

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

For & on behalf of President of India

Signature

Designation

Dated:

PROFORMA OF SCHEDULES**(Operative Schedules to be supplied separately to each intending tenderer)****SCHEDULE “A”**

a) Schedule of quantities Civil (Enclosed)

SCHEDULE “B”

Schedule of materials to be issued to the contractor.

<i>S.No</i>	<i>Description of item</i>	<i>Qty</i>	<i>Rates in figures & words at which the material will be charged to the contractor.</i>	<i>Place of issue</i>
1	2	3	4	5
----- NIL -----				

SCHEDULE 'C'

Tools and plants to be hired to the contractor: -

<i>S.No</i>	<i>Description</i>	<i>Hire charges per day</i>	<i>Place of issue</i>
1	2	3	4
----- NIL -----			

SCHEDULE ‘D’

Extra schedule for specific requirements/document for the work, if any : - Nil

SCHEDULE ‘E’**Reference to General**

Conditions of contract : - General Condition of Contract Construction Work of 2023 CPWD form -7 modified and corrected upto date

Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24

Estimated cost of work	:	Rs. 5,16,174 /-
(i) Earnest Money	:	Rs. 10324/-
ii) Performance Guarantee	:	<p>a) 5% of tendered value or ECPT whichever is higher</p> <p>b) Where the tendered amount is less than eighty percent (80%) of the Estimated Cost Put to Tender (ECPT), The Performance Guarantee, in addition to the requirement under (a) above, shall be increased by an amount equal to the difference between eighty percent (80%) of the ECPT and the tendered amount</p>
(iii) Security Deposit	:	2.5% of tendered value

SCHEDULE ‘F’**GENERAL RULES & DIRECTIONS:**

Officer inviting tender

Assistant Engineer KCSD, CPWD, Pune.

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3: See below.

DEFINITIONS:

2(v) Engineer -in- Charge:

a) Civil :-Executive Engineer Pune-I, CPWD, Pune.

2(viii) Accepting Authority:

Assistant Engineer KCSD, CPWD, Pune.

2(x) Percentage on cost of materials and Labour to cover all overheads and profits:

15%

2(xi) Standard Schedule of Rates:

a) Civil :-

Delhi Schedule of Rates- 2023 (Civil) with Upto date correction slips and Market Rate

2(xii) Department:

Central Public Works Department

9(ii) Standard CPWD Contract Form

GCC Constructions 2023 modified and amended up to last date of online submission of bid.

Clause 1

(i) Time allowed for submission of Performance Guarantee, **Programme chart (Time and Progress) and applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof** from the date of issue of letter of acceptance:

07 days

(ii) Maximum allowable extension with late fee @0.1% Per day of Performance Guarantee amount provided in (i) above:

03 days

Clause 2A

Authority for fixing compensation under Clause 2A:

SE-PCC/ Pune

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start:

10 days

Time allowed for execution of work:

07 Days

Table of milestone:

Sr. No	Physical/Financial Progress	Time allowed (from date of start)	Amount to be withheld in case of non-achievement of milestone
1	Work done amounting to half the value of tendered amount	Half Time Limit	2.5% of the tendered value of work will be withheld for failure of each milestone
2	Work done amounting to full value of tendered amount	Full Time Limit	

Authority to decide:

(i)	Extension of time:	Assistant Engineer KCSD, CPWD, Pune.
(ii)	Rescheduling of mile-stones:	Assistant Engineer KCSD, CPWD, Pune.
(iii)	Shifting of date of start in case:- delay in handing over of site	Assistant Engineer KCSD, CPWD, Pune.

Clause 6 :- Applicable**Clause 7**

Gross work to be done together with net payment
/adjustment of advances for material collected, a) **Rs.2.00 Lakh**

If any, since the last such payment for being
eligible to interim payment.

Clause 7A

No Running A/c Bill shall be paid for the work till the applicable labour licenses,
registrations with EPFO, ESIC & BOCW Welfare Board whatever applicable
are submitted by the contractor to the Engineer-in-charge.

Whether clause 7A shall be applicable. **Yes**

Clause 10 A

List of testing equipment to be provided by the contractor at site lab- **NIL**

Clause 10 B

Whether clauses 10 B shall be applicable. **N.A.**

Clause 10 C **Applicable**

Component of labour expressed as percent of
value of work **25%**

Clause 10CC **NA****Clause 11**

Specifications to be followed For execution of work **As per CPWD Specification 2019, Vol. -I & II
With up to date correction slips and as per
manufacturers specification and as per
direction of Engineer-in-charge.**

Clause 12 **Type of Work** **Civil Work**

12.2 & 12.3 Deviation Limit beyond which
clauses 12.2 & 12.3 shall apply
for building work. **No limits**

(i) Deviation limit beyond which
clauses 12.2 & 12.3 shall apply
for foundation work (except earth **No limits**

work)

(ii) Deviation limit for items in earth work sub head of DSR or related items.

Clause 16

Competent Authority for deciding reduced rates

Superintending Engineer Pune, CPWD,
Pune.

Clause 18

List of mandatory machinery, tools and plants to be deployed by the contractor at site : NIL

Clause 25

Place of arbitration

: Pune.

**Constitution of Dispute Redressal Committee: vide O/o No.55(Misc)/ADG(WR-II)/2014/1121-H,
Dated: 25.09.2014**

Constitution	For claims below Rs 25 lakhs	For claims above Rs 25 lakhs
Chairman	Director work (WR-I) CPWD Mumbai	CE WZ-I, CPWD
Member	EE PCD-II	SE Mumbai-I
	EE(P), O/o ADG(WR-I)	SE (W cum TLQA)
Presenting Officer	EE, PCD-I, Pune shall present the case but shall not have any part in decision making	SE, CPWD, Pune shall present the case but shall not have any part in decision making

Clause: 30

:

Applicable

Unfiltered water supply

Clause: 31

:

Not Applicable

Hire of plant & Machinery

Clause: 32**Requirement of Technical staff(s) and Recovery Rate**

<i>S. No</i>	Requirement of Technical Staff		<i>Minimum experience (Years)</i>	<i>Designation of Technical Staff</i>	<i>Rate of which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)</i>	
	<i>Qualification</i>	<i>Number (of Major + Minor component)</i>			<i>Figures</i>	<i>Words</i>
1.	Graduate Engineer (Civil) or Diploma holder(Civil)	1 of major component	2 or 5 Respectively	Project manager cum planning / quality /site/billing Engineer	Rs. 15,000/- Per month Per person (for Graduate Engineer with 2 years experience& Diploma Holder with 5 years experience)	Rupees 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 year 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% requirement of degree engineers.

CLAUSE – 33

GST, Building and other Construction Workers Welfare Cess or any other tax, levy or cess in respect of input for or output by this contract shall be payable by the contractor and Government shall not entertain any claim whatsoever in the respect except as provided under Clause 38. (OM No. DG/CON/298 dated 29.09.2017).

CLAUSE – 34

All tendered rates shall be inclusive of all taxes, levies or cess applicable on last stipulated date of receipt of tender including extension if any. No adjustment i.e. increase or decrease shall be made for any variation in the rate of GST, Building and other Construction Workers Welfare Cess or any other tax, levy or cess applicable on inputs.

However, effect of variation in rates of GST or Building and other Construction Workers Welfare Cess or imposition or any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax(other than GST),, levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes / levies/cess.

Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule.

Clause 38

(i) **Schedule / statements for determining theoretical quantity of cement and bitumen**

Delhi Schedule of Rates- 2023 (Civil) with Upto date correction slips and Market Rate

(ii) **Variations permissible on theoretical quantities.**

(a) **Cement for works with estimated cost put to**

tender more than 5 lakhs.

2% plus & nil on minus

(b) **Bitumen for all works**

2% plus & nil on minus

(c) **Steel reinforcement and structural steel sections for each diameter, section and category.**

3 % wastage, 2% plus & nil on minus

(d) **All other materials**

Nil.

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

(a) Civil :-

Sl.No.	Description of Item	Rates in figures and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation
1.	a.Cement PPC	Not applicable	Not permissible
	b. Cement OPC 43 grade	Not applicable.	Not permissible
2.	Steel reinforcement	Not applicable.	Not permissible

(b) Electrical & Mechanical :

NIL.

INTEGRITY PACT

To,

.....,
.....,
.....

Sub: NIT No. for the work.....

Dear Sir,

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

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

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

Yours faithfully

Executive Engineer

To,

The Executive Engineer,

.....,

.....

Sub: Submission of Tender for the work of

Dear Sir,

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

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

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

Yours faithfully

(Duly authorized signatory of the Bidder)

To be signed by the bidder and same signatory competent / authorised to sign the relevant contract on behalf of CPWD.

INTEGRITY AGREEMENT

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

BETWEEN

President of India represented through Executive Engineer,
(Name of Division)
CPWD,, (Hereinafter referred as the
(Address of Division)

‘Principal/Owner’, which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

.....
(Name and Address of the Individual/firm/Company)
through (Hereinafter referred to as the
(Details of duly authorized signatory)

“Bidder/Contractor” and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender (NIT No.) (hereinafter referred to as **“Tender/Bid”**) and intends to award, under laid down organizational procedure, contract for
.....
.....

(Name of work)

hereinafter referred to as the **“Contract”**.

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

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

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

Article 1: Commitment of the Principal/Owner

- 1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
 - a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
 - b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
 - c) The Principal/Owner shall endeavour to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
- 2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the

Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

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

- 1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
- 2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:
 - a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.
 - b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.
 - c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/Contractor(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
 - d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.
 - e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose **(with each tender as per proforma enclosed)** any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.
- 3) The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
- 4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
- 5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/ her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

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

- 1) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the

Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**

- 2) **Forfeiture of EMD/Performance Guarantee/Security Deposit:** If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
- 3) **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

- 1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
- 2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
- 3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

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

- 1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/ sub-vendors.
- 2) The Principal/Owner will enter into Pacts on identical terms as this one with all Bidders and Contractors.
- 3) The Principal/Owner will disqualify Bidders from the tendering process who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tendering or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded. If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, CPWD.

Article 7- Other Provisions

- 1) This Pact is subject to Indian Law, place of performance and jurisdiction is the **Head quarters of the Division** of the Principal/Owner, who has floated the Tender.
- 2) Changes and supplements need to be made in writing. Side agreements have not been made.
- 3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
- 4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.**

Article 8- LEGAL AND PRIOR RIGHTS

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

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

.....
(For and on behalf of Principal/Owner)

.....
(For and on behalf of Bidder/Contractor)

WITNESSES:

1
(signature, name and address)

2
(signature, name and address)

Place:

Dated :

FORM OF EARNEST MONEY (BANK GUARANTEE)

WHEREAS, contractor..... (Name of contractor) (hereinafter called "the contractor") has submitted his tender dated (date) for the construction of (name of work) (hereinafter called "the Tender")

KNOW ALL PEOPLE by these presents that we (name of bank) having our registered office at (hereinafter called "the Bank") are bound unto (Name and division of Executive Engineer) (hereinafter called "the Engineer-in-Charge") in the sum of Rs. (Rs. in words) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents. SEALED with the Common Seal of the said Bank this day of 20... .

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required; OR
 - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor, OR
 - (c) fails or refuses to start the work, in accordance with the provisions of the contract and Instructions to contractor, OR
 - (d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Engineer-in-Charge either up to the above amount or part thereof upon receipt of his first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date* after the deadline for submission of tender as such deadline is stated in the Instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than the above date.

DATE
WITNESS

SIGNATURE OF THE BANK
SEAL
(SIGNATURE, NAME AND ADDRESS)

*Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

Form of Performance guarantee /Bank guarantee bond

In consideration of the President of India (hereinafter called "The Government") having offered to accept the terms and conditions of the proposed agreement betweenand..... (hereinafter called "the said contractor(s)" for the work (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank Guarantee for Rs..... (Rupees..... only) as a security/guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We..... (hereinafter referred to as the "Bank") hereby undertake to
(indicate the name of the Bank)
pay to the Government an amount not exceeding Rs(Rupees.....
.....only)
on demand by the Government.
2. Wedo hereby undertake to pay the amounts due and payable
(indicate the name of the Bank) 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(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs..... (Rupees..... only).
3. We, the said Bank, further undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.
The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder, and the contractor(s) shall have no claim against us for making such payment.
4. We..... further agree that the Guarantee herein contained shall (indicate the name of the Bank) remain in full force and effect during the period that would be taken for the performance of the said agreement, and It shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid, and its claims satisfied or discharged, or till the Engineer-in-charge, on behalf of the Government, certifies that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s). and accordingly discharges this guarantee.
5. We..... further agree with the Government that the Government. (indicate the name of the Bank) shall have the fullest liberty without our consent, and without effecting in any manner our Obligations hereunder, to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) 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(s), 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(s) or for any forbearance, act of omission on the part of the Government or any Indulgence by the Government to the said contractor(s) 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. This Guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We.....lastly undertake not to revoke this Guarantee except with (indicate the name of the Bank) the previous consent of the Government in writing.
8. This 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 six months of the date of expiry or extended date of expiry of this Guarantee all our liabilities under this Guarantee shall stand discharged.

Dated the..... day of.....

For.....

(indicate the name of the Bank)

Contractor

**Assistant Engineer KCSD,
CPWD, Pune.**

GENERAL CONDITIONS

1. Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items, the work shall generally be carried out in accordance with the “CPWD Specifications - 2019 (Vol. I & II) for civil works with up to date correction slips and CPWD Specification for Horticulture works with up to date correction slips (hereinafter to be collectively referred to as „CPWD Specifications“). Wherever CPWD Specifications are silent, the latest BIS Codes/Specifications, National Building Code 2016, MoRTH specification or any other specification shall be followed.
2. The order of preference in case of any discrepancy as indicated in condition No. 8.1 under “Conditions of Contract” given in standard CPWD Contract form may be read as the following:
 - i. Nomenclature of items as per Schedule of Quantities
 - ii. General/ Special Conditions and Particular Specifications as provided forming part of tender document.
 - iii. CPWD Specifications with up to date Correction slips
 - iv. Architectural/Structural drawings
 - v. Contract & Clauses as per Standard CPWD GCC form 2023.
 - vi. Indian Standard Specifications of BIS
 - vii. National Building Code -2016
 - viii. Sound Engineering Practices
 - ix. Manufacturer’s specifications.
 - x. Decision of Engineer-in-charge shall be applicable where none of the above is to be applied.

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

3. The intending tenderers are requested to go through architectural drawings. These drawings are available in the **O/o Executive Engineer Pune-I, CPWD, Pune**. The architectural drawings show the type of building to be constructed, number of storeys and other architectural features as applicable. No claim whatsoever shall be entertained for the same and also for lack of information on this account, which the tenderer is expected to have.
4. 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, suitable location for construction of godown, store, camp, transport facilities the extent of leads and lifts.
5. The proposed building work is a prestigious project and quality of work is of paramount importance. Contractor shall have to engage well experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like stone masonry & stone cladding work, stone flooring, flooring work, wood work, precast RCC coffer, polysulphide/ silicone sealant & other specialized works will specifically require engagement of skilled workers having experience particularly in execution of such items.
6. The tenderer shall acquaint himself with the proposed site of work, its approach roads, working space available etc. before quoting his rates and no claim on this account shall be entertained by the department.
7. The contractor(s) shall study the soil investigation report for the site, available in the office of the

Engineer-in-charge and satisfy himself about complete characteristics of soil and other parameters at site. However, no claim on the alleged inadequacy or incorrectness of the soil data supplied by the department shall be entertained.

8. The tenderer shall see the approaches to the site. In case any approach from main road is required at site or existing approach is to be improved and maintained for cartage of materials by the contractor, the same shall be provided, improved and maintained by the contractor at his own cost. No payment shall be made on this account.
9. The work shall be carried out in accordance with the architectural drawings, Electrical & Mechanical drawings and structural drawings etc. All the drawings, shall have to be properly correlated before executing the work. In case of any difference noticed between drawings, final decision, in writing of the Engineer-in-Charge shall be obtained by the contractor. Samples shall be prepared/supplied before starting particular items of work for prior approval of the Engineer-in-Charge as applicable and nothing extra will be payable on this account.
10. The building work shall be carried out in the manner complying in all respects with the requirements of the relevant bye-laws 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.
11. The contractor(s) shall inform/issue notices to the Municipality, police and other authorities that may be required as per law and obtain all requisite permission/ licenses for temporary obstructions, enclosures etc. Contractor(s) shall pay all fee, taxes and charges which may be leviable on account of these operations in executing the contract. He shall make good any damage to the property whether public or private and shall supply and maintain lights either for illumination or for cautioning the public at night.
12. The Contractor shall not stack building material /malba /muck/ rubbish on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor.
13. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
14. The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and water-ways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross drainage works or public or private property whatsoever caused thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor without any reservation entirely to the satisfaction of the Engineer-in-Charge.
15. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor.

16. The works shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time by the Engineer-in-Charge. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work and satisfy himself that the information available thereof is complete and unambiguous. The discrepancy, if any shall be brought to the notice of the Engineer-in-Charge before execution of the work. **In such case, final decision of the Engineer-in-Charge in writing shall be obtained by the contractor.** 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.
17. The Architectural drawings given in the tender other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fixings involved unless and otherwise specifically mentioned. However, the work shall be executed in accordance with the drawings duly approved by the Engineer-in-Charge.
18. Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works. **Nothing extra shall be paid for same**~~(for which inserts, sleeves, brackets, conduits, base plates, 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 and brick work, if required, and nothing extra shall be payable on this account.
19. The contractor shall conduct work so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer-in-Charge and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it in proper sequence to the complete satisfaction of others.
20. The successful tenderer shall co-ordinate with other contractors and agencies engaged in the construction of building, if any, and exchange freely all technical information so as to make the execution of this works contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the successful tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the successful tenderer himself.
21. Conduits for electrical wiring/cables will be laid in such a way that they leave enough space for Concreting and do not adversely affect the structural members. Nothing extra over the agreement rate shall be paid for the same.
22. Some restrictions may be imposed by the security agencies /client on the working and on movement of labour, materials etc in the campus/site and may require to issue identity cards to all persons authorized by contractor to do work / visit the work site. The contractor shall be bound to follow all such restrictions / instructions and no claim whatsoever shall on this account will be entertained. The loss of time on this account, if any, shall have to be made up by generating additional resources etc.
23. RATES :
 - i. The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, establishment of reference bench mark, spot levels, construction of all safety and protection devices, barriers, earth embankments, preparatory works, all testing of materials, working during

- monsoon, working at all depths, height and locations etc. unless specified in the schedule of quantities.
- ii. Royalty at the prevailing rates wherever payable shall have to be paid by the contractor on the boulders, metal, shingle, sand and bajri etc. Or any other material collected by him for the work direct to revenue authorities and nothing extra shall be paid by the department for the same.
 - iii. No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.
 - iv. The contractor shall deploy resources e.g. manpower, labour, T&P, Plant & Equipment etc. as per actual requirement of work. No damages/compensation shall be payable on account of idle manpower, labour, T&P, Plant and Equipment and loss of profit etc. for whatsoever reason.
 - v. The rates for all items of work shall, unless clearly specified otherwise, include cost of all labour, material, tools and plants and other inputs involved in the execution of the item.
 - vi. The contractor (s) shall quote all-inclusive rates against the items in the schedule of quantities and nothing extra shall be payable for any of the conditions and specifications mentioned. In the tender documents unless specifically specified otherwise.
 - vii. 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.
24. The work shall be executed and measured as per metric dimensions given in the Schedule of quantities, drawings etc. as applicable.(FPS units wherever indicated are for guidance only).Unless otherwise specified in the schedule of quantities, the rates tendered by the contractor shall be inclusive of all costs & taxes and shall apply to all leads and lifts and nothing extra shall be payable on this account.
 25. The foundation trenches shall be kept free from water while works below ground level are in progress.
 26. No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
 27. All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, temporary barricading or fencing around the working sites, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.
 28. Contractor has to arrange the stay of labourers outside the NDA campus at his own expense and nothing shall be paid extra on this account.

29. For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). Normally contractors shall not be allowed to execute the RCC, electrical and finishing work at night. Work at night shall, however, be allowed if the site conditions/circumstances so demand. No claim whatsoever shall be entertained on this account, not with-standing the fact that the contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the contractor with them.
30. 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.
31. All material shall only be brought at site as per program finalized with the Engineer-in-Charge. Any pre-delivery of the material not required for immediate consumption shall not be accepted and thus not paid for.
32. The contractor(s) shall take instructions from the Engineer-in-Charge regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed. The stacking shall take place as per stacking plan however, if any change is required, the same shall be done with the approval of Engineer-in-Charge.
33. The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials issued by department/arranged by the contractor.
34. The terms machine batched, machine mixed and machine vibrated concrete used elsewhere in agreement shall mean the concrete produced in concrete batching and mixing plant and if necessary transported by transit concrete mixers, placed in position by the concrete pumps, tower crane and vibrated by surface vibrator /needle vibrator / plate vibrator, as the case may be to achieve required strength and durability.
35. The cost of flooring is inclusive of providing sunken flooring in bath-rooms, kitchen, etc. and nothing extra on this account shall be payable.
36. Any legal or financial implications resulting out of carriage of earth from outside or disposal of earth shall be sole responsibility of the contractor. Nothing extra shall be paid on this account.
37. No chase cutting/dismantling of plaster/RCC/CC shall be allowed, so contractor has to execute the electrical work accordingly. The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors are minimized. Wherever absolutely essential, the chase shall be cut using chase cutting machines. Chases will not be allowed to be cut using hammer / chisel. The electrical boxes should be fixed in walls simultaneously while raising the brick work. The contractor shall ensure proper coordination of various disciplines viz. sanitary & water supply, electrical, fire- fighting and any other services.
38. 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.
39. In case of local Municipal regulations / restrictions by client /non-availability space at site if huts for labour are not allowed to be erected at the site of work, the contractor shall be required to provide such accommodation at suitable place at his own cost and nothing extra shall be paid on this account.
40. Any cement slurry added over base surface for continuation of concerting for better bond is deemed to have been built in the items and nothing extra shall be payable and no extra cement considered in consumption on this account.

41. Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar service encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. In case the same are to be removed and diverted. The same shall be payable to the contractor. The contractor shall work out the cost and the same shall be approved by Engineer-in-Charge. 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.
42. The contractor shall be responsible for the watch and ward / guard of the buildings safety, fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

43. SETTING OUT

- i. 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.
- ii. The contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions to the Engineer-in-Charge before commencing work. Commencement of work shall be regarded as the contractor's acceptance of such grades, lines, levels and dimensions and no claim shall be entertained at a later date for any errors found.
- iii. If at any time, any error in this respect shall appear during the progress of the work, the contractor shall, at his own expense rectify such error if so required to the satisfaction of the Engineer-in-Charge.
- iv. Though the site levels may be indicated in the drawings the contractor shall ascertain himself and confirm the site levels with respect to GTS bench mark from the concerned authorities as applicable.
- v. The approval by the Engineer-in-Charge of the setting out by the contractor shall not relieve the contractor of any of his responsibilities.
- vi. The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignment, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor at his own cost to the instructions and satisfaction of the Engineer-in-Charge.

44. PROGRAMME CHART

- i. The Contractor shall prepare an integrated programme chart in MS Project, Primavera software for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in-Charge within ten days of award of the contract. Non-submission of such programme shall attract the recoveries as mentioned in the Schedule-F of the tender document.
- ii. The programme chart should include the following:
 - (a) Descriptive note explaining sequence of the various activities.
 - (b) Network (PERT/CPM/BAR CHART) in MS Project/Primavera Software
 - (c) Programme for procurement of materials by the contractor.
 - (d) Programme of procurement of machinery / equipment having adequate capacity,

commensurate with the quantum of work to be done within the stipulated period, by the contractor.

- iii. In addition to above, the contractor shall submit shuttering schedule adequate to complete structure work within laid down physical milestone etc. and to achieve the progress of work as per programme, he must bring sufficient shuttering material required for cement concrete and R.C.C. works etc.
- iv. If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above, the contractor shall produce a revised programme showing the modifications to the approved programme to ensure completion of the work. The modified schedule of programme shall be approved by the Engineer-in-Charge. Non-submission of such revised programme shall attract the recoveries as mentioned in the Schedule-F of the tender document.
- v. The submission for approval by the Engineer-in-Charge of such programme or the furnishing of such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.

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| <ul style="list-style-type: none"> vi. Progress photographs, in colour, of the various items/components of the work done upto date, to indicate visually the actual progress of the work. Quality assurance and quality control tests conducted during the month, with the results thereof. Nothing extra shall be paid for same. vii. Video graphy at various stages of construction right from the day of start of work to date of completion/occupation, covering all major events, inspections, visits by dignitaries etc. Nothing extra shall be paid for same. |
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45. PROGRESS REPORT

The contractor shall submit to the Engineer-in-charge on the 7th day of each month, 2 hard copies and one on soft copy (CD) of monthly progress report of the such progress report will include the project progress, summary, work progress (planned vs actual), CPM chart, status of financial progress and achievement of milestone, manpower deployment status, inventory of materials and photographs of important activities. For delay in submission of the report, compensation @ Rs.2000/- (Rupees Two Thousand only) per day of delay subject to maximum of Rs.20,000/- for each report will be withheld from the amount payable to the contractor.

46. SAFETY PRECAUTIONS

The contractor shall also provide necessary barricade, informatory boards, lights and flagmen at either end of the execution area and at such intermediate points as required & as directed by the Engineer-in-charge at no extra cost. In case the contractor fails to make arrangement and provide necessary facilities as per the CPWD safety code (GCC-2023), he shall be liable to pay a penalty of Rs.200/- for each default.

The contractor shall maintain in good condition all work executed till the completion of the entire work entrusted to the contractor under this contract & nothing extra shall be paid on this account. Any damage to work resulting from rains or from any other cause until the work is taken over by Department after completion of work shall be made good by the contractor at his own cost.

Any damage made by men, machinery, vehicles (LMVs or HMTVs), or any way to the public/private property such as services of electricity, water, telephone, LAN, road and path during execution of the work shall be repaired/redone by the Agency/Contractor. If contractor fails to repair/redone damage, the

work shall be done on his risk as per the direction of the Engineer in charge. No any cost claim shall be entertained on this account.

All safety equipment such as Safety Helmets, Safety shoes, gloves, Safety belt etc. shall be made available to site Engineers, Supervisors, labourers, masons fitters etc.

- i) Contractor shall within two weeks of award of work, submit to the Engineer-in-Charge for his approval, list of measures for maintaining safety of manpower deployed for construction.
- ii) Contractor at his cost put up the barricading all around the construction site through suitable method for segregating the construction site and also to control the dust pollution in the campus. Entry to the site shall be controlled for proper security of man and materials and to avoid accidents.
- iii) The Contractor(s) shall take all precautions to avoid accidents by exhibiting necessary caution boards, day and night speed limit boards, red flags, red lights and providing barriers. He shall be responsible for all damages and accidents caused to existing/new work due to negligence on his part. No hindrances shall be caused to traffic during the execution of the work.
- iv) In case of any accident of labours/ contractual staff's the entire responsibility will rest on the part of the contractor and any compensation under such circumstances if becomes payable the same shall be entirely borne by the contractor and department shall have no role on this account.
- v) It shall be ensured by the contractor that no electric live wire is left exposed or unattended to avoid any accidents in this regard.
- vi) 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.
- vii) For fascia work, outer finishing and other RCC works etc. double steel scaffolding having two sets of vertical supports with steel staircase for inspection of works by engineer in charge shall be used. The supports shall be sound and strong, tied together with horizontal piece over which scaffolding planks shall be fixed.

47. QUALITY ASSURANCE

- i. 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.
- ii. 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.
- iii. Wherever work is specified to be done through specialized agencies, their names shall be got approved well in advance from Engineer in charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer in charge.
- iv. All materials obtained from Govt. Stores or otherwise shall be got checked by the Engineer-in-Charge or his any authorized supervisory staff on receipt of the same at site before use.

- v. The contractor shall provide at his own cost suitable weighing and measuring arrangements at site for checking the weight / dimensions as may be necessary for execution of work. The sealed samples are to be handed over to the testing lab by contractor in the presence of Junior Engineer/Assistant Engineer-in-Charge of work.
- vi. Samples of various materials required for testing shall be provided free of charges by the contractor. Testing charges, if any, unless otherwise provided shall be borne by the contractor. All other expenditure required to be incurred for taking the samples; conveyance, packing etc. shall also be borne by the contractor himself.
- vii. The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case, he or his authorized representative is not present or does not associate him, the results or such tests and consequences thereon shall be binding on the contractor.
- viii. For certain items, if frequency of tests not mentioned in the CPWD Specifications and then relevant IS code shall be followed and tests shall be carried out as per the frequency specified therein.
- ix. If any load testing or special testing is to be done for any sample whose strength is doubtful, the cost of the same shall also be borne by the contractor.
- x. Samples of all materials and fittings to be used in the work in respect of brand manufacturer and quality shall be got approved from the Engineer-in-Charge, well in advance of actual execution and shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer-in-Charge. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per approved list of brand names given in the tender document / additional specifications for approval of Engineer-in-charge. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer-in-Charge. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval.
- xi. To avoid delay, contractor should submit samples as stated above well in advance so as to give timely orders for procurement. If any material, even though approved by Engineer-in-Charge is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.
- xii. The contractor shall get the source of all other materials, not specified elsewhere in the document, approved from the Engineer-in-Charge. The contractor shall stick to the approved source unless it is absolutely unavoidable. Any change shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be done by the contractor at his own cost. Similarly, the contractor shall submit brand/ make of various materials not specified in the agreement, to be used for the approval of the Engineer-in-Charge along with samples and once approved, he shall stick to it.
- xiii. The contractor shall get the water tested with regard to its suitability and conforming to the relevant IS Code. The contractor shall obtain written approval from the Engineer-in-Charge before he proceeds by using the same for execution of work. The water testing charges shall be borne by the contractor. If tube well water is not suitable, the contractor shall arrange Municipal water or from any other source at his own cost and nothing extra shall be paid on this account. The water shall be got tested at frequency specified in latest CPWD Specifications / BIS Code.

- xiv. The Stone aggregate/stone, sand shall be brought from any quarries subjected to the said materials conform CPWD specifications.
- xv. The gradation of fine sand to be used in plaster work shall be strictly as per CPWD Specifications 2019, conforming to IS:1542-1977. The plastered surface shall be fairly smooth without any undulation of any kind for applying paint/white wash.
- xvi. The contractor shall submit shop drawings of staging and shuttering arrangement, aluminum work and other works as desired by Engineer-in-charge for his approval before execution. The contractor shall also submit bar bending schedule for approval of Engineer-in-charge before execution.
- xvii. The contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Engineer-in-charge. The contractor shall also construct one sample of cabin/room/toilet (as decided by the Engineer-in-charge) with all pipe line fittings and fixtures in all respects within time allowed from the date of start of work as mentioned in the Schedule-F or as per the direction of Engineer-in-charge. The contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-charge. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account. For non-compliance, Rs. 5000/- per day limited to 1% of the contract value shall be withheld from R.A. Bill.
- xviii. The construction joints shall be provided in predetermined locations only as decided by Engineer in charge. The cost of shuttering for these construction joints shall be included in item of Concrete work / RCC work and nothing extra shall be payable on this account to the contractor.
- xix. Water tanks, taps, sanitary, water supply and drainages pipes, fittings and accessories should conform to the specifications provided in bidding documents. The contractor(s) should engage approved, licensed plumbers for the work and get the materials (fixtures/fittings) tested, by the municipal Body/Corporation authorities, wherever required, at his own cost. The Contractor(s) shall submit for the approval to the Engineer-in-Charge the name of the plumbing agency proposed to be engaged by him.
- xx. All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions submitted before covering.
- xxi. 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.
- xxii. Door/window frames/shutters and other factory-made materials shall be procured from reputed and approved manufacturers or their authorized dealers. Decision of Engineer-in-charge in this regard shall be final and binding.
- xxiii. 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.

48. Testing of Materials:

- i. Samples of various materials, required for testing should be exact representation of the material intended to be used in the work. The procurement of materials shall be done only after

satisfactory test results have been received. All incidental expenditure required such as taking the samples, conveyance, packing etc. shall be borne by the contractor himself. B.I.S marked materials shall also be got tested beyond certain quantity of the various items required on the works.

- ii. **Laboratory at site:** The contractor shall 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 contractor shall provide the laboratory equipments as per the list mentioned in Schedule-F.
- iii. 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.
- iv. **Other Laboratories:** 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 except cement for which separate condition is provided in tender document.
- v. The testing shall mandatorily be carried out in the Laboratories setup by the Government Sector, Semi Government or NABL approved Private Sector. All Government Institutes, Indian Institutes of Technology, National Institutes of Technology, Central and State Research Centers, Centrally and State Funded Laboratories stands approved. No approval is required for Testing in these Laboratories / Institutes. However, the outside Private Laboratories shall be got approved from the Engineer-in-charge, if no approved labs as above is available within 200 kms. of the work site. A particular private lab shall be approved for specified tests and work / project. The approving authority will specify the tests while approving the laboratories.
- vi. The cost of test required for all the materials shall be borne by the Contractor until unless specified elsewhere in the NIT.
However the cost of tests for the following materials/tests shall be borne by the Contractor if the test results does not conform to CPWD Specifications/relevant BIS codes, or by the Department if the test results conform to CPWD Specifications/relevant BIS codes.
 - a) Fire check/Retardant Doors,
 - b) Wind Pressure Test in structural glazing work.
 - c) Tests like X-Ray, Dye-Penetration for structural welding
 - d) Ascertaining the classification of Wood/Timber.
 - e) Ultrasonic Pulse Velocity Method of test for RCC.

49. Maintenance of Site Registers:

- i. All the Site Registers including Tests registers for tests to be carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.
- ii. The various registers to be issued to the contractor are:
 - a. Materials at site account register.

- b. Cement register.
 - c. Master test registers.
 - d. Cube test register.
 - e. Paint register.
 - f. Inspection register.
 - g. Drawing register.
 - h. Any other register decided by the Engineer-in-charge.
- iii. All the entries in the registers will be made by the designated engineering staff of the contractor and same should be regularly reviewed by JE/AE/EE.
- iv. All the registers of tests carried out at construction site or in outside laboratories shall be maintained by the contractor which shall be issued to the contractor by Engineer-in-Charge in the same manner as being issued to CPWD field staff.
- v. All samples of materials including cement concrete cubes shall be taken jointly with contractor by JE and out of this at least 50% samples shall be taken in presence of AE in charge. If there is no JE, all samples of materials including cement concrete cubes shall be taken by AE jointly with contractor. All the necessary assistance shall be provided by the contractor. Cost of Sampling & testing are to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site/ outside laboratory.
- vi. All the tests in field lab at construction site shall be carried out by the Engineering staff deployed by the contractor and shall be 100% witnessed by JE and 50% of tests shall be witnessed by AE – in-Charge. At least 10% of the tests are to be witnessed by the Executive Engineer. Minimum 25% of all samples should be tested in outside approved laboratory/ Govt. Engineering colleges.
- vii. Submission of copy of all test registers, material at site register along with each alternate running account bill and final bill shall be mandatory. These registers should be duly checked by AE(P) in division office.

50. Removal of Rejected / Sub-standard Materials:

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

- a) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of the AE/AEE giving approximate quantity of such materials.
- b) As soon as the material is removed, a certificate to that effect may be recorded by the AE/AEE against the original entry, giving the date of removal a mode of removal i.e. whether by truck, carts or by manual labour. If removal is by truck, the registration number of the truck should be recorded.
- c) When it is not possible for the AE/AEE to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site the required certificate should be recorded by the Junior Engineer and the AE/AEE should countersign the certificate recorded by the Junior Engineer.

51. AS BUILT DRAWINGS:

On completion of work, the Contractor(s) shall submit at his own cost four prints of “as built” drawings to the Engineer-in-Charge within 30 days of completion of work. These drawings shall have the following information.

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

- ii. Ground and invert levels of all drainage pipes together with locations of all manholes and connections, up to outfall.
- iii. Run off all water supply line with diameters, locations of control valves, access panels etc.

In case, the contractor fails to submit the completion plan as aforesaid, the department will get it done through other agency at his cost and actual expenses incurred plus Rs.15,000/- for the same shall be recovered from the contractor.

52. Electric Connection & Supply:

- i. The contractor shall make his own arrangements for obtaining electric connections, if required and make necessary payments directly to the department concerned.
- ii. The fittings used for items of water supply & sanitary works shall be preferably of same make.
- iii. The contractor shall be responsible for the protection of sanitary and water supply fittings and fixtures against pilferage and breakage during the period of installation and thereafter until the building is handed over.
- iv. The contractor shall give a performance test of the entire installation (S) as per standard specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
- v. No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.

SPECIAL CONDITIONS

1. SPECIAL CONDITIONS FOR CEMENT:

- 1.1. The contractor shall procure 43 grade Ordinary Portland Cement (OPC) conforming to IS:8112/Portland Pozzolana Cement (PPC) conforming to IS: 1489 (Part-I) as required in the work, from reputed manufacturers of cement as mentioned in the list of approved make of materials.
- 1.2. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially.
- 1.3. Supply of cement shall be made in 50 kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in- Charge and got tested in accordance with provisions of the relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not confirm to the relevant BIS code the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-charge to do so.
- 1.4. The cement shall be brought at site in bulk supply of approximately **50 tonnes** or as decided by the Engineer-in-Charge.
- 1.5. The cement godown of the capacity to store a minimum of **50 tonnes** of cement shall be constructed by the contractor at site of work for which no extra payment shall be made.
- 1.6. Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the key of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at anytime.
- 1.7. The cement shall be got tested by the Engineer-in-Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to test laboratories.
- 1.8. The cost of tests shall be borne by the contractor/department in the manner indicated below:
 - i. By the contractor, if the results show that the cement does not conform to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.
 - ii. By the department, if the results show that the cement conforms to relevant CPWD Specifications / BIS code or specification mentioned elsewhere in the documents.
- 1.9. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate show prescribed shall be made. In case of excess consumption, no adjustment need to made.
- 1.10. The cement brought to site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in-Charge.
- 1.11. The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do show within three days of receipt of

such notice, the Engineer-in-Charge shall get it removed at the cost of the contractor.

- 1.12. 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.
- 1.13. 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.
- 1.14. In order to have an effective control over the issue of cement, the following drill should be observed:
 - i. The cement godown(s) should be properly and effectively double locked, keys of one of the locks remaining with the department and that of the other with the contractor.
 - ii. The pages of the Cement Register should be as per Appendix-28 of CPWD Works Manual, machine numbered etc as required.
 - iii. Periodical checking of cement godown.: The cement godown and the Cement Register should be checked by the Assistant Engineer/Executive Engineer in-charge of the work as per following schedule:
 - a) At least weekly or fortnightly, respectively, in case of works at the headquarters of the Assistant Engineer/Executive Engineer.
 - b) Whenever they visit the site of work in case of works that are located outside the Sub-Divisional/Divisional head quarters.

2. SPECIAL CONDITIONS FOR STEEL REINFORCEMENT BARS:

- 2.1. Only ISI marked TMT bars of various grades shall be procured from the Steel manufacturer as per the list of approved make. For approval of other makes following guidelines may be followed.
The Special Director General (WR), CPWD shall approve the steel manufacturers subject to the guidelines for eligibility criteria and other technical parameters given below :
 - i. Credentials for eligibility criteria and other technical parameters for steel manufacturers :
The manufacturer should meet the following eligibility criteria :-
 - a) The steel manufacturers should have following documentary evidence:
 - i. Certificate of incorporation.
 - ii. Memorandum of articles of Association.
 - iii. Credit rating of the company from CARE/CRISIL/ICRA(the grading should not be C/D grade for minimum last 3 years.)
 - b) The Steel manufacturer must have following licenses and certificates :
 - i. ISI certificate for billets (IS 2830:2012)
 - ii. ISI certificate for TMT Bars (IS 1786:2008 (Amendment-1 November 2012)
 - c) The Steel manufacturer should also preferably have the following licenses:
 - i. ISO 9001:2015
 - ii. ISO 14001:2015

- iii. OHSAS 18001:2007
 - d) The steel manufacturer should be using iron ore as the basic raw material. The entire gamut of iron and steel production is owned by the same company or its subsidiary company (is) and the iron making capacity is sufficiently matching the steel making capacity, adopting any of the refining technologies for manufacturing steel & TMT Bars as given under are eligible :
 - (i) BF-BOF route
 - (ii) COREX-BOF Route
 - (iii) DRI-EAF Route (Each Electric Arc Furnace should be 100 MT or more).
 - e) Billets produced must be ISI marked (IS 2830:2012)
 - f) The TMT bars produced must be ISI marked (IS 1786-2008)
 - g) The steel manufacturer should have the following in house testing facilities (NABL Accredited):
 - i) Computerized Universal Testing Machine.
 - ii) Spectrometer.
 - iii) Ben Re-bend facility as per IS : 1786:2008 (Amendment-1 November 2012)
 - iv) Raw material laboratory : Arrangement for testing Carbon, Sulphur & Phosphorous etc.
 - v) Other testing facilities as specified in IS :1786:2008 & IS:2830:2012.
- 2.2. Special DG (WR)of CPWD shall approve the steel manufacturers conforming to the OM No. DG/MAN/382, dated 06.02.2019.
- 2.3. The Contractor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work.
- 2.4. Samples shall also be taken and got tested by the Engineer-in Charge as per the provision in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the Contractor does not conform to the specifications, the same shall stand rejected and it shall be removed from the site of work by the Contractor at his cost within a week time of written orders from the Engineer-in-Charge to do so.
- 2.5. The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge.
- 2.6. The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 2.7. For checking nominal mass, tensile strength, bend test, re-bend test etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below. :

<i>Size of bar</i>	<i>For consignment below 100 tonnes</i>	<i>For consignment over 100 tonnes</i>
Under 10 mm dia	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.

- 2.8. The Contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. The cost of tests shall be borne by the Contractor.
- 2.9. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations leading to under designing of the structure, the work shall be summarily rejected, otherwise recovery at the rate so prescribed shall be made after ensuring structural soundness and stability. In case of excess consumption no adjustment need to be made.
- 2.10. The Steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
- 2.11. For the purpose of payment, the actual weight of reinforcement steel shall be worked out as below :
 - a. To arrive at unit weight for the purpose of payment three random samples each of 1 meter length shall be collected for each diameter of re-bar from every consignment received at site. Actual weight of three specimens for each diameter shall be taken and average weight calculated and recorded. The average weight so arrived at shall be compared with the theoretical weight of that particular diameter of rebar. Actual or theoretical weight whichever is less shall be considered for making payment for that consignment. However final payment shall be made on the basis of weighted average of all the consignment. The decision of the Engineer-in-charge as regards the random samples and average weight shall be final and binding on the contractor and no claim of any kind shall be entertained in this regard.

3. SPECIAL CONDITIONS FOR PREVENTION OF AIR POLLUTION AS PER DIRECTIVES OF NATIONAL GREEN TRIBUNAL(NGT):

The contractor shall strictly adhere to the following conditions as part of his contractual obligations. Nothing extra shall be paid for adhering to these conditions.

3.1. SITE

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

- 3.2. The Contractor should follow the construction plan as proposed by the Architect / Engineer-in-Charge to minimize the site disturbance such as soil pollution due to spilling. If required use of staging and spill prevention and control plan to restrict the Spilling of the contaminating material on site needs to be resorted. Protection of top soil from erosion by collection storage and reapplication of topsoil, constructing sediment basin, contour trenching, mulching etc., may also be directed by the engineer in charge.
- 3.3. No excavated earth shall be removed from the campus unless suggested otherwise by Engineer-in-Charge. All subsoil shall be reused in backfilling/landscape, etc. as per the instructions of the Engineer in

Charge. The surplus excavated earth shall be disposed of by the contractor as per the direction of the engineer in charge at his own cost for reuse. A certificate of reuse as required by the Engineer-in-Charge shall be submitted by the contractor.

- 3.4. The contractor shall not change the natural gradient of the ground unless specifically instructed by the Engineer in Charge. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Engineer-in-Charge.
- 3.5. The contractor shall not carry out any work which results in the blockage of natural drainage.
- 3.6. The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the Engineer-in-Charge
- 3.7. Contractor shall reduce pollution and land development impacts from automobiles use during construction.
- 3.8. Overloading of trucks is unlawful and creates the erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering shall be used by the contractor. Also, no overloading shall be permitted.

3.9. **CONSTRUCTION PHASE AND WORKER FACILITIES**

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

3.10. **Preserve and Protect Landscape during Construction**

- i. The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots. These shall be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash and protected from oil, paint, and other materials detrimental to plant health. These activities shall be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not at all permitted.
 - ii. The contractor shall take steps to protect trees or saplings if any identified for preservation within the construction site using tree guards of approved specification.
 - iii. The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. The zones of movement of heavy equipment, parking, or excessive foot traffic shall be separated from the fenced plant protection zones.
 - iv. The contractor shall ensure that maintenance activities during construction period shall be performed as needed to ensure that the vegetation remains healthy.
- 3.11. Contractor shall collect all construction waste generated on site. He may consider at segregating wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.
 - 3.12. The contractor shall provide potable water and other amenities for all workers as per the contract.
 - 3.13. The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site as described in CPWD General Conditions of contract. The contractor shall ensure cleanliness of

workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable provisions. Adequate toilet facilities shall be provided for the workmen within easy access of their place of work. The total no. to be provided shall not be less than 1 per 30 employees in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided and natural or artificial illumination shall also be provided.

- 3.14. The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall also ensure the following activities to prevent air pollution during construction:
- i. Clear vegetation only from areas where work will start right away.
 - ii. Vegetate / mulch areas where vehicles do not ply.
 - iii. Apply gravel / landscaping rock to the areas where mulching / paving is impractical.
 - iv. Identify roads on-site if applicable that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base and add surface gravel to reduce source of dust emission to limit amount of fine particles (smaller than 0.075mm) to 10 – 20%.
 - v. Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged.
 - vi. Water spraying shall be done on:
 - Any dusty materials before transferring, loading and unloading
 - Area where demolition work is being carried out
 - Any un-paved main haul road
 - Areas where excavation or earth moving activities are to be carried out
 - vii. The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
 - viii. All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
 - ix. Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas
 - x. Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area at his cost.

- xi. Provide dust screens, sheeting or netting to scaffold along the perimeter of the building at his cost.
 - xii. Cover stockpiles of dusty material with impervious sheeting at his cost.
 - xiii. Cover dusty load on vehicles by impervious sheeting before they leave the site at his cost.
- 3.15. Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program
- 3.16. The contractor shall ensure that no construction leachate (e.g. cement slurry etc.), is allowed to percolate into the ground. Adequate precautions will be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).
- 3.17. Staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.
- 3.18. The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to casualties. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.
- 3.19. The contractor shall ensure the following activities for construction workers safety, among other measures at his cost.
- i. -Guarding all parts of dangerous machinery.
 - ii. -Precautionary signs for working on machinery
 - iii. -Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
 - iv. -Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
 - v. -Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
 - vi. -Provide protective equipment; helmets etc.
 - vii. -Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
 - viii. -Provide sufficient and suitable light for working during night time.
- 3.20. The storage of material shall be as per standard good practices as specified in Part 7, Section 2 - Storage, Stacking and Handling practices, NBC 2016 and shall be to the satisfaction of the Engineer in Charge to

ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipments with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipments at different stages of construction shall be considered.

- 3.21. The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labeled in both Hindi and English with suitable symbols.
- 3.22. The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.
- 3.23. Contractor shall collect & submit the relevant material certificates for materials if directed by the Engineer in charge with high recycled (both post-industrial and post-consumer) content, including materials like RMC mix with fly-ash, glass with recycled content, calcium silicate boards etc.
- 3.24. Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.
- 3.25. The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.
- 3.26. Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below in case items of such paints are/is available in schedule of quantities.

Paints	Coatings / Clear wood finishes	Sealers
Non-Flat – 150g/L	Varnish - 350 g/L	Waterproofing sealer - 250 g/L
Flat (Mat) – 50g/L	Lacquer - 550 g/L	Sanding sealer - 275 g/L
Anti corrosive/ anti rust - 250 g/L	Floor coatings - 100 g/L	Other sealers - 200 g/L
	Stains - 250 g/L	

- 3.27. The VOC (Volatile Organic Compounds) content of adhesives and sealants used if prescribed in the schedule of quantities must be less than VOC content limits mentioned: **Architectural Applications** VOC Limit (g/l less water)

Adhesive and Sealants	VOC content	Adhesive and Sealants	VOC content
Indoor Carpet adhesives	50 g/L	Ceramic Tile Adhesives	65 g/L
Carpet Pad Adhesives	50 g/L	VCT and Asphalt Tile adhesives	50 g/L
Wood Flooring Adhesive	100 g/L	Dry Wall and Panel Adhesives	50 g/L
Rubber Floor Adhesives	60 g/L	Structural Glazing Adhesives	100 g/L
Sub Floor Adhesives	50 g/L	Multipurpose Construction Adhesives	70 g/L
Substrate Specific Application	VOC content	Substrate Specific Application	VOC content
Metal to Metal	30 g/L	Wood	30 g/L
Plastic Foams	50 g/L	Fiber Glass	80 g/L
Porous material (except wood)	50 g/L		

- 3.28. Water Use during Construction Contractor should spray curing water on concrete structure and shall not allow free flow of water. Concrete structures should be kept covered with thick cloth / gunny bags and water should be sprayed on them.
- 3.29. The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non-serviceable (malba) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest and till then they shall be suitable covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided.
- 3.30. The contractor shall provide O & M Manuals wherever applicable.
- 3.31. The contractor shall make himself conversant with the Site Waste Management Program Manual and actively contribute to its compilation by estimating the nature and volume of waste generated by the process/installation in question.
- 3.32. **MATERIALS & FIXTURES FOR THE PROJECT**
- Contractor will produce wherever feasible certificate regarding distance of the source of the relevant material.
 - Unless otherwise stated cement used at site for reinforced concrete, precast members, mortar, plaster, building blocks, etc shall be PPC (Portland Pozzolana Cement). The PPC must meet the requirements of IS 1489 (Part I) as regards to fly ash content in cement The contractor shall obtain from the PPC manufacturer the certificate regarding fly ash content in the PPC in each batch of consignment.
 - The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization. Every construction agency engaged in the construction of buildings within a radius of 50 km radius of a Thermal Power Plant, have to use of 100% fly ash based bricks/blocks in their construction.
 - The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and

externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer in Charge before the application of any such material.

- v. All plumbing and sanitary fixtures installed shall be as per the prescription of the Engineer in Charge and shall adhere to the minimum LPM (liters per minute) and LPF (liters per flush) mentioned. The contractor shall employ 100% zero ODP (ozone depletion potential) insulation; HCFC (hydro-chlorofluorocarbon)/ and CFC (chlorofluorocarbon) free HVAC and refrigeration equipments and / halon-free fire suppression and fire extinguishing systems.
- vi. The contractor shall ensure that all composite wood products/agro-fiber products used for cabinet work, etc do not contain any added urea formaldehyde resin.

3.33. RESOURCES CONSUMED DURING CONSTRUCTION

- i. The contractor shall ensure that the water and electricity is not wasted during construction. The Engineer in Charge can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.
- ii. The contractor shall install necessary meters and measuring devices to record the consumption of water, electricity and diesel on a monthly basis for the entire tenure of the project.
- iii. The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.
- iv. The contractor shall use treated recycled water of appropriate quality standards for construction, if available.
- v. No lights shall be turned on during the period between 6:00 AM to 6:00 PM, without the permission of the Engineer in Charge.

3.34. CONSTRUCTION WASTE

- i. All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type and measures employed to segregate the waste on site into inert, chemical, or hazardous wastes.
- ii. All construction debris shall be used for road preparation, back filling, etc, used if described in the schedule of quantities and as per the instructions of the Engineer in Charge, with necessary activities of sorting, crushing, etc.
- iii. No construction debris shall be taken away from the site, without the prior approval of the Engineer in Charge.
- iv. The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos.
- v. If and when construction debris is taken out of the site, after prior permissions from the Engineer in Charge, then the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.

3.35. DOCUMENTATION OF IMPLEMENTATION OF GREEN NORMS

- i. The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a monthly basis:
 - a. Water consumption in liters
 - b. Electricity consumption in 'kwh' units
 - c. Diesel consumption in liters
 - d. Quantum of waste (volumetric/weight basis) generated at site and the segregated waste

types divided into inert, chemical and hazardous wastes.

- e. Digital photo documentation to demonstrate compliance of safety guidelines as specified here and in the Appendix on Safety Conditions.
- ii. The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a fortnightly basis:
 - a. Quantities of material brought into the site, including the material issued to the contractor by the Engineer in charge.
 - b. Quantities of construction debris (if at all) taken out of the site
 - c. Digital photographs of the works at site, the workers facilities, the waste and other material storage yards, pre-fabrication and block making works, etc. as guided by the Engineer in Charge.
- iii. The contractor shall submit a document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disturbed during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. (Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction
- iv. The contractor shall submit to the Engineer in Charge after construction of the buildings, a detailed as built quantification of the following:
 - a. Total materials used,
 - b. Total top soil stacked and total reused
 - c. Total earth excavated
 - d. Total waste generated,
 - e. Total waste reused,
 - f. Total water used,
 - g. Total electricity, and
 - h. Total diesel consumed.
- v. The contractor shall submit to the Engineer in Charge, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.
- vi. The contractor shall submit to the Engineer in Charge, a detailed narrative (not more than 250 words) on provision for safe drinking water and sanitation facility for construction workers and site personnel.
- vii. Provide supporting document from the manufacturer of the cement specifying the fly-ash content in PPC used in reinforced concrete.
- viii. Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.
- ix. The contractor shall, at the end of construction of the buildings, submit to the Engineer in Charge, submit following information, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:
 - a. Source of products: Supplier details and location of the supplier.
 - b. Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for

- installation of products.
 - c. Recycled Content: Submit information regarding product post industrial recycled and post consumer recycled content. Use the “Recycled Content Certification Form”, to be provided by the Commissioning Authority appointed for the Project.
 - d. Product Recyclability: Submit information regarding product and product’s component’s recyclability including potential sources accepting recyclable materials where ever applicable.
 - x. Provide final certification of well-managed forest of origin to provide final documentation of certified sustainably harvested status: Acceptable wood “certified sustainably harvested” certifications shall include:
 - a. Wood suppliers’ certificate issued by one of the Forest Stewardship Council-accredited certifying agencies;
 - b. Suppliers’ invoice detailing the quantities of certified wood products for project;
 - c. Letter from one of a certifying agency corroborating that the products on the wood supplier’s invoice originate from certified well-managed forests.
 - (i) Clean tech: Provide pollution clearance certificates from all manufacturers of materials
 - (ii) Indoor Air quality and Environmental Issues: Submit emission test data, sourced from the manufacturers, produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific Specification section.
 - d. Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
 - e. Certification from manufacturers of composite wood products/agro fiber products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
 - f. Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.
- 3.36. Provide total support to Engineer in Charge and Green Building Consultants appointed by the Engineer-in-Charge in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor’s letterhead whenever required.
- 3.37. **EQUIPMENT**
- i. To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the Engineer in Charge.
 - ii. All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL/LED bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.
- 3.38. The contractor is expected to go through all other conditions of the LEED & GRIHA rating stipulations.
- 3.39. Failure to adhere to any of the above mentioned items, without approval of the Engineer in Charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as per terms of the agreement.
- 3.40. The contractor shall not store/dump construction material or debris on metalled road.
- 3.41. The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.

- 3.42. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area.
- 3.43. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purpose or are carrying construction material like cement, sand and other allied materials are fully covered. The contractor shall take all necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air / contaminate air.
- 3.44. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
- 3.45. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
- 3.46. The contractor shall ensure that C&D waste is transported to the C&D waste site only and due record shall be maintained by the contractor.
- 3.47. The contractor shall ensure compulsory use of wet jet in grinding and stonecutting.
- 3.48. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines,2010.
- 3.49. The contractor shall carry out on road inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
- 3.50. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
- 3.51. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 KMPH. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
- 3.52. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
- 3.53. The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.

PARTICULAR SPECIFICATIONS

1.0 EARTH WORK

- 1.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol.I& Vol. II and National Building Code 2016 with upto date correction slips.
- 1.2 Excavation shall be undertaken to the width of the Basement / Retaining wall footing including necessary margins for construction operation as per drawing or directed otherwise. Where the nature of soil or the depth of the trench and season of the year, do not permit vertical sides, the contractor at his own expense shall put up the necessary shoring, strutting and planking or cut slopes with or without steps, to a safer angle or both with due regard to the safety of personnel and works and to the satisfaction of the Engineer, Measurement of plan area of excavation for payment shall be permitted only. Nothing extra shall be paid for making steps and slopes etc. as required.
- 1.3 The contractor shall make at his own cost all necessary arrangements for maintaining water level, in the area where works are under execution low enough so as not to cause any harm to the works or problems in carrying out with the execution and the rates for all items of work shall be considered as inclusive of pumping out or bailing out water, if required, for which no extra payment shall be made. This will include water coming from any source, such as rains, accumulated rain water, floods, leakages from sewer and water mains, subsoil water table being high or due to any other cause whatsoever. The contractor shall make necessary provision of pumping, dredging, and bailing out water coming from all above sources and excavation and other works shall be kept free of water by providing suitable system approved by the Engineer- in-charge.
- 1.4 Sub-soil water table at work site is generally found about 5.0 m below general ground level. The water level may vary due to rainy season or due to dewatering etc. in order to avoid possibility of basement floor of building being getting uplifted/damaged due to water pressure, the contractor shall make arrangement for lowering the ground water table below the proposed foundation level as approved by Engineer-in-charge. Sub soil water table shall be maintained at least 50 cm below the P.C.C. level during laying of P.C.C., water proofing treatment, laying of basement raft and beams including filling of earth/sand under the basement floor. The water table shall not be allowed to rise above base of raft level until completion of outer retaining walls including water proofing of vertical surface of walls and back filling along the walls up to ground level and until the structure attains such height to counter balance the uplift pressure. However, the contractor should inspect the site and make his own assessment about sub-soil water level likely to be encountered at the time of execution and quote his rates accordingly. Rate of all items are inclusive of pumping out or bailing out water, if required. Nothing extra on this account whatsoever shall be paid to him unless otherwise specified. The sequence of construction shall be got approved by the Engineer-in-charge.
- 1.5 All the major excavation shall be carried out by mechanical excavator. No extra payment shall be made for that.
- 1.6 Any trenching and digging for laying sewer lines/water lines/cables etc. shall be commenced by the contractor only when all men, machinery"s and materials have been arranged and closing of the trench(s) thereafter shall be ensured within the least possible time.
- 1.7 The rates are inclusive for all depths & nothing extra shall be paid for additional lift etc.

CONCRETEWORK

- 2.0 The work shall be done in accordance with CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 2.1 If the quantity of cement actually used in the work is found to be more than the theoretical quantity

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

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

3.0 RCC/CC WORK (DESIGN MIX CONCRETE)

- 3.1** The Design Mix Concrete will be designated based on the principles given in BIS codes IS:456, IS:10262 & SP:23. The condition and specifications stated herein shall have precedence overall conditions and specifications stated in relevant BIS codes/CPWD specifications. The concrete mix shall be designed for specified target mean compressive strength in order to ensure that the work test results do not fall below the acceptance criteria specified for the concrete mix. The Contractor shall design mixes for each class of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. The mix shall be designed with quantities of admixture / plasticizer proposed to achieve required workability & strength. The specifications mentioned here in below shall be followed for Design Mix Concrete.
- 3.2** The sources of coarse aggregate, fine aggregate & water to be used in concrete work shall be identified by the contractor & he will satisfy himself regarding their conforming to the relevant specification & their availability before getting the same approved by the Engineer-in-Charge.
- 3.3** Coarse Aggregate: As per CPWD Specifications - 2019 - Vol.& Vol. II with up to date correction slips.
- 3.4** Fine Aggregate: As per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 3.5** Water: It shall confirm to requirements laid down in IS:456-2000 / CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 3.6** Cement: OPC/PPC shall be used for design mix concrete and shall conform to relevant IS-Code. However, if higher grade of cement is used by the contractor nothing extra shall be paid on this account.
- 3.7** Admixtures / Plasticizers: - The admixture shall confirm to IS:9103, wherein required, the admixture of approved quality and approved make only shall be used to attain the required workability. Nothing extra shall be paid for use of admixtures.
- 3.8** Grade of Concrete: The compressive strength of various grades of concrete shall be given as per relevant IS code:

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

NOTE:

- (i) In the designation of a Concrete mix letter M refers to the mix and the number of the specified characteristic compressive strength of 15 cm cube at 28 days expressed in N/mm².
- (ii) The maximum cement content for design mix concrete shall be maintained as per the quantity mentioned above. In case where the quantity of cement required as per Design Mix is lower than the quantity specified in the respective item in the “schedule of quantity”, necessary deduction for

less quantity of cement used shall be made from the contractor.

- 3.9** The contractor shall engage one of the IIT/NIT/Reputed Govt. Engineering Institutions/Approved Laboratories as directed by the Engineer-in-charge at his own expenses for designing the concrete mix in accordance with relevant IS Codes and to conduct laboratory test to ensure the target strength and workability criteria for a given grade of concrete.
- 3.10** The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer-in-Charge within 30 days from the date of issue of letter of acceptance of the tender. No concreting shall be done until the design mix is approved. In case of white Portland cement and the likely use of admixtures in concrete with ordinary Portland/white Portland 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.
- 3.11** In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-Charge.
- 3.12** All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor including redesigning of the concrete mix wherever required and directed by Engineer-in-Charge.
- 3.13** All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the Contractor.

3.14 WORK STRENGTH TEST:

TEST SPECIMEN:

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

- 3.15** The contractor has to arrange at site sufficient centering and shuttering for before two months from stipulated date of start of work. Only MS centering / shuttering and scaffolding material unless & otherwise specified shall be used for all R.C.C. work to give an even finish of concrete surface. However, marine-ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-Charge.
- 3.16** Nothing extra shall be paid for the centering and shuttering, circular in shape whenever the form work is having a mean radius exceeding 6m in plan.
- 3.17** For form work use of solid timber and products involving solid timber shall not be permitted.
- 3.18** In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of RCC shall be accordingly adjusted at the time of its centering, shuttering and casting for which nothing extra shall be paid to the Contractor.
- 3.19** As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 25 mm as required lower than general floors shuttering should be adjusted accordingly and slabs should be laid with slope towards the drainage point. Nothing extra is payable on this account.
- 3.20** Following parameters shall be adopted for mix design in a Moderate Exposure.

1	Nominal Maximum size of aggregate	20 mm angular as per CPWD specification
2	Degree of quality control	Good

3	Type of Exposure	Type of Exposure
4	Maximum water cement ratio	0.50
5	Cement content	330 kg/cum of concrete for M-25 Grade
6	Type of cement used.	OPC / PPC conforming to relevant IS-Code
7	Sand	Coarse sand as per CPWD specification
8	Chemical Admixture	As per IS : 9103

- 3.21** For concrete mix design, laboratory tests with OPC/PPC cement will be carried out by the contractor through approved laboratories/institutions approved by the Engineer-in-charge. For this purpose the various ingredients for mix design shall be sent to the lab/test houses or Institutions and the samples of such ingredients sent shall be preserved at site. The trial mix shall be prepared with approved aggregates, cement and water. The concrete batching plant to be employed in the work shall be used for preparing the trial mix to simulate actual field conditions.
- 3.22** Design mix shall be prepared without adding any admixture and minimum cement content of design mix as specified in the item is based on without adding any admixture. Admixture may be added to achieve desired workability for which nothing extra shall be paid to the contractor.
- 3.23** In respect of projected balconies, projected slabs at roof level and projected verandah, the payment for the R.C.C. work shall be made under the item of R.C.C. slabs. The payment for centering and shuttering of such items shall similarly be paid under the item of centering and shuttering of R.C.C. slab. Nothing extra shall be paid for the side shuttering at the edges of these projected balconies and projected verandahs. All the exposed edge shall, however, be finished as per specifications and nothing extra shall be paid for this.
- 3.24** Only steel form work (Centering and Shuttering) conforming to CPWD specifications 2019 Vol.-I shall be used. Nothing extra shall be payable for steel form work.
- 3.25** The rate quoted by the agency shall be net and nothing extra shall be payable on account of change of quantities of concrete ingredients like coarse sand aggregates and admixtures etc. as per the approved mix design. However recovery shall be made for less use of cement than as stipulated in the item i.e. 330 Kg/cum for M-25, 340Kg/cum for M-30 and 220 Kg/cum for M-10 then recovery for less use of cement than stipulated in the item shall be made @Rs. **5.17** per kg of cement and nothing extra shall be payable for use of cement more than 330 kg/cum for M-25, 340Kg/cum for M-30 and 220Kg/cum for M-10 of R.M.C./Design Mix Concrete.

4 CONDITIONS FOR RCC WORKS READY MIX CONCRETE

- 4.1 Design mix concrete shall be used in the work for all structural members. For design mix concrete revised CPWD specifications 2019 along with relevant IS codes shall be followed in general along with the specific provisions made herein.

- 4.2 Following parameters shall be adopted for mix design.

Grade of concrete	M 25	M 30
(i) Nominal Max size of aggregate	20 mm angular as per C.P.W.D. specification	20 mm angular as per C.P.W.D. specification
(ii) Degree of workability	0.80 compacting factor.	0.80 compacting factor.
(iii) Degree of quality control	Good	Good
(iv) Type of exposure	Moderate	Moderate

(v) Max free water cement/ ratio	0.50	0.50
(vi) Type of cement used	OPC/PPC conforming to relevant IS Code	OPC/PPC conforming to relevant IS Code
(vii) Minimum Cement content	330 Kg /Cum of concrete	340 Kg /Cum of concrete
(viii) Sand	Coarse sand as per C.P.W.D. specifications.	Coarse sand as per C.P.W.D. specifications.
(ix) Chemical Admixture	As per IS : 9103	As per IS : 9103

- 4.3 Design parameters for M10 design mix concrete :
Following parameters shall be adopted for mix design.

Grade of concrete	M 10
(i) Nominal Max size of aggregate	20 mm angular as per C.P.W.D. specification
(ii) Degree of workability (Slump)mm a) without pump b) with pump	50 to 100mm 75 to 125mm
(iii) Degree of quality control	Good
(iv) Type of exposure	Moderate
(v) Max free water cement/ ratio	0.65
(vi) Type of cement used	OPC/PPC conforming to relevant IS Code
(vii) Minimum Cement Content	220 Kg/ cum
(viii) Sand	Coarse sand as per C.P.W.D. specifications.
(ix) Mix applicable	Plain cement concrete

- 4.4 Approved admixtures conforming to IS:9103 shall be permitted to be used. The chloride content in the admixture shall satisfy the requirement of BIS 5075. The total amount of chloride content in the admixture mixed concrete shall satisfy the requirement of IS:456-2000. Fly ash shall not be used in R.C.C.
- 4.5 The concrete mix design with and without admixture will be got carried out by the contractor through laboratories/ Test houses, approved by Engineer-in-charge.
- 4.6 The various ingredients of mix design for laboratory tests shall be sent to the lab/ test houses through the Engineer-in-charge and the samples of such ingredients sent shall be preserved at site by the department till completion of work. The sample shall be taken from the approved materials which are proposed to be used in the work.
- 4.7 The contractor shall submit the mix design report from approved laboratory and get approval of Engineer-in-charge. No concreting shall be done without prior approval of the mix design by the Engineer-in-charge.
- 4.8 The contractor shall make cubes of trial mixes as per approved mix design at site laboratory for all grades of concrete in presence of the Engineer-in-charge using same ingredients as adopted to design mix, prior to commencement of concreting and get them tested in presence of Engineer-in-charge for 7 day and 28 days.
- 4.9 For each change of source/ quality/ characteristic properties of the ingredients from that approved &

used in the concrete mix during the work, a fresh mix design shall be got done by the contractor from the approved laboratory. Revised trial mix test shall be conducted at laboratory established at site and shall be submitted by the contractor as per the direction of the Engineer-in-charge.

- 4.10 The cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for mix design in all cases shall be borne by the contractor.
- 4.11 The rate for the item of Ready mix concrete shall be inclusive of all the ingredients including admixtures if required, labour, placing, curing, compacting, pumping, machinery, T&P etc. (except shuttering which will be measured & paid for separately) required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net and nothing extra shall be payable on account of change of quantities of concrete ingredients like aggregates and admixtures etc. as per the approved mix design. If cement used as per approved mix design is less than that as stipulated in the item i.e. 330 Kg/cum for M-25, 340Kg/cum for M-30 and 220 Kg/cum for M-10 then recovery for less use of cement than stipulated in the item shall be made @Rs.5.17 per kg of cement and nothing extra shall be payable for use of cement more than 330 kg/cum for M-25, 340Kg/cum for M-30 and 220Kg/cum for M-10 of R.M.C./Design Mix Concrete.
- 4.12 The contractor shall engage Ready Mix Concrete (RMC) producing plants to supply RMC for the work. The RMC plant proposed to be engaged by the contractor shall fulfill the following requirements:
 - i. It shall be fully computerized
 - ii. It should have supplied RMC for Government/ Public undertaking/ Local bodies projects of similar magnitude.
 - iii. It should have facility for providing printed dispatch slips showing ingredients of concrete carried by each mixer.
- 4.13 The contractor shall within 15 days of award of the work, submit list of at least two RMC plant companies of repute along with details of such plants including details of transit mixer, pumps etc. to be deployed indicating name of owner company, its location, capacity, technical establishment, past experience and text of M.O.U. proposed to be entered between purchaser (the contractor) and supplier (R.M.C. plant) to the Engineer-in-charge who shall give approval in writing (subject to drawl of M.O.U.). The contractor shall draw M.O.U. with approved R.M.C. Plant owner and submit to Engineer-in-charge within a week of such approval. The contractor will not be allowed to purchase ready mix concrete without completion of above stated formalities for use in this project. Notwithstanding the approval granted by Engineer-in-charge in aforesaid manner, the Contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.

The Engineer-in-charge or his representative Engineer will reserve the right to inspect the plant at any stage and reject the concrete if he is not satisfied about quality of product. The contractor should therefore, draw M.O.U./ agreement with R.M.C. owner/ company very carefully keeping all terms and conditions/ specifications forming a part of this tender document.
- 4.14 The Engineer-in-charge reserves the right to cancel the approval of plant with or without assigning any reason.
- 4.15 The Engineer-in-charge reserve 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, recordings of test results and declaring the materials fit or unfit for use in production of mix.
 - ii. Calibration check of the R.M.C.

- iii. Weight and quantity check on the ingredients, water and admixtures added in batch mixing.
- iv. Time of mixing of concrete.
- v. Testing of fresh concrete, recordings 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.

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 Engineer-in-charge/ his representative at R.M.C. plant.

- 4.16 Ingredients, admixtures & water declared unfit for use in production of mix shall not be used. A batch mix found unfit for use shall not be loaded into the truck for transportation.
- 4.17 All required relevant records of R.M.C. shall be made available to the Engineer-in-charge or his authorized representative. Engineer-in-charge shall, as required, specify guidelines & additional procedures for quality control & other parameters in respect of materials & production and transportation of concrete mix which shall be binding on the contractor & the R.M.C. plant.
- 4.18 OPC/PPC conforming to relevant IS Code of brand/ make/ source as approved by Engineer-in-charge shall only be use for production of concrete.

5 QUALITY CONTROL OF READY – MIXED CONCRETE

- a) It shall be the responsibility of the contractor to ensure that the RMC producer provides all necessary testing equipments and takes all necessary measures to ensure quality control of ready-mixed concrete.
- 5.1 In general the required measures shall be :-
 - i. CONTROL OF PURCHASED MATERIAL QUALITY
 - a. R.M.C. producer shall ensure that all the materials purchased and used in the production of concrete conform to the stipulation of the relevant agreed standards with the materials supplier and the requirements of the products, mix design and quality control procedures.
 - b. This shall be accomplished by visual checks, sampling and testing, certification from material supplier and information/ data for material supplier. Necessary equipment for the testing of all material shall be provided and maintained in calibrated condition at the plant by the R.M.C. producer.
 - ii. CONTROL OF MATERIAL STORAGE

Adequate and effective storage arrangement shall be provided by RMC producer at RMC plant for prevention of contamination, reliable transfer and feed systems, drainage of aggregates, prevention of freezing or excessive solar heating of aggregate etc.
 - iii. COMPUTER PRINT OUTS OF EACH TRUCK LOAD

Each truckload transit mixer dispatched to site shall carry computer printout of the ingredients of the concrete it is carrying. The printout shall be produced to Engineer-in-charge or his representative at site before R.M.C. is used in work.
 - iv. TRANSFER AND WEIGHING EQUIPMENT
 - a. R.M.C. producer shall ensure that a documented calibration is in place. Proper calibration records shall be made available indicating date of next calibration due, corrective action taken etc. RMC producer shall ensure additional calibration checks whenever required by Engineer-in-charge in writing to contractor. R.M.C. producer shall also maintain a daily production record

including details of customers to whom R.M.C. was supplied including details of mixes supplied. Record shall also be maintained of what materials were used for the day's production including water and admixtures.

- b. 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 that it does not hamper any operation of production, transportation and placement.
- vi. **PRODUCTION OF CONCRETE:-**
The following precautions shall be taken during the production of RMC at the plant.
 - a. Weighing (correct reading of batch data and accurate weighing):- For each load, written, printed or graphical records shall be made of the weights of the materials batched, the estimated slump, the total amount of water added to the load, the delivery tickets number for that load and the time of loading the concrete into the truck.
 - b. Visual observation of concrete during production and delivery or during sampling and testing of fresh concrete, assessment of uniformity, cohesion, workability, adjustment to water content:- The workability of the concrete shall be controlled on a continuous basis during production. The batch mix found unfit shall not be loaded into the truck for transportation. Necessary corrective action shall be taken in the production of mix as required for further batches.
 - c. Use of adequate equipment at the plant to measure surface moisture content of aggregates, particularly fine aggregate and the workability of the concrete, cube tests etc. shall also be ensured.
 - d. Making corresponding adjustment at the plant automatically or manually to batched quantities to allow for observed, measured or reported changes in materials or concrete qualities.
 - e. Sampling of concrete, testing, monitoring of results.
 - f. Diagnosis and correction of faults identified from observations/ complaints.
 - g. The RMC plant produced concrete shall be accepted by Engineer-in-charge at site after receipt of the same after fulfilling all the requirements of mix mentioned in the tender documents.

- 5.2 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.
- 5.3 If so required by the Engineer-in-charge, the RMC producer shall provide separate storage space/ godowns for storage of materials approved by Engineer-in-charge for the design mix concrete.
- 5.4 Frequency of sampling and standard of acceptance shall be as per CPWD Specifications for design mix concrete.
- 5.5 The RMC shall be placed by pump of suitable capacity and the contractor shall arrange sufficient length of pipe at site to place the RMC in the minimum required time. The contractors shall co-ordinate with R.M.C. supplier and pump hirer to have effective concrete placement. Nothing extra shall be paid for placing of concrete through concrete pump.
- 5.6 The representative of R.M.C. supplier shall attend the site meeting as and when decided by the Engineer-in-charge.
- 5.7 The contractor shall assess the quantity of R.M.C. requirement at site well in advance and order accordingly to the R.M.C. supplier. In case excess R.M.C. is received at site, the department shall

not be under any obligation to get the extra quantity utilized and no payment for such R.M.C. shall be made.

- 5.8 The contractor shall have to employ labour in shifts to ensure continuous casting of slabs and other RCC members. No extra payment on this account shall be made.
- 5.9 The department will recommend to the Traffic Police to issue permits for the entry of the vehicles through the area of no entry zone to the working area. However, absence of such permits will not be cause for delay in completion of the work.

6 SHUTTERING / FORMWORK

- 6.1 The work shall be done in accordance with CPWD Specifications - 2019 - Vol. I & Vol. II with upto date correction slips.
- 6.2 Steel shuttering as approved by the Engineer-in-Charge shall be used by the contractor. Minimum size of shuttering plates shall be 600mm x 900mm except for the case when closing pieces required to complete the shuttering panels. Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.
- 6.3 The shuttering plates shall be cleaned properly with electrically driven sanders to remove any cement slurry or cement mortar or rust. Proper shuttering oil or debonding compound shall be applied on the surface of the shutter plates in the requisite quantity before assembly of steel reinforcement.
- 6.4 The joint filler shall be resilient closed cell expanded polythene and non-tainting.
- 6.5 Providing joint filler of required thickness in position to substrate using either double sided foam adhesive tape or neoprene synthetic rubber adhesive. When forming expansion joint with the Board in in-situ concrete, joint sealing slots can be readily formed in the following matter-
 - i. Before installing, simply cut off a strip of the required depth. Then install the filler flush with the finished surface.
 - ii. Prior to sealing, the top strip can then be pulled easily from the joint to provide an uncontaminated sealing slot ready for preparation and sealing.

7 REINFORCEMENT

- 7.1 The reinforcement shall be done as per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 7.2 The item of reinforcement of RCC work includes all operations including straightening, cutting, bending, welding, binding with annealed steel or welding and placing in position at all the floors with all leads and lift complete as per CPWD Specification - 2019 - Vol.I& Vol. II with upto date correction slips.
- 7.3 To avoid displacement of bars in any direction and to ensure proper cover, only factory made round type/rectangular cover blocks shall be used by the contractor. Nothing extra shall be payable on this account.

8 BRICK WORK

Unless otherwise specified Fly Ash Bricks shall be used in all items of brick work. The classification of bricks brought by the contractor shall strictly conform to CPWD Specifications – 2019 Vol-1 & II with upto date correction slips or as specified. The work shall also include for leaving chases

/ notches for dowels / cramps for all kinds of cladding to come over brick work.

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

- 10.1 The execution of stones work shall be in general as per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 10.2 All holes, rebates, recesses etc. for providing fixing and inserts shall be predrilled and precut and worked using precision machine tools. Nothing extra on this account shall be payable.
- 10.3 SAMPLES FOR STONE WORK: Samples of each item of stone work either individually or in combination shall be prepared for approval of Engineer-in-Charge before commencement of work.
- 10.4 Sequence of execution for cladding work shall be suggested by the contractor for approval of Engineer-in-Charge.
- 11.0 SCAFFOLDING
- 11.1 Double steel scaffolding having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed.
- 12.0 WOOD WORK
- 12.1 The wood work in general shall be carried out as per CPWD Specifications - 2019Vol.I& II with upto date correction slips.
- 12.2 The samples of species of timber to be used shall be got approved and deposited by the contractor with the EE before commencement of the work. The contractor shall produce cash vouchers and certificates from kiln seasoning or/and chemical treatment plants about the timber section to be used on the work having been kiln seasoned or/and chemically treated by them.
- 12.3 Factory made shutter as specified shall be obtained from factories approved by the Engineer in charge. The contractor shall inform well in advance to the Engineer-in-charge the names and address of the factory from where the contractor intends to get the shutters manufactured. The contractor will place order for manufacture of shutters only after written approval of the Engineer-in-charge in this regard is given. The contractor is bound to abide by the decision of the Engineer-in-charge and recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will however be accepted only if this meet the specified tests. The contractor will also arrange stage wise inspection of the shutters at factory to the Engineer-in-charge or his authorized representative. Contractor will have no claim if the shutters brought at site are rejected by Engineer-in-charge in part or in full lot due to bad workmanship / quality even after inspection of factory. Such shutters will not be measured and paid and the contractor shall remove the same from the site of work within 7 days after the written instruction in this regard are issued by Engineer in Charge or his authorized representative.
- 12.4 All fittings and fixtures shall be got approved from the Engineer-in Charge before procurement well in advance and the approved samples shall be kept at site till completion of the work.
- 12.5 Glazing for toilets shall be of translucent type.
- 12.6 The shape and size of beading shall be as per drawings. The joints of beading shall be mitred.
- 13.0 STEELWORK
- 13.1 Work shall be carried out as per CPWD Specifications - 2019 - Vol.I& Vol. II with upto date correction slips.
- 13.2 The rate of T- angle iron frame shall include the following.

- i. M.S. sill/tie of 10mm dia bar welded to T-iron frames to keep the frames vertical in correct position. The sill / tie shall be embedded in floor concrete. No tie is necessary for window frames.
 - ii. Each T – iron frame for doors shall have 4 Nos. M.S. lugs 15x3mm, 10 cm long welded to each vertical member of the frame.
 - iii. M.S. flat 6 x 25mm, 100mm long having threaded holes (No. of flats shall correspond to the no. of butt hinges to be fixed to door / window shutters) shall be welded at appropriate places
 - iv. at the back of the T-iron frames for fixing the required butt hinges to the frame with machine screws.
- 13.3 All welded structural steel work shall be tested for quality of weld as laid down in IS:822-1970 before actual erection if required.
- 14.0 FLOORING
- 14.1 All work in general shall be carried out as per CPWD Specifications- 2019 - Vol.I& Vol. II with upto date correction slips.
- 14.2 Whenever flooring is to be done in patterns tiles/ stone, the contractor shall get samples of each pattern laid and approved by the Engineer-in-Charge before final laying of such flooring for which nothing extra shall be paid.
- 14.3 Different stones/ tiles used in pattern flooring as per the approved architectural drawings and nothing extra for laying pattern flooring shall be paid. No additional wastage if any shall be accounted for any extra payment.
- 14.4 The proper gradient shall be given to flooring for toilets, varrandah, kitchen, court yard, etc. as per the directions of Engineer-in-Charge. For this there may be extra thickness of dry mortar below the tiles/stone slabs. These gradients should be insured in the shuttering itself. Nothing extra shall be paid for this as this is included in the tendered cost.
- 14.5 The rate of items of flooring is inclusive of providing sunken flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The samples of flooring, dado & skirting as per approved pattern shall be prepared & got approved from the Engineer-in-charge before execution of work.
- 14.6 Ceramic Tiles/Vitrified Tiles Work/ Granite stone flooring
- i. Work shall be carried out as per CPWD Specifications- 2019 Vol I & II with up to date correction slips and as per manufactures specifications.
 - ii. Rates shall be inclusive of all operations including labour, material, T&P, scaffolding etc. complete. Nothing extra shall be payable on any account.
 - iii. One-piece Granite stone for treads / risers in staircase shall be used and nothing extra shall be paid on this account.
- 15.0 STAINLESS STEEL RAILING /HAND RAILS:
- 15.1 GENERAL: The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipment necessary for the completion and protection of all stainless-steel work.
- 15.2 MATERIAL: All stainless-steel pipes and plates shall conform to AISI 304 grade and the relevant

clauses associated with this grade of steel to be followed.

- 15.3 SURFACE FINISH: Surface finish of all the stainless-steel materials will be in 240 grit satin finish / matt finish.
- 15.4 ACCESSORIES: Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer-in-charge and welding to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus fluoric acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated. COATING MASS: All stainless-steel material will have to be coated by a solution of Inox to avoid finger in prints and avoidance of settlement of environment / atmospheric dust.
- 16.0 WATER PROOFING TREATMENT
- 16.1 Work shall be executed as per CPWD Specifications, 2019 Vol I & II with upto date correction slips.
- 16.2 The contractor shall associate himself with the specialized firm, to be approved by the Engineer- in-charge in writing, for water proofing treatment for basement/lower ground floor, underground tank and on roofs.
- 16.3 The water proofing items should be got done through one of the following firms as given below:
 - i. M/s. Water Proofing Corporation of Hindustan, Jama Masjid, Panaji, Goa.
 - ii. M/s. Modern Water Proofing Co., No. 10 Trygler, 3 Dominic Colony, Ortem, Malad (W), Mumbai 400 064.
 - iii. M/s. New Bharat Water Proofing Corporation, No. 37, Mohan Nagar, New Bapunagar, Ahmedabad 380 024.
 - iv. M/s. Indian Water Proofing Co., Alankar Cinema Building, 2nd floor, Pune 411 001.
 - v. M/s. National Water Proofing Co., C/o Shri K.B. Shau, Opp. Ram Mandir Road, Sadar, Nagpur 440 001.
 - vi. M/s. Bhagwati Water Proofing Co., 410, Pratiksha Complex, Maha Lakshmi Char Rasta, Paldi, Ahmedabad – 380007.
- 16.4 In case if it is not possible for the contractor to engage one of the above mentioned firms for the water proofing works, he shall submit his proposals of engaging a specialized firm in this work.
- 16.5 Even if the firms as mentioned above or otherwise as per Para 16.3 above is proposed to be engaged, the contractor shall furnish the following particulars within one month of acceptance of tender.
 - i. The name of the specialized firm.
 - ii. The trade names of the product which would be used.
 - iii. List of works where the treatment has been given.
 - iv. Quantity of chlorides and sulphides used in the product.
- 16.6 The brick bats shall be well burnt bricks. The water proofing compound used in integral water proofing treatment shall satisfy all the performance requirements indicated in IS:2645 and shall be got tested before its use. The compound shall be used @ 2% by weight of cement used or as recommended by the manufacturer.
- 16.7 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approved of the Engineer-in-Charge in writing. Materials shall be kept under double lock and key and proper account of the water proofing compound used in the work shall be maintained. It

shall be ensured that the consumption of the compound is as per specified requirements.

- 16.8 The finished surface after water proofing treatment for roof slab shall have smooth slope with minimum gradient of 1 in80.
- 16.9 Before commencement of treatment on roof surface, it shall be ensured that the outlet drain pipes/spouts have been fixed and the spout opening have been eased and rounded off properly for easy flow of water.
- 16.10 The surface where the water proofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales mortar splashes etc. shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with proprietary water proof compound to penetrate into crevices and fill up all the pores in the surface.
- 16.11 This cement slurry shall be applied at the junction of parapet and terrace slab including the vertical face of the parapet.
- 16.12 After the slurry coat is laid, layer of well burnt brick bats shall be laid in cement mortar of mix as specified by specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound to required gradient and joints filled to half the depth. The bricks bat layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300mm. Curing of this layer shall be done for 2days.
- 16.13 After curing the surfaces shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.
- 16.14 Joints of bricks bat layer shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound and finally top finished with average 20 mm thick layers of cement mortar 1:4 (1 cement : 4 coarse sand) and finished smooth with cement slurry mixed with proprietary water proofing compound. The finished surface shall have marking of 300x300 mm false squares to give the appearance of tiles.
- 16.15 Curing of water proofing treatment shall be done for a minimum period of two weeks by flooding the water by making compartments etc.
- 16.16 **MEASUREMENTS:** The measurements shall be taken for plan area of terrace only. Length and breadth shall be measured correct to one centimeter and area shall be worked out to nearest 0.01 sqm. No deduction in measurements shall be made for either opening or recesses for chimneys, stacks, roof lights and the like of areas up to 0.10 sqm nor anything extra shall be paid for forming such openings. For similar areas exceeding 0.10 sqm, deductions will be made in measurements for full openings and nothing extra shall be paid for making such opening.
- 16.17 **Rates:** The rate shall include the cost of all labour and materials involved in all the operations described above.
- 16.18 **GUARANTEE FOR WATER PROOFING TREATMENT**
 Five years guarantee in prescribed proforma attached must be given by the contractor for the water proofing treatment. In addition 10% (Ten percent) of the cost of these items would be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after two monsoon seasons after the completion of the work, if the performance of the work done is satisfactory. If any defect is noticed during the guarantee period, it should be rectified by the contractor within Seven days and, if not attended to, the same shall be got done by other agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period should inspect and examine the treatment once in every year and make good any

defect observed. However, the security deposit can be released in full, if bank guarantee of equivalent amount valid upto full guarantee period/or validity increases from time to time upto guarantee period is produced and deposited with the department.

16.19 MATERIALS OBTAINED FROM DISMANTLEMENT

The contractors in course of their work, should understand that all materials (e.g. stone and other materials) obtained in the work of dismantling, excavation etc. will be considered Government's/ Client's property and may be issued to the contractor if required for use in this work at rates as decided by the Engineer-in-charge.

17.0 FINISHING:

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

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

18.0 SPECIFICATIONS FOR ALUMINIUM DOOR, WINDOW, VENTILATORWORKS:

18.1 Extent and Intent:

- i. The work shall be carried out through an approved agency, who shall furnish all materials, labour, accessories, equipment, tool and plant and incidentals required for providing and installing aluminum doors, windows, claddings, louvers and other items as called for on the drawings. The agency for the Aluminium work shall be got approved from the Engineer-in-charge, well before actual commencement of the item of work. Necessary performance certificates in respect of agencies proposed to be engaged shall be submitted within 30 days from the date of issue of acceptance letter to substantiate technical capability and experience of the agency for prior approval of the Engineer-in-charge.
- ii. The drawings and specifications cover the major requirement only. The supplying of additional fastenings, accessory features and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract.

18.2 General:

- i. Work shall be carried out as per CPWD Specifications- 2019 Vol. I & Vol. II with upto date correction slips.
- ii. Aluminium doors, windows etc. shall be of sizes, section details as shown on the drawings. The details shown on the drawings indicate generally the sizes of the components parts and general standards. These may be varied slightly to suit the standard adopted by the manufacturer. Before proceeding with any manufacturing, the contractor shall prepare and submit complete manufacturing and installation drawings for approval of the Engineer-in-Charge and no work shall be performed until the approval of these drawings is obtained.

18.3 Shop Drawings:

The contractor shall submit the shop drawings of doors, Windows, louvers, cladding and other aluminum work, based on architectural drawings, to the Engineer-in-Charge for his approval. The

drawings shall show full size sections of doors, windows etc. thickness of metal (i.e wall thickness), details of construction, sub frame/ rough ground profile, anchoring details, hardware as well as connection of windows, doors and other metal work to adjacent work. Samples of all joints and methods of fastening and joining shall be submitted to the Engineer-in-Charge for approval well in advance of commencing the work.

18.4 Samples:

Samples of doors, windows, louvers etc. shall be fabricated, assembled and submitted to the Engineer-in-Charge for his approval. They shall be of sizes types etc. as decided by Engineer-in-Charge. All samples shall be provided at the cost of the contractor.

18.5 Sections:

Minimum doors and windows shall be fabricated from extruded section of profile of detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-charge. The aluminum extruded sections shall conform designation 63400-WP (HV9WP Old designation) with chemical composition and technical properties as per IS:733 and IS:1285. The permissible dimensional tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operation and appearance of doors and windows.

18.6 Fabrication:

Doors, windows, etc. shall be fabricated to sizes as shown at factory and shall be of section, sizes combinations and details as shown in the Architectural Drawings. All doors, windows etc. shall have mechanical joints. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joint and accessories such as cleats, brackets, etc. shall be of such materials as not to cause any bimetallic action. The fabrication of doors, windows, etc. shall be done in suitable sections to facilitate easy transportation, handling and installation. Adequate provision shall be made in the door and window members for anchoring to support and fixing of hardware and other fixtures as approved by the Engineer-in-Charge.

18.7 Anodizing:

All Aluminium sections shall be anodized as per IS:7088 and to required colour as specified in the item as per IS:1868 grading, after cutting the members to requisite sizes. Anodizing shall be to the specified grade with minimum average thickness of 15 microns when measured as per IS:6012. The anodic coating shall be properly sealed by steams or by boiling in deionized water or cold sealing process as per IS:1868 / IS:6057. Polythene tape protection shall be applied on the anodized sections before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The sample will be tested in the approved laboratory and cost of samples, cost of testing shall be born by the contractor.

18.8 Powder Coating:

All aluminum sections shall be anodized/powder coated of required color as specified in the item and as per direction of Engineer-in-Charge. Polythene tape protection shall be applied on the powder coated section before they are brought to site. All care shall be taken to ensure surface protection during transportation, storage at site and installation. The tape protection shall be removed on installation. The samples will be tested in the approved laboratory and cost of samples, cost of testing, shall be borne by the contractor.

18.9 Protection of Finish:

All aluminum members shall be wrapped with approved self-adhesive non- staining PVC tapes.

18.10 Handling and stacking:

- i. Fabricated materials shall be stacking in an approved manner to protect the material against any damage during transportation. The loading and unloading shall be carried out with utmost care, on receipt of materials at site, they shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged piece/ parts. Materials found to be acceptable on inspections shall be repacked in crates and stored safely.
- ii. In the case of Composite windows and doors, the different units are to be assembled first. The assembled Composite units should be checked for line, level and plumb before final fixing is done. Units may be serial numbered and identified as how to be assembled in their final location of situation so warrants. Where aluminum comes into contact with masonry brickwork, concrete, planter or dissimilar metals, it shall be coated with approved insulation lacquer, paint or plastic tape to ensure that electro- chemical corrosion is avoided. Insulation material shall be trimmed off to a clean flush line on completion.
- iii. The contractor shall be responsible for assembling Composite, bedding and filling the groove with backup roads poly sulphide sealant inside and outside, placing the doors, windows etc. in their respective opening. After the doors/ windows have been fixed in their correct assigned position, the open hollow sections abutting masonry concrete shall be fitted with approved poly sulphide sealant densely packed and neatly finished.
- iv. The contractor shall be responsible for doors, windows, etc. being set straight plumb, level and for their satisfactory operation after fixing is complete.

18.11 Installation

- i. Just prior to installation the doors, windows etc. shall be uncrated and stacked on edge on level bearers and supported evenly. The frame shall be fixed into position true to line and level using adequate number of expansion machine bolts, anchor fasteners of approved size and manufacturer and in an approved manner. The holes in concrete/ masonry members for housing anchor bolts shall be drilled with an electric drill.
- ii. The doors, windows assembled as shown on drawings shall be placed in correct final position in this opening and marks made on concrete members at jambs, sills and heads against the holes provided in frames for anchoring. The frame shall then be removed from the opening and laid aside. Neat hole with parallel sides of appropriate size shall then be drilled in the concrete members with an electric drill at the marking to house the expansion bolts. The expansion bolts shall then be inserted in the holes, struck with a light hammer till the nuts is forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support through cadmium plated machine screws of required size threaded to expansion bolts. The frame shall be set in the opening by using wooden wedges at supported and bar plumbed in position. The wedges shall invariably be placed at meeting points of glazing bars and frames.

18.12 Neoprene Gaskets:

The contractor shall provide and install Neoprene gaskets of approved size and profile at all locations as shown and as called for to render the doors, windows etc. absolutely air tight and weather tight. The contractors shall produce samples of the gaskets for approval and procure after approval only.

18.13 Fittings:

Hinges, stays, handles, tower bolts, locks and other fittings shall be of excellent quality and manufacturers shall be approved by the Engineer-in-Charge.

18.14 Manufacturer's Attendance:

The manufacturer immediately prior to the commencement of glazing shall adjust and set all windows and doors and accept responsibility for the satisfactory working of the opening frames.

18.15 Mastic Cement:

The gaps between frames and supports and also any gaps in the windows section shall be raked out as directed and filled with mastic cement of approved colour and make to ensure complete water tightness. The mastic cement shall be of such colour and Composition that it would not stain the masonry/ concrete work, shall receive paint without bleeding, will not sag and shall not set hard or dry out under any conditions of weather. The samples of mastic cement to be used for this purpose shall be got approved by the Engineer-in-Charge before its actual use.

18.16 Sealant:

- i. Use modified silicone for joint subject to movement and in glazing.
- ii. Surfaces to receive sealant shall be properly prepared, cleaned, primed and excess sealant removed from finished surfaces.
- iii. Sealed joints shall be neatly tooled and surfaces smoothed.
- iv. Follow the instruction of the sealant manufacturers.
- v. Colour of the sealant shall be approved by the Engineer-in-Charge.

18.17 Glazing:

- i. Glazing shall generally be accomplished from the inside of building.
- ii. The glazing system shall be designed to this end use a continuous EPDM compression gasket on both sides (Present Gasket on one side of glazing pocket and roll in gasket on another side). A continuous wet seal shall be employed to ensure a complete water tightness.
- iii. Maintain a minimum glazing bite, edge clearance and surface clearance depending on the glass as recommended by the glass manufacturer.

18.18 Sealant and Gasket Application:

- i. Sealant and gasket shall be provided wherever shown in the drawings or required for a permanently weather tight installation. The sealing mechanism is necessary but is not indicated, it shall be of type recommended by the sub- contractor and approved by the Engineer-in-Charge.
- ii. All adjoining surfaces shall be protected to receive sealant against staining by masking and/ or other methods.
- iii. Joints and joint surfaces shall be clean, dry, and free of any material that may have an adverse effect on the bonding and/ or seal of the sealant and gasket materials.
- iv. Apply sealant and gasket under the conditions recommended by the manufacturer(s). Prime all surface to receive sealant and gasket unless recommended otherwise, use no sealant that has started to set in its container or a sealant that has exceeded the self-life published by the manufacturer.
- v. Fill all joints continuously and completely with sealant, forming a neat, uniform, concave bead. Finish the material flush with adjoining surfaces unless shown on the drawings. All sealant

surfaces shall be tooled smooth.

- vi. Tensile or shear stress in structural silicone sealant joint shall not exceed 1.4 kg/sqm.

18.19 Protection & Cleaning: The contractor shall adequately protect all components and accessories from damage during shipments, storage at job site, erection and after completion of the work. At such time as may be directed, the sub-contractor shall remove all protective tapes or coating, thoroughly clean all anodized aluminum and glass surfaces with suitable cleaning agent, make final adjustments to all ventilators, etc. and hardware leaving all in first class working order.

18.20 Details of Tests

- i. The various tests on aluminum sections shall be conducted in accordance with the relevant IS codes.
- ii. The minimum number of tests for powder coating and corrosion resistance shall be as given below:

S. No.	Details	No. of Tests
1	Doors, Windows & Ventilators	5% of Nos. manufactured.

- iii. The samples of major member of each unit of doors/ windows shall be selected at random by Engineer-in-Charge as such that all the aluminum section be got tested.
- iv. The cost of samples, carriage or the samples and testing charges, if any, shall be borne by the contractor.

18.21 Acceptance Criteria:

The Aluminium sections shall conform to the provisions of the relevant items. For payment purpose only, actual weight of sections shall be taken into account. However, if the sectional weight of any Aluminium section is higher than the permissible variation then the weight payable shall be restricted to the weight of the section including permissible variation.

18.22 Measurement:

Payment by weight shall be made for Aluminium sections including beading only and all fixing angles cleats fittings and fixtures such as handles and hinges etc., shall not be included in the weight to be paid.

18.23 Rates:

The rates of the items shall include the cost of all materials, labors and inputs required

19.0 SANITARY INSTALLATIONS, WATER SUPPLY AND DRAINAGE

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

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

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

- (ii) The entire responsibility for the quality of work will however rest with the building contractor only.
- 19.3** The work of water supply, internal sanitary installations and drainage etc. shall be carried out as per the bylaws of the Municipal Corporation or any other local body and the contractor shall produce necessary completion certificates from such authority after completion of work.
- 19.4** All water tanks, taps, sanitary, water supply and drainage pipes fittings and accessories etc. shall conform to the bylaws and specifications of the Municipal Body/Corporation where CPWD specifications are not available.
- 19.5** The contractor shall engage licensed plumbers for the work and the materials (fixtures/fittings) tested by the local Municipal Body/Corporation wherever required at his own cost. Nothing extra shall be paid/reimbursed for the same.
- 19.6** All sanitary wares and fittings shall conform to IS standards and to be procured from approved makes. The contractor shall submit samples of all fittings and fixtures proposed to be used to the Engineer-in-charge for his approval. The approved samples shall remain with the Engineer-in-charge till the completion of the work.
- 19.7** P or S and floor traps (long arm upto 90 cm length or more) in WCs shall be of deep seal type of RIF make or equivalent and shall have a minimum water seal of 75 mm. Floor traps (long arm upto 90 cm length or more) shall have a minimum water seal of 50mm.
- 19.8** All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per architectural requirements. Wherever necessary the fittings centered to dimensions and pattern desired.
- 19.9** The rates shall include the cost of cutting chases, holes in walls, floors, RCC slabs etc. Wherever required and making good the same for which nothing extra shall be paid. The work in general shall be carried out as per CPWD specifications.
- 19.10** Rate includes all materials, labour and all the operations mentioned in the respective items unless and otherwise specifically mentioned.
- 19.11** The SCI pipe wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall paid for on this account.
- 19.12** All the works shall be completely concealed either within shafts or chases or in fills and dropped ceilings, unless specifically shown in drawings or required otherwise.
- 19.13** All the works shall be adequate protected against corrosion, so that the whole work is free from damage throughout.
- 19.14** The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted by making his own arrangements for water supply, electricity etc. and nothing extra whatsoever shall be payable for the same.
- 19.15** The contractor shall give a satisfactory performance test of the entire installation (s) before the work is finally accepted and nothing extra shall be payable to the contractor on this account.
- 19.16** 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.
- 19.17** Before the work is handed over, the contractor shall clean all fixtures removing all plaster, stickers, rust stains and other foreign matter, leaving every part in acceptable condition and ready for use to the satisfaction of the Engineer-in-charge.

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

19.19 INSPECTION AND TESTING

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

- 19.20** Factory made glazed Steel/Aluminium Doors, Windows & Ventilators shall be manufactured in a workshop approved by the Engineer-in-charge.

20 WATER PROOFING TREATMENT

The water proofing items should be got done through the firm approved by Engineer-in-charge. The contractor shall submit proposal for engaging a specialized firm for this work. The tenderer must associate with himself, agencies of the appropriate eligibility to tender for each of specialized nature of items / work listed below individually. Such works shall be got executed only through associated agencies specialized in these fields. The tenderer whose tender is accepted shall indicate the name(s) of his associated specialized agencies those fulfilling the eligibility criteria laid down below after award of work and at least 30 days before commencement of such items / work for the approval of the Engineer-in-Charge of that component, whose decision shall be final and binding. If the tenderer, himself fulfils the eligibility criteria laid down below for associated specialized agencies, then the tenderer shall not require to associate with himself the associated specialized agency.

S.No.	Specialized work(s) /Item of work (s)	Eligibility Criteria of Associated Agencies
A	CIVIL WORK	The tenderer shall associate specialized agencies, who have satisfactorily completed three specialized works of similar nature of each costing not less than amount equal to 40% of estimated amount (i.e. not less than Rupees 3,11,874/-) of corresponding specialized item, or two specialized works of similar nature each costing not less than amount equal to 60% of estimated amount (i.e. not less than Rupees 4,67,810/-) of corresponding specialized item or one similar work costing not less than amount equal to 80% of estimated amount (i.e. not less than Rupees 6,23,891/-) of corresponding specialized item during the last seven years ending on the last day of the month previous to the one in which the tenders are invited. The value of executed similar 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 day of the month previous to the one in which the tenders are invited. Similar nature of water proofing treatment means or includes the work of water proofing by APP sheet method.
1	Water proofing treatment	

21 GUARANTEE FOR WATER PROOFING TREATMENT

21.1 The contractor shall be fully responsible for and shall guarantee proper performance of the entire waterproofing system for a period of 10 (Ten) years from the completion of works. In addition, specific 10 years written guarantee (to be furnished in a non-judicial stamp paper of value not less than Rs. 100/-) in approved Performa shall be submitted for the performance of the system, before final payment and shall not in any way limit any other rights the employer may have under the contract.

21.2 All waterproofing work shall be carried out through approved specialist agency as per the

method of working approved by the engineer-in charge. However, the contractor shall be solely responsible for water proofing treatment until the expiry of the above guaranty period.

21.3 Ten (10) years guarantee in the prescribed Performa attached must be given by the contractor for the water proofing treatment. In addition 10% (ten percent) of the cost of these items would be retained as guarantee to watch the performance of the work executed. However, half of this amount (withheld) would be released after **five monsoon seasons** after the date of completion of the work, if the performances of the waterproofing work is satisfactory. If any defect is noticed within guarantee period, it shall be rectified by the contractor within seven days and, if not attended to, the same shall be got done by other agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period should inspect and examine the treatment once in every year and make good any defect observed. However, the security deposit can be released in full, if bank guarantee of equivalent amount for ten (10) years is produced and deposited with the department.

22 MEASUREMENTS

Only plan area shall be measured and paid. Nothing extra shall be paid for rounding off at junctions and taking treatment along sides of beams and walls. Length and breadth shall be measured correct to one centimetre and area shall be worked out to nearest 0.01 Sqm. No deduction in measurements shall be made for either opening or recesses for chimneys, stacks, roof lights and the like for areas up to 0.40 Sqm. nor anything extra shall be paid for forming such openings. For similar areas exceeding 0.40 Sqm. deductions will be made in measurements for full openings and nothing extra shall be paid for making such openings.

23 RATES

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

24 SUNKEN FLOOR SLAB, ITS TREATMENT ETC.

24.1 Brick bat aggregate shall be from well burnt bricks. The proprietary water proofing compound shall be used.

24.2 The surface shall be thoroughly cleaned with wire brushes. All loose scales shall be removed and dusted off. The surface bottom as well as sides shall be treated with cement slurry admixed with proprietary water proofing compound to penetrate into crevices and fill up all the pores in the surface.

24.3 After the slurry coat is laid, layer of well burnt brick bats of about 40 mm size shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5 (1 cement : 5 coarse sand) admixed with proprietary water proofing compound, the mortar being filled to half the depth of the brick bat layer. The bricks bat layer shall be rounded off at junctions with the beam/ wall etc. and tapered towards top at height of 150 mm along beams/ wall etc. Curing of this layer shall be done for these days.

24.4 After curing, the surface shall be applied with a coat of neat cement slurry admixed with proprietary water proofing compound.

24.5 Joints of brick bat shall be filled fully with cement mortar of mix as specified by the specialist firm but not leaner than 1:4 (1 cement : 4 coarse sand) admixed with proprietary water proofing compound and top finished with average 20 mm thick layer of same mortar. This layer of mortar shall be continued to the sides shall be as directed by the Engineer-in- charge. The surface shall be finished smooth with cement slurry admixed with proprietary water proofing compound.

24.6 While the water proofing treatment is done, it shall be ensured that the outlet pipes are properly fixed and the gaps between the wall and pipes are properly filled with brick / stone

aggregate and cement mortar admixed with proprietary water proofing compound and grouted with cement slurry admixed with proprietary water proofing compound.

24.7 Waterproof treatment shall be cured for a minimum period of two weeks.

25 MEASUREMENTS

Measurements for the floor treatment shall be taken of the plan area of the floor treated. Nothing extra shall be paid for rounding off at junctions and taking the treatment along the sides of beams and walls for about 150mm.

26 RATES

The rate shall include the cost of all labour and materials involved in all the operations described above. Base treatment and sides treatment will be paid separately under respective items.

27 Source of Materials :

27.1 All stone aggregate and stone ballast shall be of hard stone variety to be obtained from the source approved by the Engineer-in-charge.

27.2 Coarse sand should be obtained from the source approved by the Engineer-in-charge and screened as required. The same shall be clean and sharp angular grit type. If the sand brought to site is dirty it must be washed in clean water.

27.3 Fine sand should be obtained from the source approved by the Engineer-in-charge and screened as required. The same shall be clean and sharp angular grit type. If the sand brought to site is dirty it must be washed in clean water.

GUARANTEE BOND TO BE EXECUTED BY CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS

(BASEMENT /LOWER GROUND FLOOR / UNDER GROUND TANK / ROOF)

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 buildings and structures in the contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for **10 (Ten) years** from the date after the maintenance period prescribed in the contract.

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 the 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 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/seepage 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 the 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 done by the department by some other agency 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 guarantor fails to make good all defects or commits breach there under 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 first above written.

SIGNED, SEALED AND delivered by OBLIGOR in the presence of :

1.
2.

SIGNED FOR AND ON BEHALF OF THE PRESIDENT OF INDIA BY
_____ in the presence of:

1.
2.

GENERAL REQUIREMENTS FOR THE TENDER

Name of Work:- **Misc civil work for High-head water tank at CPWRS khadakwasla. Pune**
- 24

1. The tenderer is advised to read and examine the tender documents for the work. He should inspect and examine the site and its surroundings by himself before submitting his tender.
2. **The work is to be executed at a congested site where the movement and operation of vehicles, machinery and equipment are restricted. Accordingly, the contractor shall make all necessary arrangements for manual execution of the work, wherever required, and the quoted rates shall be deemed to include all additional costs arising therefrom. No extra payment shall be admissible on this account.**
3. **The contractor shall make their own arrangements for the supply of electricity required for execution of the work, including obtaining the necessary connections, installation of temporary wiring and payment of all applicable charges. No electricity connection or power supply shall be provided by the Department. No extra payment shall be admissible on this account**
4. **The work shall be executed in an area where working experimental models of CWPRS are installed and operational. The contractor shall take utmost care and exercise due caution while executing the work to ensure that no damage, disturbance or disruption is caused to the existing experimental models, equipment or associated facilities. The contractor shall be solely responsible for any damage caused due to the execution of the work and shall make good the same at their own cost, to the entire satisfaction of the Engineer-in-Charge. No extra payment shall be admissible on this account.**
5. The work is to be executed for **CWPRS Kadakwasla** which is a secured area having restricted access. The contractor shall ensure that execution of work shall be done with proper compliance and adherence to the Security guidelines of **CWPRS**. The contractor shall note that the rates quoted for this work is inclusive of all such security restrictions and cost involved in getting PVRs or complying with the Security process of the **CWPRS** and nothing extra shall be payable.
- 3 The contractor has to adhere the timeline specified in the tender document and no hindrance for security restrictions shall be allowed.
- 4 Time allowed for the execution of work is **07 days** Days.
- 5 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.
- GENERAL REQUIREMENTS FOR THE TENDER**
- 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 Engagement of agency for specialized works:

Contractor has to engage specialized agencies for specialized items of works such as water proofing. Only those specialized agencies/firms who have satisfactorily executed works as per criteria prescribed in Part A of this document.

- 11 The contractor shall submit the running bills in the shape of the computerized MB in pages of A-4 size as per the standard format of department and shall act as per modified clause 6 A of CPWD-7. This may also be done in ERP if decided by the competent authority of the department.
- 12 Contractor has to provide reinforcement cover blocks made of approved proprietary prepacked free flowing mortars (Conbextra as manufactured by M/s Fosroc Chemical India Ltd. or approved equivalent) of high early strength.
- 13 Bricks shall be of not less than class designation as specified in the nomenclature of the item. The average water absorption of bricks, when immersed in water for 24 hours, shall not be more than 20% of their dry weight.
- 14 All other material to be used for this work shall be got approved by the Engineer in charge before mass procurement and Technical Data sheet or Product specifications shall be submitted to Engineer in charge in writing along with sample, shall be kept preserved till completion of the work.
- 15 Considering the current Pandemic Covid-19 environment, the contractor must adhere to the SOP issued by MHA/MoHFW and State health guidelines issued from time to time and must ensure sanitation and cleanliness at site and nothing extra shall be paid in this account

LIST OF PREFERRED MAKES

Note:

1. The contractor shall obtain prior approval from the Engineer-in-Charge before placing order for any specific material or engaging any of the specialized agencies. The contractor shall make a detailed submittal with catalogues and highlighted proposed specification as well as full details of the works executed by the specialized agencies, as specified.
2. Unless otherwise specified, the brand / make of the material as specified in the item nomenclature, in the particular specification and in the list of approved materials attached in the tender, shall be used in the work.
3. In case of non availability of the brand specified in the contract the contractor shall be allowed to use alternate equivalent brand of the material subject to submission of documentary evidence of non availability of the specified brand. The necessary cost adjustments on account of above change shall be made for the material.
4. The Engineer-In-Charge shall verify that manufacturers must have valid IS Certification as on date for materials wherever applicable.
5. In case any make of any material is not listed in NIT, agency has to get the make approved from Engineer-in-Charge before placing order.

The following brands shall be used if not otherwise mentioned in the items.

LIST OF PREFERRED MATERIALS & SPECIALIZED AGENCIES

MATERIALS	APPROVED BRANDS
Ordinary Portland Cement / Portland Pozzolana Cement	Ultra Tech, A.C.C., Ambuja, Birla, Jaypee Cement, J.K. Cement, Vikram
White Cement	J.K., Birla,
Reinforcement Steel	Tiscon, Sail, Rini, Jindal Steel & Power Ltd./, JSW Steel Ltd., APL Apollo
Parallel Threaded Couplers	DEXTRA, G-TECH, Spplisetek, ISHITA
Re-barring Chemical	HILTI, 3M INDIA, Fischer
Structural Steel/Tubes	Tata Steel, SAIL, RINL, Jindal, JSPL, APL Apollo
Plasticizer, Super Plasticizer, Admixtures, Other construction chemicals	MC Bauchemie, Sika, Fosroc, BASF, Dr. Fixit, CICO, Asian
AAC Block	ULTRA TECH, BILTech, SIPOREX, Ecolite, Aerocon, ACC, B.G, SHIRKE, BILT, WONDER, ECO GREEN
ACC Block Adhesive	ACC, ULTRA TECH, J.K., FERROUS CRETEM, BAL ENDURA, AEROCON, ARDEX ENDURA

<i>Polymer modified cementitious grout / Tile Adhesive</i>	ARDEX ENDURA, LATECRETE, FOSROC, BASF, ACC, ECO GREEN.
<i>List of RMC producers</i>	A.C.C., ULTRA TECH, READY MIX INDIA (PVT.) LTD, Godrej & Boyce Ltd., Skyway , NUVOCO (Lafarge)
<i>Waterproofing Compound</i>	DOCTOR FIXIT (Pidilite), BASF, CICO, SIKA , Fosroc, STRUCO, STP Ltd.
<i>Water Proofing Base Coat</i>	UNO
<i>Silicon based water repellent/ Weather Sealant</i>	GE Plastics, Dow Comings, Wacker, BASF, Pidilite
<i>Poly-Sulphide Sealant</i>	Fosroc, Pidilite, Sika, BASF
<i>Plywood</i>	ARCHID PLY, KITPLY, GREEN PLY, CENTURY, Anchor, Regency wood panel Pvt. Ltd.
<i>Flush door shutters</i>	KENWOOD, ARCHID PLY, KUTTY FLUSH DOORS, Greenply, A-1 Teak, Century Ply, Duro, Anchor
<i>High-pressure laminate</i>	Formica, Merino, Greenlam, Century, Decolam, Kitply, Action TESA, Sunmica
<i>Metal-Fire rated Door Shutters</i>	Signum, Adhunik Technology, Navair, Godrej, Basic Arch, Sukri, Bhawani Fire protection, Shakti Met Ozone, Alada
<i>Fire rated vision panels</i>	SAINT GOBAIN, PILKINGTON, SCHOTT, FERILITE , PYROGUARD
<i>GLAZED FIRE DOOR</i>	NAVAIR, PROMAT, SAINT GOBAIN, GODREJ, SHAKTI MET, Pacific fire controls
<i>Rolling Shutter with Grills</i>	STANDARD, SWASTIK, SHUBDHWAR, SONA
<i>Aluminium Extrusions</i>	HINDALCO, JINDAL
<i>Dash Fastners</i>	HILTI, FISHER, CANON
<i>SS Railing</i>	KICH, Godrej, Archware
<i>SS Hardware and accessories for Doors and fire doors</i>	DORMA, HAFELE, GEZE, DEFINE , KICH, Archware, Ozone
<i>Stainless Steel</i>	Salem Steel, Jindal or equivalent
<i>Hardware for Kitchen cabinet, ward robe and shelves</i>	Godrej, EBCO, KAFF, SLEEK,
<i>Hermitically sealed performance glass toughened Glass, DGU</i>	AUTHORIZED FABRICATORS (MODI GUARD, SAINT GOBAIN, TATA ASAHI, HNG, AIS-GLERBEL, PILKINGTON)
<i>Particle board</i>	Action TESA, Greenlam, Merino, Kitply
<i>Melamine Polish</i>	ASIAN PAINTS (MELAMYNE GOLD), PIDILITE INDUSTRIES (WUDFIN), ICI DULUX (TIMBERTONE)
<i>Cement Based Wall putty</i>	Birla wall care, JK White , Berger, Asian Paints
<i>Oil Bound Washable Distemper / Dry Distemper</i>	Asian paint : (Professional Acrylic Distemper), NEROLAC : Beauty Acrylic Distemper Berger: Bison Acrylic Distemper Dulux ICI : Maxilite, Godavari.

1st Quality Acrylic Distemper / Dry Distemper	Asian Paints :(Tractor Aqua Lock Paint), Berger : Commando Or equivalent paints of Nerolac or ICI-Dulux Godavari.
Acrylic Emulsion Paints	Asian Paints :(Professional Premium Interior Emulsion Paints), Nerolac :Beauty Gold Berger : Rangoli total care ICI-Dulux : Super Cover , PEARL, KLASSIC
Plastic Emulsion Paint	Asian Paints :(Apcolite Heavy Duty Premium Emulsion Paint), Nerolac : Impression Berger : Easy Clean ICI-Dulux : 3 in 1
Premium Acrylic Emulsion Paints (Interior)	Asian Paints :(Royal Luxury Emulsion), Nerolac : Impression Berger : Silk ICI-Dulux : Velvet touch JENSON & NICHOLSON, Godavari
Textured Exterior Paint	Asian paints, Nerolac, Berger Paints, Ultratech Paints, Luxture, SPECTRUM, INSPIRA.
Acrylic Smooth Exterior Paint	Asian Paints :(Apex/Professional Premium Exterior Emulsion), Nerolac : XL Berger : weather Coat, PEARL, PEARL-ULTIMA (Advance Anti-Algal Weather Proof Paint) ICI-Dulux : Weather Shield
Premium Acrylic Smooth Exterior Paint with Silicon additive	Asian Paints :Apex Ultima Nerolac : XL Total Berger : weather Coat all guard , ICI-Dulux : Weather Shield max
Synthetic Enamel Paint	Asian Paints : Apcolite Premium Gloss Enamel, Nerolac : Synthetic Hi Gloss Berger : Luxol Hi Gloss ICI-Dulux : Gloss Synthetic Enamel
Cement Primer	NEROLAC, Berger, BP White (Berger), Decoprime WT (Asian), White primer (ICI).Godavari.
Steel Primer (Red Oxide Zinc Chromate Primer)	Asian paints, Berger, ICI , NEROLAC
Wood Primer	Asian paint (Wood Primer- White/Pink), Berger ICI , NEROLAC
Epoxy Paint	ICI, NEROLAC, ASIAN, BERGER, Kansai Akzo Nobel.
Fire Paint	ASIAN PAINTS, Akzonobel Coatings India Ltd, PROMAT, Jotun

Gypsum Plaster	Gyproc, Asian Paints, Birla ,Ferrous Crete, Ultra Tech.
Gypsum Board	SAINT GOBAIN,BORAL
Cement based Ready Mix Plaster	Ultratech, Wallplast, Buildwell, ACC.
EPDM Gasket	Amees Rubber Industries Pvt. Ltd., Bohra Rubber, Osaka
Dash / Anchoring Fasteners	Hilti, Fischer, Arrow, Kundan, Trixell, Wurth
Mortice lock	Godrej,Harrison
SPIDER FITTINGS	DORMA,HAFELE
Aluminium Structural Members - Windows, Glazing and Partitions	Hindalco, Indalco, Jindal Aluminium Ltd.
Aluminum composite panel(ACP)	ALSTRONG,ALUCOBOND,ALUDECOR
FLOOR SPRING/DEAD LOCK/DOOR CLOSERS/PANIC BAR	DORMA,GEZE,HAFELE,DEFINE
ALL TYPE OF SILICONE	DOW CORNING,GE SILICON
Metallic False Ceiling	Armstrong, Hunter Douglas, SAINT GOBAIN,DEXUNE,Interach,
Floor & Wall Tiles : Ceramic / Vitrified tiles / Antiskid / Matt / Glazed	KAJARIA, JOHNSON, NITCO, SOMANY, RAK, Marbita., Ambani tiles.
Chequered Tiles, Paver Block & Kerb Stone	Super Tiles, Hind Mosaic, Vyaara, Kajaria, Ultra Designer Tile, Nitco, Vitco.
Vitrified paver tiles	Kajaria, Pavit, Johnson, Nitco
Clear / Float / Frosted Glass / Mirror	ST. GOBAIN, MODIGUARD, ASAHI,PILKINGTON
Vitreous Chinaware sanitary work	Parryware, Hindware, Dovel, Jaquar
Bathroom accessories (Towel ring, Towel rack, Soap Dish Holder, etc)	Cera, Jaguar, Kich, Archware
GULLY TRAPS(S.W.)	PERFECT,PARRY,CHERRY
Plastic seat with Lid	Parryware, Hindware,Seabird
Sanitary ware	Parryware, Hindware, Dovel, Jaquar
Water supply CP Fittings & Accessories	Cera, Jaquar, Kohler, Roca
PVC water tank	Sintex, National Plastic, Kaveri
Stainless Steel Sink	Nirali, Cera, Jaquar, Neelkantha,STAR,JAYNA,NIRALI
C P Brass fillings	JAQUAR
C P Brass,Flush Valve	JAQUAR,zoloto,leader
GI Pipes	Zenith / Tata / Jindal,SURYA,ASIAN
GI Fittings	Unik, Zoloto, AVR,R-BRAND
Valves	Zoloto, Sant, KIRLOSKAR, LEADER
HDPE Pipe	Reliance, Jain Pipes, ORIPLAST, Supreme

<i>DI Pipes AND Fittings</i>	<i>ELECTROSTEEL, Kesoram, JINDAL, TATA DUCTURA, Neco, Kapilansh</i>
<i>Centrifugally Cast (Spun) Iron Pipes & Fittings</i>	<i>Neco, Kapilansh, SKF,BIC</i>
<i>Hubless CI Pipes & Fittings</i>	<i>Neco, Kapilansh, SKF, Saint Gobain</i>
<i>CI Manhole covers, Frames & GI Gratings</i>	<i>Neco, Kapilansh, SKF</i>
<i>SFRC Covers</i>	<i>KK spun pipes, Jain spun pipes, SS industries</i>
<i>RCC Pipes</i>	<i>Jain Spun Pipes,LAKSHMI,SOOD & SOOD,PRAGATI, K.K.Spun Pipe, The Indian Hume Pipe Co.Ltd., Patel Hume Pipes.</i>
<i>UPVC / CPVC Pipe & Fittings</i>	<i>Finolex Supreme, Prince, Astral, Ashirwad, Raksha.</i>
<i>UPVC DOORS & windows (Profile makers & their authorized Fabricators only)</i>	<i>Fenesta, Kommerling, Aluplast</i>
<i>UPVC DOORS & windows Hardware</i>	<i>Rotto, Dorset, Kinlong</i>
<i>FRP chajja, FRP Shutters & Frame</i>	<i>Fibreways ,Bhutt FRP</i>
<i>Anodised Aluminium Doors Fittings (ISI Marked only)</i>	<i>Classic , Shalimar , Prestige</i>
<i>PVC Shutters & Frame</i>	<i>Rajashree, Plastiwood, Accucel, DUROPLAST,POLYLINE,POLYWOOD,Vijay Doors.</i>
<i>Steel Door / Window Frames</i>	<i>AGEW, SenHarvik , Shiv Mular, Steel Plast</i>
<i>SBR COMPOUND (For REPAIR MORTAR & WATER PROOFING SLURRY)</i>	<i>MASTER EMACO SBR2 OF BASF, SIKA LATEX POWER, CICO LATEX sbr</i>
<i>Acrylic Polymer FOR BOND COAT AND POLYMER MODIFIED MORTAR</i>	<i>Anuvi Chemical, Sunanda Specialty Coating Pvt. Ltd,</i>
<i>Rust remover</i>	<i>Anuvi Chemical, Sunanda Specialty Coating Pvt. Ltd,</i>
<i>Rust Passivator</i>	<i>Anuvi Chemical, Sunanda Specialty Coating Pvt. Ltd,</i>
<i>READYMADE SINGLE COMPONENT POLYMER MODIFIED REPAIR MORTAR</i>	<i>MASTER EMACO S 348 OF BASF, ANUVI CHEMICAL, SUNANDA SPECIALITY COTING PVT.LTD, SKG CONSTN.</i>
<i>MICRO CONCRETE</i>	<i>DR. FIXIT , BASF , FOSROC</i>
<i>Stone Ware Pipes Grade-A (ISI Marked only)</i>	<i>Sonya, Supertech, Cherry</i>
<i>PTMT (ISI Marked only)</i>	<i>Prayag , Polytuf</i>

DECLARATION ABOUT SITE INSPECTION

To,
Executive Engineer,
Pune-I, CPWD, Pune

Subject:- **Misc civil work for High-head water tank at CPWRS khadakwasla. Pune – 24**

Dear Sir,

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

Yours faithfully

(Seal & Signature)
(Bidder/Duly authorized signatory of the bidder)

PART B					
CENTRAL PUBLIC WORKS DEPARTMENT					
<u>SCHEDULE OF QUANTITIES</u>					
Name of Work :- Misc civil work for High-head water tank at CPWRS khadakwasla. Pune - 24					
SLNo	Description	Qty	Unit	Rate	Amount
1	Structural steel work riveted, bolted or welded in built up sections, for M.S water tank and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	3000.00	Kg	154.09	4,62,270.00
2	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :.				
2.1	Two or more coats on new work	300.00	Sqm	179.68	53,904.00
	Total				5,16,174.00

सहायक अभियन्ता,
खडकवासला केंद्रीय उपमंडल,
केलोनिवि, खडकवासला, पुणे-२४