सत्यमेव जयते	**GOVERNMENT OF INDIA CENTRAL PUBLIC WORKS DEPARTMENT**	केन्द्रीय लोक निर्माण विभाग CPWD

Name of Work :- **Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)**

INDEX

Sr.No.	DESCRIPTION	PAGE
1.	Index	1
2.	Check List, CPWD-6 for e-Tendering & Instruction to Contractors & Copy of receipt for deposition of original EMD	2-9
3.	**Civil Part**	**10**
4.	CPWD FORM No. 7 & Schedules 'A' To 'F'	11-18
5.	Special Conditions	19-33
6.	Particular Specifications	34-51
7.	Annexure	52-71
8.	Performance Guarente Modification in CPWD Works Manual	72-73
9.	Schedule of Quantities	74-81
10	Electrical Part	82-108
11	Performa For Quoting the Rates	109

Assistant Engineer (P)
CPWD, Sonipat

Executive Engineer-Sonipat
CPWD, Sonipat

NIT approved for **Rs. 90,99,656/- (Civil + Electrical)** comprises pages 1 to 109.

Correction – Nil Insertion – Nil Deletion - Nil

A.E.(P)

CHECK LIST FOR CONTRACTORS FOR SUBMISSION OF TENDERS

1. TENDER TO BE WITNESSED AT **PAGE-11** OF TENDER DOCUMENTS.

2. THE TENDER / TENDERS CONTAINING CONDITIONS CONTRARY TO THOSE SPECIFIED IN THIS DOCUMENT SHALL BE SUMMARILY REJECTED.

3. THE QUOTED PERCENTAGE ON ESTIMATED RATE FOR ABOVE OR BELOW OR AT PAR SHOULD BE WRITTEN BOTH IN WORDS & FIGURES AT SPACE PROVIDED IN SCHEDULE OF QUANTITY.

4. THE CONTRACTOR(S) SHALL QUOTE THE RATES KEEPING IN MIND, GENERAL CONDITIONS OF CONTRACT 2023 MAINTENANCE WORKS FOR CPWD AS AMENDED UPTO THE LAST DATE OF SUBMISSION OF BID.

CPWD-6 FOR e-TENDERING

The Executive Engineer, Sonipat Division, CPWD Sikka Colony, Main Bahalgarh, Delhi Road, Oppsite Traffic Police Station, Sonepat (Haryana) on behalf of the President of India, invites online percentage rate tenders from approved & eligible CPWD registered contractors for the work of:-

Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)

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

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

1.1 The work is estimated to cost `**Rs. 90,99,656/- (Civil + Electrical)** This estimate, however, is given merely as a rough guide.

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

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

3. The time allowed for carrying out the work will be **90 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 tender documents.

4. i) The site for the work is available.
   ii) ~~The architectural and structural drawings for the work 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 tender 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-2023 can be seen from website **https://etender.cpwd.gov.in**OR **www.cpwd.gov.in** free of cost.

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

8. Earnest Money of **Rs. 1,81,993 /-** can be paid in the form of Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee (for balance amount as prescribed) from any of the Commercial Banks(drawn in favour of Executive Engineer-Karnal) shall be scanned and uploaded on the e-Tendering website within the period of bid submission. The original EMD should be deposited either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission. The EMD receiving Executive Engineer (including NIT issuing EE/AE)shall issue a receipt of deposition of earnest money deposit to the bidder in a prescribed format (enclosed) uploaded by tender inviting EE in the NIT. This receipt shall also be uploaded to the e-tendering website by the intending bidder upto the specified bid submission date and time. Regarding wide publicity of tender office memorandum No. DG/MAN/381 dated 07.01.2019 may be followed.

   A part of Earnest Money is acceptable in the form of Bank Guarantee also. In such case, minimum 50% of EMD or Rs. 20 lac whichever is less will have to be deposited in the shape prescribed above, and balance may be deposited in the shape of Bank Guarantee of any commercial bank having validity for a period of 90 Daysfrom the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

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

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

The bid submitted shall be opened at 15:30 Hours on **30/11/2026.**

9. The bid submitted shall become invalid if:-
   (i) The bidders is found ineligible.
   (ii) **The bidders does not deposit original EMD with division office of any Executive Engineer, CPWD.**
   (iii) The bidder does not upload all the documents (including GST registration) as stipulated in the bid 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 tenderer in the office of tender opening authority.
   (v) **If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not considered as lowest tenderer.**

10. The contractor whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the Estimated amount within the period specified in Schedule A- F. This guarantee shall be in the form of cash (in case guarantee amount is less than ` 10,000/-) 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 (in case guarantee amount is less than ` 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, then the bidder shall be suspended for one year for bidding in all works of CPWD without any notice.
The contractor whose bid is accepted will also be required to furnish either copy of applicable llcences/registrations or proof of applying for obtaining labour licences, registration with EPFO, ESIC and BOCW Welfare Board **including provident fund code No. if applicable and also ensure the compliance of aforesaid provisions by the sub contractors, if any engaged by the contractor for the said work** and Programme Chart (Time and progress) within the period specified in Schedule "F".

11. Intending bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders 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 tender. A tenderer 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 tenderer 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 tender by a tenderer 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.

    In addition to the above, bidders are to advised to see for themselves the bridges existing on the approach passage to the site for assessing the position with regard to carriage of building materials and T&P. Nothing extra shall be payable to the successful bidder for any type of existing restricted conditions with regard to the above.

12. The competent authority on behalf of the President of India does not bind itself to accept the lowest or any other tender and reserves to itself the authority to reject any or all the tenders received without the assignment of any reason. All tenders in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the tenderer shall be summarily rejected.

13. Canvassing whether directly or indirectly, in connection with tenderers is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable for 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 tender and the tenderer shall be bound to perform the same at the rate quoted.

15. The contractor shall not be permitted to tender for works in the CPWD Circle (Division in case of contractors of Horticulture/Nursery category) responsible for award and execution of contracts, in which his near relative is posted a Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the Central Public Works Department or in the Ministry of Urban Development. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

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 aforesaid 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 tenders.**

i) If any tenderer withdraws his tender or makes any modification in the terms & conditions of the tender which is not acceptable to the department within 7 days after last date of submission of bids, then the Government shall without prejudice to any other right or remedy, be at liberty to forfeit 50% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.

(ii) If any tenderer withdraws his tender or makes any modification in the terms & condition of the tender which is not acceptable to the department after expiry of 7 days after last date of submission of bids, then the Government shall or remedy, be at liberty to forfeit 100% of the earnest money absolutely irrespective of letter of acceptance for the work is issued or not.

(iii) In case of forfeit of earnest money as prescribed in para (i) and (ii) above, the bidders shall not be allowed to participate in the rebidding process of the same work

18. This notice inviting Tender shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender 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 Tender, all the documents including additional conditions, specifications and drawings, if any, forming part of the tender as uploaded at the time of invitation of tender 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 mentioned

For & on behalf of the President of India.

Signature .....

Executive Engineer,
Sonipat Division,
CPWD, Sonipat.

INFORMATION AND INSTRUCTIONS FOR CONTRACTORS FOR e- TENDERING FORMING PART OF NIT AND TO BE POSTED ON WEBSITE
(Applicable for inviting open tenders)

The Executive Engineer, Sonipat Division, CPWD, Sikka Colony, Main Bahalgarh, Delhi Road, Oppsite Traffic Police Station, Sonepat on behalf of the President of India, invites **online percentage rate tenders** from approved & eligible CPWD registered contractors for the work of:-

S.No.	NIT No.	Name of work & Location	Estimated cost put to tender	Earnest Money	Period of Completion	Last date & time of submission of tender as specified in the notice.	Time & date of opening of tender
1	2	3	4	5	6	7	8
1	30/EE/SD/2026-27	***Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)*** ***LOCATION*** **: Barhi, *SONIPAT.***	**Rs. 90,99,656/- (Civil + Electrical)**	**Rs. 1,81,993 /-**	**90 Days**	**30/11/2026. upto 15:00 Hours**	**30/11/2026. At 15:30 Hours**

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

   In case only the last date of submission of bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.
   GST, Work Contract Tax, and Labour-Cess etc. as applicable shall be borne by the contractor himself. The contractor shall quote his rates considering all such taxes and hence their quoted rates should be inclusive of all the tax components.

2. The intending bidder must read the terms and conditions of CPWD-6 carefully. He should only submit his bid if he consider himself eligible and he is in possession of all the documents required.

3. Information and Instructions for bidders posted on website shall form of bid document.

4. 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 from website **https://etender.cpwd.gov.in**OR **www.cpwd.gov.in** free of cost.

5. But the bid can only be submitted after **deposition of original EMD either in the office of Executive Engineer inviting bids or division office of any Executive Engineer, CPWD within the period of bid submission** and uploading the mandatory scanned documents such as Insurance Surety Bonds, Account Payee Demand Draft, Fixed Deposit Receipt, Banker's Cheque or Bank Guarantee in favour of **Executive Engineer, Karnal Division, CPWD, Karnal as mentioned in NIT, receipt for deposition of original EMD to division office of any Executive Engineer, CPWD** and other documents as specified.

   The contractors already registered on the e-tendering portal will have option to continue by paying tender processing fee upto one year from the date of registration, or to switch over to (new) registration without tender processing fee any time. All new registrations from 01-04-2015 will be without tender processing fee.

6. Those contractors not registered on the website mentioned above, are required to get registered beforehand. If needed they can be imparted training on online tendering process as per details available on the website.

7. The intending bidder must have valid class-III digital signature to submit the bid.

8. On opening date of the financial bid, the contractor can login and see the bid opening process. After opening of bids he will receive the competitor bid sheets.

9. Contractor can upload documents in the form of JPG format and PDF format.

10. Contractor must ensure to quote rate of each item. The column meant for quoting rate in figures appears in pink colour and the moment rate is entered, it turns sky blue.
In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0".

Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO).

However, if a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

11. **The 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. The letter of award shall be issued to the lowest contractor only on receipt of applicable labour licenses, registration with EPFO, ESIC and BOWC Welfare Board or on submitting the proof of applying thereof. No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC and BOCW Welfare Board, whatever applicable are received from the contractor by the Engineer-in-Charge.**

12. In terms of OM No. DG/CON/255A dated 10.08.2011, it shall be mandatory to sign the Integrity Pact **(Page No.63-78)** by the bidder failing which bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected in case of manual tendering. **However; where e-tendering is followed, Integrity Pact of the bid document shall be signed between EE in-charge of Division and the successful bidder after acceptance of the bid.**

13. The bid submitted shall become invalid if:-

(i) The bidders is found ineligible.

(ii) **The bidders does not deposit original EMD with division office of any Executive Engineer, CPWD.**

(iii) The bidder does not upload all the documents (including GST registration) as stipulated in the bid 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 tenderer in the office of tender opening authority.

(v) If a tenderer quotes nil rates against each item in item rate tender or does not quote any percentage above/below on the total amount of the tender or any section/sub head in percentage rate tender, the tender shall be treated as invalid and will not considered as lowest tenderer.

List of mandatory documents to be scanned and uploaded on due date and time mentioned above:

1. Treasury Challan/Demand Draft/Pay order or Banker's Cheque/Deposit at Call Receipt/FDR/Bank Guarantee of any Scheduled Bank against EMD.
2. **Copy of receipt for deposition of original EMD issued from division office of any Executive Engineer, CPWD.**
3. Enlistment order of the contractor.
4. GST Registration Certificate of the State in which the work is to be taken up, if already obtained by the bidder.
5. If the bidder has not obtained GST registration in the State in which the work is to be taken up, or as required by GST authorities then in such a case the bidder shall scan and upload following under taking along with other bid documents.
   "If work is awarded to me, I/we shall obtain GST registration Certificate of the State, in which work is to be taken up, within one month from the date of receipt of award letter or before release of any payment by CPWD, whichever is earlier, failing which I/We shall be responsible for any delay in payments which will be due towards me/us on a/c of the work executed and/or for any action taken by CPWD or GST department in this regard.
6. **Email and mobile No. of the firm/agency on the letter head of firm/agency (for making correspondence).**
7. **An affidavit (With Mentioned Name of Work) on Rs. 100 stamp paper duly attested by Notary as regard to that "I/We have not been debarred suspended for tendering in CPWD till the last date of submission of bid".**
8. **Copy of PAN CARD issued by the Income Tax Department.**
9. **ERP training certificate.**
10. **Undertaking on structural stability and soundness as per prescribed format Form F at Page- 58.**

Executive Engineer
Sonipat Division
CPWD, Sonipat.

Receipt of deposition of original EMD

Receipt No. _____dated _____			
1.	Name of work	:	**Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)**
2.	NIT No.	:	30/EE/SD/2026-27
3.	Estimated Cost	:	Rs. 90,99,656/- (Civil + Electrical)
4.	Amount of Earnest Money Deposit	:	Rs. 1,81,993 /-
5.	Last date of submission of bid	:	30/11/2026.

(*To be filled by / EE at the time of issue of NIT and uploaded along with NIT)

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

Signature, Name and Designation of EMD receiving Officer (EE/AE(P)/AAO) along with Office Stamp

Civil Part

GOVERNMENT OF INDIA

CENTRAL PUBLIC WORKS DEPARTMENT

STATE:	**HARYANA**	**CIRCLE: KARNAL**
BRANCH:	**B&R**	**DIVISION: SONIPAT**
NIT ZONE:	**SDG (PRCH)**	**SUB-DIVISION : II, SONIPAT**

PERCENTAGE RATE TENDER & CONTRACT FOR WORKS

(A) Tender for the work of: -

Name of Work: **Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)**

i) To be submitted upto **15:00 Hours** on **30/11/2026.** to **Executive Engineer, Sonipat Division, CPWD, Sonipat through e-Tendering/Online tendering.**

ii) To be opened in presence of tenderers who may be present at **15:30 Hours on 30/11/2026.** In the office of **Executive Engineer, Sonipat Division, CPWD, Sonipat through e-Tendering/Online tendering.**

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 and 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 respects with the Specifications, Designs, Drawings 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 respects in accordance with, such conditions so far as applicable.

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

A sum of **Rs. 1,81,993 /-** has been deposited in Receipt Treasury Challan/ Deposit at Call Receipt of a Scheduled Bank/ FDR of a Scheduled Bank / Demand Draft of a Scheduled Bank/Guarantee Bond of Scheduled Bank or State Bank of India 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 successor in office shall without prejudice to any other right or remedy be at liberty to forfeit the said Earnest Money absolutely without any notice. Further, if I/we fail to commence the work as specified. I/we agree that President of India or his 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 therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2, 12.3 and 12.5 of the tender form.

Further, I/We agree that in case of forfeiture of Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-bidding process of the work. I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in CPWD in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

I/We hereby declare that I/we shall treat the tender documents, drawings and other records connected with the work as Secret / Confidential documents and shall not communicate information / derived therefrom to any person other than a person to whom I/we am/are may 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: - .....

Telephone No.

Fax:-

E-Mail:-

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.

i) ……
ii) ……
iii) ……
iv) ……

Dated: - .....

For & on behalf of the President of India.

Signature .....

Executive Engineer

SCHEDULE - A to F

SCHEDULE 'A'

Schedule of quantities - **(Page No. 74-81)**

SCHEDULE 'B'

Schedule of materials to be issued to the contractor.

S.No.	Description of item	Quantity	Rate in figures & words at which the material will be charged to the contractor	Place of issue
(1)	(2)	(3)	(4)	(5)
		———	NIL———	

SCHEDULE 'C'

Tools and plants to be hired to the contractor

S.NO.	DESCRIPTION.	HIRE CHARGES PER DAY	PLACE OF ISSUE
	———	NIL———	

SCHEDULE 'D'

Extra schedule for specific requirements/ documents for the work, if any.

----------Nil- - - - - - - - - - - - - - -.

SCHEDULE 'E'

Reference to General Conditions of Contract:		**General Conditions of contract 2023 Maintenance Works for CPWD** amended/modified up to last date of submission of bid.
1.1	Name of Work :	**Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)**
1.2	Estimated Cost of work: -	**Rs. 90,99,656/- (Civil + Electrical)**
1.3	Earnest Money: -	**Rs. 1,81,993 /-**
1.4	Performance Guarantee	**PG shall be 5% of the Estimated cost put to tender (ECPT) or contract amount whichever is higher. The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount ECPT and quoted amount. (OM No. DG/Manual-2024/20 Dated 27-02-2026)**
1.5	Security Deposit	2.50% of tendered value
1.6	Time Allowed	**90 Days**

SCHEDULE 'F' (General Rules & Directions)

Officer Inviting Tender: -	Executive Engineer Sonipat Division CPWD, Sonipat
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	Refer Clause-12

Definitions:-

2(i)	Engineer-In-Charge	:	Executive Engineer, Sonipat Division, CPWD, Sonipat
2(ii)	Accepting Authority	:	Executive Engineer, Sonipat Division, CPWD, Sonipat
2(iii)	Percentage on cost of materials and labour to cover all overheads and profits	:	15%
2(iv)	Standard Schedule of Rates	:	Delhi Schedule of Rates 2023 corrected up to last date of submission of bids.
2(v)	Department	:	Central Public Works Department (CPWD)
2(vi)	Standard CPWD Contract	:	GCC 2023 **Maintenance Works** and CPWD Form 7 as amended/ modified up to the last date of submission of bid.
2(vii)	The order of preference: -	:	In the case of discrepancy between the Schedule of Quantities, the Specifications and/ or the Drawings, the following order of preference shall be observed:- (i) Nomenclature of item as per Schedule of Quantities (ii) Special Conditions. (iii) Particular Specifications. (iv) CPWD Specifications. (v) Architectural Drawings. (vi) Indian Standard Specifications of B.I.S. (vii) As per standard Engineering Practice

Clause-1:-

(i)	Time allowed for submission of performance guarantee, programme chart (Time and Progress) and applicable labour licences, registration with EPFO, ESIC and BOCW Welfare Board or proof of applying thereof from the date of issue of letter of acceptance.	7(seven) days
(ii)	Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above.	3(three) days

Clause-2:-

I. Authority for fixing compensation Under clause-2.	Superintending Engineer. CPWD, Karnal

Clause-5:-

Number of days from the date of issue of letter of acceptance for reckoning date of start	**10 days**
Mile Stone	Refer Para (A) Table of milestone at **Page-18**
Time allowed for execution of work	90 Days

Authority to decide

i. Extension of time for completion of work	Engineer-In-Charge Executive Engineer Sonipat Division, CPWD, Sonipat.
ii. Re-scheduling of Mile stone	Executive Engineer-Sonipat
Iii Shifting of date of start in case of delay in handing over of site	Executive Engineer-Sonipat

Clause-6 Computerised Measurement book (CMB)
Electrical Measurement (Book) (EMB)
Mode of Payment — Applicable

Clause-7:- Gross work to be done together with net payment / adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment — **30.00 Lakh**

Clause-7A:-Whether clause 7A shall be applicable — Yes, Applicable

No running account bill shall be paid in the work till the applicable labour licenses, registration with GST, EPFO, ESIC, BOCW welfare board including Provident Fund Code No. if applicable whatever applicable is submitted by the contractor to the Engineer-in-charge.

Clause-10A:-

List of testing equipment to be provided by the contractor at site lab. — Refer **Page-59**

Clause-10-B (i)

Whetherclause 10-B (i) shall be applicable — Not Applicable

Clause 10 C

Component of labour expressed as percent oftotal value of work. — **Not Applicable**

Clause 10 CA — **Not Applicable**

Clause-10-CC:-		Clause 10CC to be applicable in Contracts with stipulated period of completion exceeding the period.	**Not Applicable**
Clause-11:-		Specifications to be followed for execution of work	C.P.W.D. Specifications 2019 Vol.-I & II with upto date correction slips i/c special conditions and particular specifications as attached in NIT.
Clause-12:-			**Applicable**
Type of Work:			**Maintenance Work**
Authority of decide deviation up to 1.5 times of Tendered amount			**Executive Engineer-Sonipat/Superintending Engineer-Karnal Circle as per financial power or successor thereof**
12.2 & 12.3		Deviation limit beyond which clause 12.2 & 12.3 shall apply for Building work	No limit
12.5	(i)	Deviation limit beyond which Clause 12.2 & 12.3 shall apply for foundation works (except earth work Sub-Head in DSR)	No limit
	(ii)	Deviation limit for items in earth work. Sub-Head of DSR or related items	No limit

a) Overall deviation limit (including cost of extra items & Deviation) shall be 25%.

b) The completion cost of the agreement shall not exceed 1.25 times of the tendered amount and the contractors should keep a check and watch over the amount of work done & do not execute work beyond 1.25 times of the tendered amount. Any further deviation beyond 1.25 times upto 1.50 times of contract amount shall be approved by Superintending Engineer/Chief Engineer as applicable with recorded reasons. In exceptional cases, ADG/SDG (as applicable) shall have powers to approve the deviation beyond 1.50 times upto 2.00 times of contract amount with recorded reasons and take suitable corrective action.

c) The payment of extra/substituted items born on DSR shall be paid as per DSR rates applicable to the agreement plus prevailing cost index and plus / minus %age above or below of quoted contract amount.
The payment of the non scheduled extra items shall be paid as per the prevailing market rate.

Clause-16:-		Applicable
Clause-18:-		
	List of mandatory machinery tools & Plants to be deployed by the Contractor at site	**Page No. 59**

Clause 19 :-

The contractor shall obtain a valid licence under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work.
The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979

Clause 19 C:-

Authority to decide penalty for each Default	Executive Engineer-Sonipat, CPWD, Sonipat or his successor thereof

Clause 19 D:-

Authority to decide penalty for each default	Executive Engineer-Sonipat, CPWD, Sonipat or his successor thereof

Clause 19 G:-

Authority to decide penalty for each default	Executive Engineer-Sonipat, CPWD, Sonipat or his successor thereof

Clause 19 K:-

Authority to decide penalty for each	Not applicable

Clause 25

Constitution of Dispute Redressal Committee: - As decided by SDG (Project Region Chandigarh)

Clause-32 (i): Requirement of Technical Representative(s) and Recovery Rates

S. No.	Minimum Qualification of Technical Representative	Discipline	Designation	Minimum Experience	Number	Rate at which recovery shall be made from contractor in the event of non- deployment.	
						Figures	Words
1.	Graduate Engineer or Diploma Engineer	Civil	Project Manager Cum Planning/Quality/ Site/Building Engineer	2 Years or 5 Years respectively	1 No.	15000/- per month	Rupees Fifteen Thousand Only per month

Assistant Engineers retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.
Diploma holder with minimum 10 years relevant experience with a reputed construction co. can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers. The contractor shall submit a certificate of such employment of the technical representative(s) (in the form of copy of Form-16 or CPF deduction issued to the Engineers employed by him) along with every account bill/final bill and shall produce evidence if at any times so required by the Engineer-in-charge.

Clause-38:-

i)	Schedule / Statement for determining theoretical quantity of cement & bitumen	As per Delhi Schedule of Rates 2023 with amendments up to the last date of submission of bids.
ii)	Variations permissible on theoretical quantities.	
a)	Cement for works with estimated cost put to tender for not more than 25 Lakh.	3% plus / minus.
b)	Cement for works with estimated cost put to tender for more than 25 Lakh.	2% plus / minus.
c)	Steel Reinforcement and structural steel sections for each diameter, section and category.	2% plus / minus.
d)	All other materials.	Nil
e)	Bitumen for all work.	2.5% Plus side only and NIL on minus side.

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

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

TABLE OF MILE STONE (S)

Time Period allowed for Completion of Work: - 90 Days

Financial Terms

Sl No.	Financial Progress	Time Allowed (from date of start)	Amount to be withheld in case of non achievement of milestone
----------Nil----------			

Para (B) :-

Gross work to be done together with net payment/adjustment of **Rs. 30.00 Lakh**
Advances for material collected if any, since the last such payment
For being eligible to interim payment.

Executive Engineer
Sonipat Division
CPWD, Sonipat.

SPECIAL CONDITIONS

1.0 General

1.1 Except for the items, for which Particular Specifications are given or where it is specifically mentioned otherwise in the description of the items in the schedule of quantities, the work shall generally be carried out in accordance with the "CPWD Specifications" and as per instructions of Engineer-in- Charge. Wherever CPWD Specifications are silent, the latest IS Codes / Specifications shall be followed and the rates should be all inclusive.

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

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

1.4 The work should be planned in a systematic manner so that chase cuttings in the walls, ceilings and floors is 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 co- ordination of various disciplines viz. sanitary & water supply, horticulture & electrical etc.

1.5 All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested before covering.

1.6 Samples including brand / quality of materials and fittings to be used in the work 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.

1.7 Equipment like concrete pump excavators/Transit mixer etc. shall be allowed to be moved away from the site when, in written opinion of Engineer-in-Charge, the same are no longer required at site of work.

1.8 The contractor, his agents / representative, workman etc. shall strictly observe orders pertaining to fire precautions prevailing in the area.

1.9 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.

1.10 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.

1.11 Contractor shall take all precautionary measures to avoid any damage to adjoining property. All necessary arrangement shall be made at his own cost.

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

1.13 The contractor 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, compound wall, services etc are to be constructed.

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

1.15 Contractor shall provide permanent bench marks, flag tops 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.

1.16 Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / corporation where CPWD Specifications are not applicable. The contractor should get the materials (fixtures/fittings) tested by the Municipal Body / Corporation authorities wherever required at his own cost.

1.17 The work 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, nomenclature of items, specifications etc. and satisfy himself that the information available there from is complete and unambiguous. The figures & the written dimensions of the drawing shall supercede the measurement by scale. The discrepancy, if any, shall be brought to the notice of the Engineer-in- Charge for immediate decision before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and/ or incomplete information and no claim, whatsoever shall be entertained on this account.

1.18 The Architectural drawings other than those indicated in nomenclature of items are only indicative of the nature of the work and materials/fittings involved unless and otherwise specifically mentioned.

1.19 The contractor should submit the shop drawing of staging and shuttering for approval of Engineer-in-Charge before actually commencing the execution of work under the item. Nothing extra shall be payable on this account.

1.20 Other agencies may also simultaneously execute and install the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings, trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be available as specified elsewhere in the contract) and the contractor shall fix the same at the time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.

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

1.22 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.

1.23 The contractor shall procure the required materials in advance so that there is sufficient time for testing of the materials and approval of the same before use in the work.

1.24 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor at his own expense. The contractor shall not store materials or otherwise occupy any

part of the site in a manner likely to hinder the operation of such services. In case temporary supporting/shifting of such services is required to facilitate the work, the same shall be done by the contractor at no extra cost.

In case the existing services are to be shifted permanently, then before dismantling the existing services, alternate/diversion of service lines has to be laid by the contractor so that there is no interruption in use of existing services. The contractor has to plan the alternate suitable route for diversion/shifting of service lines and get the same approved from the Engineer-in-Charge before

starting shifting of services. Nothing extra shall be paid except the payment of dismantling and laying of new service lines as per conditions of contract.

1.25 The contractor shall be responsible for the watch and ward / guard of the buildings, safety of all fittings and fixtures including sanitary and water supply fittings and fixtures provided by him against pilferage and breakage during the period of installations and thereafter till the building is physically handed over to the department. No extra payment shall be made on this account.

1.26 The contractor shall be fully responsible for the safe custody of materials brought by him/ issued to him even though the materials may be under double lock key system.

1.27 For construction works which are likely to generate malba / rubbish to the tune of more than a tempo / truck load, contractor shall dispose of malba, rubbish & other unserviceable materials and wastes at his own cost to the notified specified dumping ground and under no circumstances these shall be stacked / dumped even temporarily, outside the construction premises.

1.28 The excavated surplus earth shall be dispose off by the contractor as per directions of Engineer-in-Charge.

1.29 BATCH MIX CONCRETE

1.29.1 The contractor shall establish a laboratory at site of batch mix plant to test the coarse aggregate, fine aggregate, water, sand, cement etc. Contractor is also required to depute technical personnel specifically for running of Batch Mix Plant and for quality control of mix produced.

1.29.2 All incidental expenditure on security, construction of cement godown, access roads, arrangement of water, electricity etc. to be incurred or anticipated by the agency for arranging, installing and operation of Batch Mix Plant shall be deemed to have been included in his quoted rates and no claim whatsoever will be tenable on this account.

1.30 With each Running Bill, the details of test carried out shall be submitted by the contractor as per proforma at **Page-58.**

1.31 On completion of work, the contractor shall submit at his own cost four prints of "as built" drawings to the Engineer-in-Charge as per direction.

a) Run off of all piping and their diameters including soil, waste pipes and vertical stacks.
b) Ground and invert level of all drainage pipes together with locations of all manholes and connections, upto out fall.
c) Run off of all water supply lines with diameters, location of control valves, access panels etc.

In case the contractor fails to supply "as built drawing" aforesaid within 30 days of the date of completion, then the recovery @ Rs.10,000/- each for such set of drawings shall be made from the contractor's final bill.

1.32 In the item of providing and fixing precast reinforced cement concrete in shelves the cost of cutting chases and making good the same shall be inclusive in the item ad nothing extra shall be paid on this account.

1.33 In the item of finishing walls with Acrylic smooth exterior paint, only the plain/flat area shall be measured for payment and nothing extra shall be paid on account of pointed wall surface.

2.0 Unless otherwise specified in the schedule of quantities, the rates for respective items shall be all inclusive and apply to the following: -

(i) All lifts & all heights, floors including terrace, leads and depths.

(ii) All labour, material, tools and plants and other inputs involved in the execution of the item.

(iii) Any of the conditions and specifications mentioned in the tender documents.

(iv) Pumping / bailing out surface water / rain water / sub soil water, if necessary for any reason.

(v) Providing sunk flooring in bath-rooms, kitchen, etc.

(vi) Any legal or financial implications resulting out of disposal of earth, if any.

(vii) Payment of Royalty at the prevailing rates, if any, on the boulders, metal, shingle, sand and bajri etc. or any other material collected by him for the work direct to revenue authorities.

(viii) Performance test of the entire installation(s) before the work is finally accepted.

(ix) Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items .

(x) All incidental charges for cartage, storage and safe custody of materials brought to site.

3.0. **TESTING OF MATERIAL: -**

3.1 Samples of materials required for testing shall be provided free of charge by the contractor. The cost of tests shall be borne by the contractor / department in the manner indicated below: -

Note:- All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. These test shall be got from list of approved laboratory for testing as approved by ADG/SDG.

3.2 However, if any ultrasonic pulse velocity / load testing or special testing is to be done for concrete whose strength is doubtful, the cost of the same shall be borne by the contractor.

3.3.1 In case there is any discrepancy in frequency of testing as given in list of mandatory tests and that in individual sub-heads of work as per CPWD Specifications higher of the two frequencies of testing shall be followed and nothing extra shall be payable on this account.

3.4 <u>FIELD LABORATORY</u>

The contractor has to establish field laboratory at site including all necessary equipments and skilled manpower for the **Field Tests as at Page-57**his own cost to have proper quality control.
For performing the above tests, the **Field Testing Equipments and Instruments as at Page-57** are to be arranged and maintained by the contractor.

3.5. 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 & contractor shall be bound to replace / remove such sub-standard / defective work immediately.

3.6 The list of Laboratory/ Field equipment referred above are to be arranged and maintained by the contractor at the site of work. In case the equipment required for any test is not available at site, the department shall get the test conducted from the third party. However in that event, besides providing free materials of sample, the cost of taking of sample, packing, transportation, testing charges etc. shall be borne by the contractor irrespective of the results.

4.0 SECRECY

4.1 The contractor shall take all steps necessary that all persons employed on any work in connection with the contract have notice that the Indian Official Secrets Act 1923 applies to them & will continue so to apply even after the execution of such works under the contract.

4.2 The contract in confidential and must be strictly confirmed to the contractor's own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purpose of the contract.

4.3 All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the Engineer-in-Charge on the completion of the work / works or the earlier determination of the contract.

5.0 LABOUR AND SECURITY

5.1 Contractor should provide his plan for labour huts as per his requirement and get it approved from the Engineer-in-Charge. The contractor will be provided space for labour huts etc. inside the campus but the space requirement and location, as assessed by Engineer-in-Charge shall be final and binding.

5.2 Contractor has to follow the security requirement of the campus and obtain necessary entry passes for the labour and vehicles and follow security checks at entry / exit gates, restriction on movement of vehicle, restricted timings of working etc. The Department however shall assist the contractor in obtaining such passes for movement of vehicles and labour. No claim whatsoever shall be entertained on account of delay in entry of vehicles and labour including restrictions in working hours, if there is any.

5.3 The contractor shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall, on demand submit list of his agents, employees and work people concerned & shall satisfy as to the bonafides of such people.

5.4 The contractor & his work people shall observe all relevant rules regarding security promulgated in which work is to be carried out by the Controlling Administrative Authority of the campus/area (hereinafter referred to as "Administrator").

5.5 The contractor, his representative, workman shall be allowed to enter through specified gates & timing as laid down by the controlling authority. They shall be issued an identity card or an individual pass in accordance with the standing rules & regulations & they should possess the same while working. The contractor shall be responsible for the conduct & actions of his workman, agents / representatives.

5.6 Normally contractor shall be allowed to carryout work between 7 AM to 6 PM. However, he may also be allowed to carryout the work beyond 6 PM & upto 7 AM if the site conditions / circumstances so demand with prior written permission from the "Administrator". However, if the work is carried out in more than one shift or at night, no claim on this account shall be entertained.

5.7 Normally contractor's material / vehicles etc shall be allowed to move in / go-out between 7 AM to 7 PM only & no movement of material / vehicles out of site of work shall be allowed during night hours unless specific permission is obtained from the "Administrator".

5.8 In case if a separate entry has been allowed, the contractor has to make all arrangement for making a separate entry gate and barricading of the working area to segregate/separate the same from other areas. All these have to be done by the contractor at his own cost including safeguarding any untoward incident in the restricted area due to separate entry gate and barricading arranged by the contractor. No extra amount on this account shall be payable by the department.

6.0 TRANSPORTATION AND OFFICE INFRASTRUCTURE:

6.1 In order to complete the work within the scheduled time if the contractor shall be required to do the work in more than one shift and accepted by the department the contractor will provide vehicular facilities to the CPWD site staff to reach the site and their residence at his own cost for their services required beyond the normal office hours. In case the contractor fails to provide the facilities Engineer-in-Charge shall be at liberty to make the arrangement themselves and deduct the respective cost from the contractor's bills.

~~7.0 **PROGRAM CHART: -**~~

~~7.1 The Contractor shall prepare an integrated program chart for the execution of work, showing clearly all activities from the start of work to completion, with details of manpower, equipment and machinery required for the fulfillment of the program within the stipulated period or earlier and submit the same for approval of the Engineer-in-Charge within **15 days** of the issue of letter of acceptance for the contract.~~

~~7.2 The work has to be completed in stages as indicated in the **Milestones under Schedule 'F'** and the program should be prepared in such a manner to achieve these Milestones as indicated therein or earlier.~~

~~7.3 The program chart should include the following: -~~

~~a) Descriptive note explaining sequence of various activities.~~
~~b) Network (PERT / CPM / BAR CHART) which will indicate resources in financial terms, manpower and specialized equipment for every important stage.~~
~~c) Program for procurement of materials by the contractor.~~
~~d) Program of procurement of machinery / equipments having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.~~

~~7.4 If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.~~

~~7.5 The submission of revised program or approval by the Engineer-in-Charge of such program or the~~ furnishing ~~of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.~~

~~Notwithstanding the fact that the contractor will have to pay to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amounts for any other reason.~~

8.0 PROGRESS AND MONITORING OF WORK:

Contractor shall give the Engineer-in-Charge on the 10th day of each month, progress report of the work done during the previous month. Such progress report will include the project progress summary, work progress (planned v/s. actual), PERT chart, milestone status, financial progress status, manpower deployment status, important materials consumed, materials at site at the beginning of the month, materials consumed during the month and the balance quantities at the end of month and progress of the work stating the reasons for shortfall, if any including the steps and measures to be taken for making good the shortfall in the succeeding period. Non submission of aforesaid progress report shall make contractor liable for action under breach of contract conditions.

9.0 **SAMPLE OF MATERIALS:-**

9.1 All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer-in-Charge which shall be preserved till the completion of the work. 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 **List of Preferred Makes as at Page 60-62** for approval of Engineer-in-Charge. For all other items, ISI Marked materials and fittings 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 for the approval of Engineer-in- Charge.

9.2 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.

9.3. BIS marked materials except otherwise specified shall also be subjected to quality test besides testing of other materials as per the specifications described for the item/material. Wherever BIS marked materials are brought to the site of work, the contractor shall, furnish manufacturer's test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfies the provisions of specifications relevant to the material and / or the work done.

BIS marked items (except cement & steel for which separate provisions have been made in para 10.0) required on the work shall be got tested, for only important tests, which govern the quality of the product, as decided by the Engineer-in-Charge. The frequency of such tests (except the mandatory test) shall be 5% of the frequency as specified in BIS. For mandatory test, frequency shall be as specified in the CPWD Specifications

9.4 For certain items, if frequency of tests is neither mentioned in the CPWD Specifications & BIS, then tests shall be carried out as per decision of Engineer-in-Charge.

10.0 **CEMENT & STEEL REINFORCEMENT (IF NOT STIPULATED TO BE SUPPLIED BY THE DEPARTMENT).**

10.1 Contractor has to produce manufacturers test certificate for each lot of Cement & Steel Reinforcement procured at site.

10.2 **CEMENT:-**

10.2.1 The contractor shall procure 43 Grade Ordinary Portland Cement and/or Portland Pozzolona Cement (Fly Ash based), required in the work from reputed manufacturers of cement as per the approved make in 50 kg. bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot. Portland Pozzolona Cement is to be used for RCC works subject to fulfillment of conditions of circular number CDO / SE (RR) / fly ash (MAN) 02 dated 09.04.09. In case contractor / firm uses OPC only nothing extra shall be paid.

10.2.2 Samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS Codes. The cement for such testing purpose shall be supplied by the contractor free of charge. In case test results indicate that the cement arranged by the contractor does not conform to the relevant BIS Codes, 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. The cost of tests shall be borne in the manner indicated below:

All expenditure to be incurred for testing of samples e.g. packaging, sealing, transportation, loading, unloading etc. including testing charges shall be borne by the contractor. These test shall be got from list of approved laboratory for testing as approved by ADG/SDG.

10.2.3 OPC/ PPC shall be brought at site in bulk supply of approximately 30 tonnes or as decided by the Engineer-in-Charge.

10.2.4 OPC/ PPC bags shall be stored in separate godowns. Separate godowns for tested cement and fresh cement (under testing) to be constructed by the contractor at his own cost as per sketches given in C.P.W.D Specifications having weather-proof roofs and walls. The size of the cement godown is indicated in the sketches for guidance. The actual size of godown shall be as per site requirements and nothing extra shall be paid for the same. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with Engineer-in-Charge of the work and that of other lock with the authorized agent of the contractor at the site of work so that the cement is issued from godown according to the daily requirement with the knowledge of both parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed proforma and signed daily by the contractor or his authorized agent and Engineer-in-Charge or his authorized representative in token of its correctness. The day to day receipt and issue accounts of different grade/brand of cement shall be maintained separately in the standard proforma by the contractor or his authorized representative which shall be duly signed by the authorized representative of the Engineer-in-Charge before issue to the work on day to day basis.

The capacity of each cement go-down shall be 1000 bags of cement or more as decided by the Engineer-in-Charge and shall be constructed by the contractor at site of work and at the site of batching plant for which no extra payment shall be made. The contractor shall be responsible for the watch and ward and safety of the cement go-downs. The contractor shall facilitate the inspection of the cement go- downs by the Engineer-in-Charge at any time.

10.2.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in 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 the conditions laid therein.

10.2.6 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 not so used shall be recovered from the contractor as specified in schedule. Decision of the Engineer-in-Charge in regard to theoretical quantity of cement which should have been actually used as per the schedule and recovered at the rate specified, shall be final and binding on the contractor.

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.

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

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

10.2.9 Cement, which is not used within 90 Daysfrom its date of manufacture, shall be retested at approved laboratory. Until the results of such tests are found satisfactory, it shall not be used on the work.

10.3 **STEEL REINFORCEMENT: -**

10.3.1 The contractor shall procure Thermo Mechanical Treated (TMT) Steel Reinforcement bars of Fe500D grade or more from Primary producers such as SAIL or Rashtriya Ispat Nigam Ltd. or TISCO as approved by Ministry of Steel. In case of non availability of steel from Primary Producers, the NIT approving authority may permit use of TMT reinforcement bars produced from Secondary Producers. Approved Secondary producers, if any, shall be in accordance with those appearing in "**LIST OF PREFERRED MAKES**" on **page-60. Subject to fulfilling the following conditions:**

a) The grade of the steel shall be Fe500D as per BIS 1786-2008.

b) The secondary producers have valid BIS licence to produce HSD bars conforming to IS 1786: 2008. In additional to BIS licence, the secondary producer must have valid licence from either of the firms Tempcore, Thermax, Evcon Turbo & Turbo Quench to produce TMT bars.

c) The TMT bars procured from primary producers shall conform to manufacture's specifications.

d) The TMT bars procured from secondary producers(in case primary producer TMT bar not available) shall conform to the specifications as laid by Tempcore, Thermax, Evcon Turbo & Turbo Quench as the case may be.With prior approval of Engineer-In-Charge

e) TMT bars procured either from primary producers or secondary producers, the specifications shall meet the following provisions of IS 1786: 2008 pertaining to Fe500D grade of steel:

Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, as defined under para 10.3.1 (d) and (e) above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in Charge to do so: -

10.3.2 In case if contractor uses TMT reinforcement bars procured from **SECONDARY PRODUCERS** then:

(i) The base price of TMT reinforcement bars as stipulated under schedule 'F' shall be reduced by **Rs. 3.10per Kg.**

(ii) The rate of providing & laying TMT reinforcement bars as quoted by the contractor in the tender shall also be reduced by **Rs. 3.60 per Kg.**

The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the Site staff along with the relevant documents before acceptance. The contractor shall obtain Original Vouchers and Test Certificates and furnish the same to the Engineer-in- Charge in respect of all the lots of steel brought by him from approved supplier to the site of work. The original vouchers and test certificates shall be defaced by the Site staff and kept on record in the site office.

10.3.3 The steel reinforcement shall be brought in bulk supply of 20 tonnes or more or as decided by the Engineer-in-Charge along with manufacturer test certificate for each lot.

10.3.4 The steel reinforcement shall be stored by the contractor at site of work about 30cm. to 45 cm. above ground. A coat of cement wash shall be given to steel bars when stored at site for long duration so as to prevent corrosion. Nothing extra shall be paid on these accounts. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

10.3.5 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.

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

10.3.6 The Actual issue and consumption of steel on work shall be regulated and proper account maintained as per provision 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.

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

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

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

10.3.10 The standard sectional weights referred to as in Table IV in para 5.3.3 in CPWD Specifications will be considered for conversion of length of various sizes of M.S. Bars, Tor Steel Bars and T.M.T.bars into Standard Weight.

10.3.11 Records of actual Sectional weights shall also be kept dia-wise and lot-wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site.
The decision of the Engineer-in-Charge shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight. However for the stipulated issue of steel reinforcement up to and including 10mm diameter bars, the actual weight of steel issued shall be modified to take into account the variation between the actual and the standard coefficients and the contractors' accounts will be debited by the cost of modified quantity.

10.3.12 a) If the Derived Weight as in sub-para (10.3.11) above is less than the Standard Weight as in Sub-para (10.3.10) above then the Derived Actual Weight shall be taken for payment, provided it is

within the following tolerances, otherwise whole lot will be rejected:

Tolerances on Nominal Mass

Nominal Size in mm	Tolerance on Nominal mass Percent		
	Batch	Individual sample **+**	Individual sample for coil*
a) Upto and including 10	±7	-8	±8
b) Over 10 upto and Including 16	±5	-6	±6
c) Over 16	±3	-4	±4

+ For individual sample plus tolerance is not specified.
***** For coils batch tolerance is not specified.

a) If the Derived Actual Weight is found more than the Standard Weight, the Standard Weight as per in sub-para (10.3.10) above shall be taken for payment. In such case nothing extra shall be paid for the difference between the Derived Actual W
b) eight and the Standard Weight.

11.0 **ENGAGING SPECIALISED AGENCIES FOR WORKS**: -

11.1 The Contractor shall engage specialized agency unless otherwise approved by any Government Department having adequate technical capability and experience of having executed at least one work of similar items of 80% or more magnitude or two works of similar items of minimum 60% magnitude or three works of similar items of minimum 40% magnitude individually for executing the following items of the work and/or any other items of work where specialized firm is required to be engaged as per contract conditions. For determining the required magnitude, the value of the work executed may be suitably enhanced with the prevailing approved cost index.

i) Anti Termite treatment work.
ii) Factory made Wooden Shutters of all types except Flush Doors.
iii) Water proofing treatment work of all types.
iv) Tubewell installations
v) Overhead Tank.
vi) Aluminum Work
vii) Internal Electrical Installations
viii) Pile foundation

11.2 The Specialized agency for the work shall be got approved from the Engineer-in-Charge well before actual commencement of the item of work. The contractor shall submit the list of Specialized agencies except for Internal Electrical Installation, proposed to be engaged by him along with necessary performance certificates, 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.

11.3.1 For Internal Electrical Installation work as contained in the Electrical component work under Section VII, the Electrical Agency to be associated shall be of appropriate class of CPWD. Provisions mentioned under Sr. No. 11.1 above are not applicable for engagement of Electrical Agency. However contractor shall submit MOU to Executive Engineer (Elect.) in-charge, signed with eligible Electrical Contractor/Agency along with consent letter of Electrical Agency **at least 7 days before the last date of submission of Performance Guarantee**.

11.3.2 In case the Contractor intends changing the above agency for the work during the operation of the Contract, he shall obtain prior approval of the Engineer-in-Charge. The new agency also shall have to satisfy the conditions prescribed in **Para 11.3.1** above. In case the Engineer-in-Charge is not satisfied with the performance of the agency during the currency of the contract, he shall have the

option to direct the contractor to change the agency executing these works, which shall be binding upon him.

11.4 For the specialized item of Polypropylene Pipes the contractor shall engage such vendors as approved by the manufacturer. Provisions mentioned under Sr. No. 11.1 above not applicable for Polypropylene Pipes.

11.5 The conditions of approval of specialized agency shall be final and binding on the contractor and he shall comply with such conditions of approval.

~~**12.0 SAMPLE QUARTER/ ROOM/Dormitory: -**~~

~~The contractor shall construct a sample quarter/ room complete in all respects including all Civil and Electrical details/ fixtures, as contained in "Table of Mile Stone(s)" **(Page-19)**. The sample quarter/ room shall be inspected and approved by the Engineer-in-Charge. Slight changes with regard to the fixtures/ fittings/ details/ dimensions etc. may occur as per the actual requirement or in order to enhance the functionality of the product or the unit. Thus, the procurement for all the internal fittings/fixtures/ fabricated material and other material etc. shall be done by the contractor only after the approval of the sample quarter/room.~~

~~**13.0**~~ **Defect liability:**

13.1 The contractor's liability during the defect liability period from the final date of completion as per clause 17 shall be limited to rectification of defects including replacement as follows which in the opinion of Engineer-in-Charge are not man made.

	Description	**Defect Liability**
	Anti termite treatment.	(a) Termites found if any till guarantee period to be rectified through post ATT.
	Concrete	(a) Rectification of structural / superficial / non-structural cracks. (b) Rectification of dampness / seepage in roof slab / junctions & sunken portion. (c)Rectification of cracks in beam, shade, column.
	Brick work	(a) Rectification of cracks in panel wall / portion. (b) Cracks / settlement of dwarf walls. (c)Rectification of efflorescence.
	Joinery	(a) Replacement of warped joinery. (b) Cracks in panels, rails / styles etc.
	Builders Hardware	(a) Repairs / Replacement of loosened / pre-mature failure of fittings. (b) Tightening / Replacement of sag in mosquito proofing.
	Steel & Iron work	(a) Rectification / Replacement of defective part of rolling shutter. (b) Redoing of defective portion in fabrication / welding including painting. (c) Steel windows, grills, gates etc. – defects to be rectified.
	Roof treatment	(a) Rectification of leakage / seepage of roof slab including covering at junc guarantee period.
	Plastering	(a) Rectification of structural / superficial cracks if any. (b) Rectification of protruding / peeling off plaster if any. (c)Rectification of efflorescence
	Flooring	(a) Rectification of sinking portion of plinth protection including saucer drain. (b) Settlement of foundation & floors.

	Description	Defect Liability
	Plumbing / Sanitary fittings	(a) Making good of leakage through soil / waste pipe joints. (b) Replacement of looking mirror if found wavy. (c) Rectification of leakage of over head tanks. (d) Leakage / seepage of sunken floor, blockage of taps / pipes, non-functioning of cistern.
	Finishes	(a) Making good of defective / dissimilar patches of painting to match with remaining surfaces.
	Internal Water Supply	(a) Repairs / Replacement of defective taps / fittings. (b) Repair to leakage of GI water pipe lines including joints. (c) Removal of blockage of GI pipe lines.
	Roads	(a) Repair of sinking portion of road & potholes, if any
	Sewage	(a) Rectification of slope / system if found defective during use. (b) Rectification of major blockage in Sewer lines. (c) Cracks & settlement of sewage lines.
	Drains	(a) Repair to Drains. (b) Settlement of Drains
	External Water Supply	(a) Repairs to installations & fittings.
	General	(a) All manufacturing defects of structures / fixtures / fittings / equipments other than listed above.

~~14.0~~ INSTALLATION OF TUBEWELL

14.1 The department reserves the right to abandon a particular tube well due to lack of sufficient water bearing strata and the contractor will be paid for the item executed at the respective quoted rates. In case tube well is to be abandoned due to negligence of the contractor, nothing will be paid to the contractor. The decision of the Engineer-in-Charge will be final and binding on the contractor.

14.1.2 The recommendation regarding slot size of the strainer, location of the strainer will be given by the contractor. However, the final decision regarding the same will be of Engineer-in-Charge

14.2 The contractor will not lower the assembly until and unless the size of screen and the design of the assembly are approved by the Engineer-in-Charge. In case he lowers the assembly without the approval of the Engineer-in-Charge, the same will not be paid. The agency shall submit the proposal for lowering of assembly along with the Strata Chart, Electric Login Report, and Sieve Analysis Graph etc. to Engineer-in-Charge for necessary approval. The lowering of assembly should be done in the presence of Engineer-in-Charge or his authorized representative.

14.3 The tube well should be handed over to the department in the complete shape. The housing pipe should be closed by a well cap for the period between the completion of the tube well and the installation of the pump set. The cap should be of such design that it is easily removable causing no damage to the housing pipe.

14.4 The following information should be furnished by the drilling agency to the department on completion of the tube well;

(a) Strata chart of the bore hole indicating the different type of soil met with at different depth.
(b) Samples of strata collected and neatly packed; correctly marked in sample bags kept in wooden sample boxes.
(c) Chart of the actual pipe assembly lowered, indicating the size of pipes, depth ranges where SS screen has been used, depth and diameter of housing pipe, starting from the top of the housing pipe and also the diameter and design of bore hole.

(d) Hours of developing by air compressor and pumping set duly certified by authorized official of the department.

(e) Results of the development and its draw down test on the performance of the tube well to be recorded on the prescribed proforma.
(f) Results of mechanical (Sieve) analysis of samples of aquifer material wherever applicable.
(g) Recommendations on the safe pumping yield pump set and specification for suitable pump set.
(h) Verticality test results to be recorded in accordance with the proforma given in relevant IS code.

14.5 Nothing extra will be payable for temporarily suspension of work on any ground.

14.6 The digging of pits for storage of water and the water required for drilling the tube well will be arranged by the contractor/firm at its own cost and nothing is payable on this account.

14.7 The drilling will be made to such depth, which should be sufficient to accommodate the tube well assembly.

14.8 The bail plug shall rest on firm strata. Before the assembly is lowered, the portion of the bore hole below the assembly shall be filled with gravel.

~~15.0~~ OVER HEAD TANK

15.1 The contractor shall not remove the staging/scaffolding assembled for the tank till the complete casting and successful testing of the tank. The staging/scaffolding shall be removed only after the permission of the Engineer-in-Charge.

15.2 After the completion of the work, the ground shall be dressed to 100 ft. radius from the centre of the tank.

15.3 The contractor shall make his own arrangement for electricity required for operations of vibrators, mixers, pump for dewatering, welding, testing and for general use etc.

15.4 The tank shall be cleaned and disinfected before handing over to the department.

15.5 The RCC staircase shall be constructed simultaneously along with the progress of the over head tank.

15.6 All the RCC surfaces shall be exposed finished unless or otherwise specified. No cement plaster will be allowed on RCC exposed surface except in the case where the Engineer-in-Charge permits to apply the same for which the extra payment shall be made.

15.7 **~~SUBMISSION OF DRAWINGS AND DESIGNS~~**

~~15.7.1 The successful tenderer shall be required to submit 3 sets of complete detailed drawings of the tank~~ and ~~staging within 15 days from the date of start of the work. These drawings shall be submitted to the local administration if necessary for their concurrence. The department shall extended full cooperation for getting these drawings approved by local administration but it shall be contractor's responsibility to get these drawings approved within one and half month from the date of start of work. This period will be treated as a part of the stipulated period for the completion. In case, modifications in the architectural features of the tank or staging are required for obtaining the approval of the local administration, the same shall have to be done by the contractor at his own cost and noting extra shall be paid for the same.~~

~~15.7.2 After the approval of drawings by local administration, the contractor shall submit within a month~~ detailed ~~structural design and drawings along with detailed structural design calculations in 3 sets to Engineer-in-Charge for approval. All details as given in this tender document shall be taken into due consideration by the contractor for preparation and submission of designs. The drawings and design calculations shall be very clear and give all necessary details so that there may not be any ambiguity. These designs shall be checked by the department. In case changes in design and drawings are~~

~~required for ensuring structural stability of the structure and water tightness of the tank, these shall be made accordingly by the contractor for which nothing extra shall be paid to him.~~

~~In case of dispute or difference of opinion, the decision of the Superintending Engineer shall be final and binding on both the parties. Approval to drawings may be given either in parts or in full by the department. Not withstanding such approval by Engineer-in-Charge, the contractor shall remain fully responsible for safety, soundness and water tightness of the tank. Defects or omissions in the design and/or construction shall be made good by the contractor, without payment of any extra cost, whenever they are noticed by such remedial measures as the Engineer-in-Charge may decide to bring the work upto the required standards and specifications.~~

~~15.7.3 Only drawings approved by the local administration (where necessary) and the Engineer-in-Charge shall from the basis of the contract and shall be adopted for the execution of the work.~~

~~15.7.4 The tenderer shall submit 3 sets of completion plans after completion of the work.~~

16.0 Worker welfare cess

16.1 1% workers welfare cess shall be deducted from the contractor on tendered amount as per DG(W) letter No. 1/1/2006-07/Audit/DGW/1392-1425 dt. 17.9.2009.

17.1(a) 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.

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

PARTICULAR SPECIFICATIONS

1.0 **EARTH WORK:-**

1.1 Anti Termite Treatment: -

1.2.1 The work shall be executed by specialized agency to be approved by the Engineer in Charge.

1.2.2 The Chemical shall strictly conform to Specifications & shall be as per BIS covered by ISI marking. Chemical has to be of approved quality out of preferred make. 100% material has to be procured of approved make before start of work. The chemical shall be used only after due testing & if found conforming to the Specifications. Proper account has to be kept for day to day use of Chemical.

1.2.3 Ten years Guarantee bond in prescribed Performa attached shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility about efficiency of anti termite treatment shall rest with the building contractor. **Ten per cent of the cost of anti termite work shall be retained as Security Deposit and the amount so deducted would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the treatment/work done is found satisfactory**. If any defect/shortcoming is noticed during the guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of such defects/shortcomings. In the event of failure to attend to the complaint within the specified period, the same will be got done from another agency at the risk and cost of contractor.

2.0 R.C.C. WORK:-

2.1 Design Mix Concrete.

2.1.1 The RCC work shall be done with Design Mix Concrete. Wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. The Design Mix Concrete will be designated based on the principles given in IS: 456, 10262 & SP 23. The Conditions & Specifications stated herein shall have precedence over all conditions & specifications stated in relevant I.S. Codes/ C.P.W.D. Specifications. The concrete mix shall be designed for the specified target mean compressive strength in order to ensure that work test result 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 the requirements specified.
(a) The contractor has to submit design mix without use of admixtures.

(b) Admixture may be added (by maintaining the minimum cement content as given under para- 2.1.3) in case of specific technical requirement so as to meet the workability / slump requirement or for any other reason but nothing extra is to be paid to contractor on account of adding admixtures.

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

(a)	**Coarse Aggregate:-**	As per CPWD Specifications
(b)	**Fine Aggregate:-**	As per CPWD Specifications
(c)	**Water:-**	It shall conform to requirements laid down in IS:456-2000 / Para 3.1.1 of CPWD Specifications. If on testing, water from the

source is not found fit for construction, the necessary arrangement for treatment of water shall have to be made by the contractor at the site and nothing extra shall be payable for the same.

(d) **Cement:-** OPC of grade 43 shall conform to IS: 8112 or IS: 12330 and / or Portland Pozzolona Cement (Fly ash based), required in the work from reputed manufacturers of cement as per the approved make in 50 kg. bags bearing manufacturer's name and ISI marking, along with manufacturers test certificate for each lot. Portland Pozzolona Cement is to be used for RCC works only subject to fulfillment of conditions of circular No. CDO/SE(RR)/Fly ash (MAN) 02 dated 09.04.09 shall be used for Design Mix Concrete and shall conform to IS: 1489-Part-I. However, if the contractor uses higher grade of cement nothing extra shall be paid.

(e) **Admixture/ Plasticizer:-** The admixture shall conform to IS: 9103. Whenever required, the admixture of approved quality & approved only shall be used to attain the required workability. Nothing extra on account of use of Admixture / Plasticizer shall be payable.

2.1.3 Water Cement Ratio and Slump:-

2.1.3.1 In proportioning a particular mix, the manufacturer/ producer/ contractor shall give due consideration to the moisture content in the aggregates, and the mix shall be so designed as to restrict the maximum free water cement ratio to less than 0.5.

2.1.3.2 Due consideration shall be given to the workability of the concrete thus produced. Slump shall be controlled on the basis of placement in different situations. For normal methods of placing concrete, maximum slump shall be restricted to 100mm when measured in accordance with IS: 1199.

Characteristic Compressive Strength compliance Requirement

Specified Grade	**Mean of the Group of 4 Non-Overlapping Consecutive Test Results in N/mm^2**	**Individual Test Results in N/mm^2**
(1)	(2)	(3)
M20 or above	$\geq f_{ck}$ + 0.825 x established standard deviation (rounded off to nearest 0.5 N/mm^2) Or f_{ck}+ 4 N/mm^2, whichever is greater Where f_{CK} is characteristic compressive strength of CC Cube at 28 days	f_{ck}- 4 N/mm^2
Note: In the absence of established value of standard deviation, the values given in Table may be assumed, and attempt should be made to obtain results of 30 samples as early as possible to establish the value of standard deviation.		

2.1.4 The Contractor shall engage one of the following approved laboratories / test house for designing the concrete mix in accordance with relevant IS Code and to conduct laboratory tests to ensure the target strength & workability criteria for a given grade of concrete: -

i) National Institute of Technical Teacher Training & Research (NITTTR), Sector 26, Chandigarh.
ii) Punjab Engineering College, Chandigarh.
iii) NIT, Jalandhar. (Formerly known as REC, Jalandhar.)
iv) IIT, New Delhi.
v) Chandigarh Engineering College, Sector 26, Chandigarh.
vi) NIT, Kurukshetra.

The various ingredients for mix design / laboratory tests shall be sent to the lab / test houses through the Engineer-in-charge and the samples of such aggregates sent shall be preserved at site by the department.
In the event if all the **above** laboratories are unable to carry out the requisite design / testing, the contractor may have it done from any other laboratory with prior approval of the **Chief Engineer**.

2.1.5 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.

2.1.6 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, the contractor as per the directions of the Engineer-in- charge shall submit a revised laboratory mix design report conducted at laboratory established at site.

2.1.7 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 whenever required & as directed by Engineer-In-Charge.

2.1.8 The mix design for a specified grade of concrete shall be done for a target mean compressive strength Tck = Fck + 1.65s

Where Fck = Characteristic compressive strength at 28 days.
s = Standard deviation which depends on degree of quality control.

The standard deviation for different grades of concrete shall be as follows: -

GRADE OF CONCRETE	STANDARD DEVIATION
M-20	4.0
M-25	4.0
M-30	5.0
M-35	5.0

2.1.9 **TRIAL BATCHES**

(a) The designed mix proportions shall be checked for target mean compressive strength by means of trial batches.

(b) Minimum three sets of separate preliminary tests shall be carried out for each trial batch of concrete mix. Each test shall comprise of six specimens and only one test-set of six specimens shall be made on any particular day.

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

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

(e) With the modified Water Content, the mix proportions shall be recalculated by keeping with water cement ratio unchanged. The mix proportion, as modified, shall form the Trial Mix No.2 and tested for the specified strength and workability.

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

(g) Out of the six specimen of each set, three shall be tested at seven days and remaining three at 28 days. The preliminary tests at seven days are intended only to indicate the strength to be attained at 28 days, while the design mix shall be approved only on the basis of test strength at 28 days.

2.1.10 APPROVAL OF DESIGN MIX

The design mix shall be considered satisfactory and approved if at least three preliminary test-sets individually satisfy the following strength and workability criteria:

(a) The average strength of each test-set is not less than the specified target mean compressive strength (Tck).
(b) The strength of any specimen cube is not less than 0.85 Tck.
(c) The concrete mix is of required degree of workability and acceptable concrete finish.

2.2 BATCHING & MIXING:-

(a) All design mix concrete shall be done using fully automatic batching plant conforming to IS: 4925 of minimum 15 cum per hour capacity. The automatic batching plant shall be charged by devices when actuated by a single starter switch, will automatically start the weighing operation of each material (i.e. stone aggregate, sand, cement, water, admixture etc.) and stop automatically when designated weight of each material has been reached and also it should have rated capacity (in terms of concrete in a single batch). It shall have control panel for operation of the batching plant complete with printing facility.

(b) The contractor shall be free to use Ready Mix Concrete (RMC) in place of Batch mix concrete at his own cost. The contractor shall ensure that transit mixtures shall transport the concrete to site. All the precautions shall be taken during the transportation and handling of concrete to achieve the desired strength, durability, etc. as envisaged in the Mix Design. Contractor has to get the approval from Engineer-In-Charge regarding source of RMC by giving the details of such plants indicating name of owner / company, its location, technical establishment, past experience and text of Memorandum of Understanding (proposed to be entered between purchaser and supplier). The Engineer-in-Charge, after satisfying himself about quality / capability of the company shall give approval in writing (subject to drawing of MOU). The MOU shall be drawn with RMC plant owner / company and submitted to Engineer-in-Charge within a week of such approval. The contractor will not be allowed to purchase RMC without completion of above formalities for use in the 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, production, transportation and placement etc. The Engineer-in-Charge will reserve the right to deploy his supervisor at plant site to inspect at any such stage and reject the material / concrete etc if he is not satisfied about quality of material / product.

(c) All measuring equipment shall be maintained in a clean and serviceable condition and their accuracy shall be checked at least once a month.

(d) Only single sized good quality stone aggregate shall be brought to site of work from the approved source. The grading of the stone aggregate shall be controlled by blending the aggregate of different sizes in the required proportions at site of work

The aggregate of different sizes shall be stock-piled separately, preferably a day before use.

The grading of coarse and fine aggregates shall be checked as frequently as possible and as directed by the Engineer-In-Charge to ensure that the specified grading and quality of aggregate is maintained.

(e) It is important to maintain the Water Cement Ratio constant at its specified or approved value by making adjustment for the moisture contents of both fine and coarse aggregates.

The moisture contents in the aggregate shall be determined as frequently as possible in keeping with the weather conditions and as per the provisions of IS: 2386 (Part-III).

2.3 **OTHER OPERATIONS: -**

All other operations in concreting work like mixing, slump, laying, placing of concrete, compaction, curing etc. not mentioned in this particular specifications for Design Mix of Concrete shall be as per CPWD Specifications.

2.4 **SAMPLING:-**

(a) Samples from fresh concrete shall be taken as per IS 1199-1959 and the test cubes shall be made, cured and tested in accordance with IS: 516-1959.

(b) Each test sample shall comprise of six test cubes (specimen), three of which shall be tested at 7 days and remaining for tests at 28 days.

(c) FREQUENCY OF SAMPLING: -

(i) A random sampling procedure shall be adopted to ensure that the sampling is spread over the entire period of concreting and cover all mixing units. The concrete work shall be notionally divided into lots as under for the purpose of sampling conditions.
-- Footings, rafts etc.
-- Columns and walls at all levels.
-- Beams at all levels.
-- Slabs at all levels.

(ii) At least one test sample shall be taken for each lot of concrete work.
(iii) Each grade of concrete shall form different lot for testing.
(iv) The minimum frequency of sampling of concrete of each grade shall be in accordance with CPWD specification 2019, Vol I with upto date correction slips:-
(v) The concrete work shall be assessed on day to day basis & samples shall be taken as specified.
(vi) Work strength test shall be conducted in accordance with IS: 516 on random sampling.

2.4.1 TEST RESULTS OF SAMPLES: -

The test results of the sample shall be the average of the strength of three specimens. The individual variation shall not be more than ± 15% percent of the average. If variation is more, the test results shall be treated as invalid. 90% of the total tests shall be done at the laboratory established at site by the contractor and remaining 10% in any other laboratory as directed by the Engineer-in-Charge.

2.4.2 STANDARD OF ACCEPTANCE: -

i) In case the test results of all the samples are above the characteristic compressive strength, the concrete shall be accepted.

ii) In case the test result of one or more samples fails to meet the requirement (i) above, it shall be accepted if it meets the requirement as laid down in CPWD Specification.

vii) Concrete of each grade shall be assessed separately.

viii) Concrete is liable to be rejected, if it is porous or honeycombed or its placing has been interrupted without providing a proper construction joint or the reinforcement has been displaced beyond the tolerances specified, or construction tolerances have not been met.

2.5 MEASUREMENT –

(i) As per CPWD Specifications.

(ii) In respect of all projected slabs at all levels including cantilever, canopy, the payment for the RCC work shall be made under the item RCC slabs. The payment for shuttering at the edges shall be made under item of centering and shuttering for RCC slabs. Nothing extra shall be paid for the side shuttering at the edge of these projected balconies / projected verandah slabs.

2.6 TOLERANCES - As per CPWD Specifications.

2.7 RATES: -

(i) The rate includes the cost of materials, labour and T&P, including mixing, placing, transportation involved in all the operations described above except for the cost of centring, shuttering & reinforcement which will be paid for separately.

(ii) In case of rejection of concrete on account of unacceptable compressive strength, governed by para “Standard of Acceptance” as above, the work for which samples have failed shall be redone at the cost of contractor. However, the Engineer-in-charge may order for additional tests (like cutting cores, ultrasonic pulse velocity test, load test on structure or part of structure, etc) to be carried out at the cost of contractor to ascertain if the portion of structure wherein concrete represented by the sample has been used, can be retained on the basis of results of individual or combination of these tests. The Contractor shall take remedial measures necessary to retain the structure as approved by the Engineer-in-charge without any extra cost. However, for payment, the basis of rate payable to contractor shall be governed by the 28 days cube test results and reduced rates shall be regulated in accordance with CPWD Specifications.

2.8 RCC WORK (ORDINARY)

2.8.1 The work shall be done in accordance with CPWD Specifications.

2.8.2 Water Cement ratio for Ordinary RCC work shall not be more than 0.5. Contractor shall use concrete mixture of proper design having arrangement for measuring water for mixing of concrete.

2.9 FORM WORK

2.9.1 The work shall be done in general as per CPWD Specifications.

2.9.2 Only M.S. centring / 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 to be approved by the **Engineer-in-Charge**.

2.9.3 Nothing extra shall be paid for the centring and shuttering, circular in shape whenever the formwork is having a mean radius exceeding 6m in plan.

2.9.4 Nothing extra shall be paid for grid beams and the corresponding slabs having clear span more than 1.20 metres.

2.9.5 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 R.C.C. shall be accordingly adjusted at the time of its centring, shuttering and casting for which nothing extra shall be paid to the Contractor.

As per general engineering practice, level of floors in toilet / bath, balconies, shall be kept 12 to 20mm or as required, lower than general floors shuttering should be adjusted accordingly. Nothing extra is payable on this account.

2.9.6 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 are required to complete the shuttering panels.

Dented, broken, cracked, twisted or rusted shuttering plates shall not be allowed to be used on the work.

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 de-bonding compound shall be applied on the surface of the shuttering plates in the requisite quantity before assembly of steel reinforcement.

2.10 REINFORCEMENT:-

2.10.1 The reinforcement shall be done as per CPWD Specifications.

2.10.2 The rate of 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 Specifications.

2.10.3 The contractor shall provide approved type of support for maintaining the bars in position and ensuring required spacing and correct cover of concrete to reinforcement as called for in the drawings, spacer blocks of required shape and size. Chairs and spacer bars shall be used in order to ensure accurate positioning of reinforcement. **Spacer blocks shall be cast well in advance with approved proprietary pre-packed free flowing mortars (Conbextra as manufactured by M/S Fosroc Chemicals India Ltd. or approved equivalent)** of high early strength and same colour as surrounding concrete, Pre-cast cement mortar/concrete blocks/blocks of polymer shall not be used as spacer blocks unless specially approved by the Engineer-in-charge, rate of RCC items is inclusive of cost of such cover blocks.

2.11 PRE-CAST RCC WORK

2.11.1 The work shall be done in accordance with CPWD Specifications.

2.11.2 Pre-cast reinforced concrete units shall be of grade or mix as specified. Provision shall be made in the mould to accommodate fixing devices such as hooks etc. and forming of notches and holes. Each unit

shall be cast in one operation. A sample of the unit shall be got approved from Engineer-in-charge before taking up the work.

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

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

2.11.5 The compaction of the concrete shall be done by vibrating, table or external vibrator, as approved by Engineer-in-charge. The rate quoted for the item shall include the element for framework and mechanical vibration.

2.11.6 Rate for item includes cost of all materials. labour, and all operations involved. Cost of M.S. frames, lugs including their welding, lifting hooks is also included.

3.0 **BRICK WORK:-**

3.1 The brickwork shall be carried out with good quality well common burnt clay machine moulded modular bricks of class designation 7.5 as per CPWD Specifications.

3.2 The rate shall also include for leaving chases / notches for dowels / cramps for all kinds of cladding to come over brick work.

3.3 Brick work provided around shaft or lift walls or around slab cutouts shall be measured in the brick for corresponding floor level. Nothing extra shall be paid on this account.

3.4 M.S. bars provided at every third course of half brick masonry shall be in single piece. If required, welding joint can be used without overlaps. Nothing extra shall be paid for welding and overlaps.

4.0 STONE / MARBLE WORK :-

4.1 General: -The execution of stones work shall be in general as per CPWD Specifications.

4.2 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.

5.0 WOOD WORK:-

5.1 The wood work in general shall be carried out as per CPWD Specifications.

5.2 The sample of timber to be used shall be deposited by the contractor with Engineer-in-charge before commencement of work.

5.3 Glazing for toilets shall be of translucent type.

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

5.5 Timber shall be of specified species, good quality and well seasoned. It shall have uniform colour, reasonably straight grains and shall be free from knots, cracks, shakes and sapwood. It shall be close grained. The contractor shall deposit the samples of species of timber to be used with the Engineer-in-Charge for testing before commencement of the work.

5.6 Wood work shall not be painted, oiled or otherwise treated before it has been approved by the Engineer-in-charge. All portion of timber including architrave abutting against masonry, concrete, stone or embedded in ground shall be painted with approved wood preservative or with boiling coaltar.

5.7 The contractor(s) shall produce cash voucher and certificates from approved Kiln Seasoning Plants about the timber used on the work having been kiln seasoned and chemically treated by them, falling which it would not be so accepted as kiln seasoned and/or chemically treated.

5.8 Transparent sheet glass conforming to IS: 2835 – 1977 shall be used. Thickness being governed as under unless otherwise specified in the item in wood work/steel work:

Area of Glazing	**Thickness**
(a) For glazing area up to 0.50 sqm	4.0 mm
(b) For glazing area more than 0.50 sqm	5.5 mm

5.9 Factory made panelled / wire gauge door shutters

5.10 The work shall be executed through specialized agencies to be approved by the Engineer in Charge.

5.11 The shutters should be fabricated in factories & fabrication should conform to CPWD Specifications Para 9.6.6 & IS 1003 Part-I.

5.12 The contractor shall propose well in advance to Engineer-in-Charge, the names and address of the factory where from the contractor intends to get the shutters manufactured along with the credential of the firm. The contractor shall place the order for manufacturing of shutters only after obtaining approval of the Engineer in Charge whose decision in this case shall be final & binding. In case the firm is not found suitable he shall propose another factory. The factory may also be inspected by a group of officers before granting approval; shutters shall however he accepted only if these meet the specified test.

5.13 Contractor will arrange stage wise inspection of the shutters at factory by the Engineer-in-Charge or his authorized representative. The contractor will have no claim if the shutters brought at site in part or full lot are rejected by the Engineer-in-Charge due to bad workmanship / quality. Such defective shutters will not be measured and paid. The contractor shall remove the same from the site of work with in 7 days after the written instruction in this regard are issued by the Engineer-in-Charge.

5.14 The shutters should be brought at site without primer / painting.

6.0 **STEEL WORK:-**

6.1 The work shall be carried out as per CPWD Specifications.

6.2 **Pressed Steel Frame / T Iron Frames**: - The work shall be done as per CPWD Specifications. The frames shall be fabricated in approved workshops. The angle and flat iron frames for cupboard shall also be fabricated from the above approved workshops.

6.3 **Steel windows / ventilators**: The work shall be done strictly as per CPWD Specifications. Flash butt-welded steel windows / ventilators only shall be provided and shall be procured from the approved manufacturers. The corners should be welded to form a solid fused welded joint conforming to the requirement given below.

a) Weld shall be made all along the place of meeting the member.
b) Weld should be properly grounded.
c) Complete cross section of the corner shall form a solid joint with no cavities, free from cracks, under cutting, overlaps, gross porosity and entrapped slag.\

All sub dividing and glazing bars shall be tennoned & riveted into the frames i.e. all centre mullion section F4B and glazing section T2, T6 shall not be directly welded to the frames. For this a slot has to be cut in the frames, the F4B / T2 / T6 section inserted into it & head be hydraulically tennoned & riveted by Tennon Rivetting Machine.

The thickness of projecting type hinges shall not be less than 3.15 mm. For fixing of hinges to outer frame, slot shall be cut, hinges inserted & welded at the back. For non projected type hinges if allowed, the wall thickness shall not be less than 3 mm & total width not less than 40 mm. For fixing, the slot shall be cut in the fixed frames, hinge flap inserted & welded from the back.

The fixing lug shall be as per IS 1038 with adjustable slot & fixed to window frames by screws & nuts.

The fixing of unit shall be done as per IS 1081.

6.4 **M.S. Sheet Door** – M.S Sheet shall be in one piece i.e. no joint in M.S. Sheet shall be permitted.

7.0 FLOORING:-

7.1 All work in general shall be carried out as per CPWD Specifications.

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

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

7.4 Samples of flooring stones (Kota/ Marble/ Granite etc.) shall be deposited well in advance with the Engineer-in-Charge for approval. Approved samples should be kept at site with the Engineer-in-Charge and the same shall not be removed except with the written permission of Engineer-in-Charge. No payment whatsoever shall be made for these samples.

7.5 The Marble/ Kota/ Granite or any other stone shall be fully supported by the details establishing the quarry and its location.

7.6 Full width Marble/ Kota/ Granite stone over kitchen platform shall be provided which shall not be less than 900mm long except to adjust for closing pieces. The marble / stone flooring in treads and risers of staircase shall not be less than 1500mm long except to adjust the closing pieces. Nothing extra shall be paid on these accounts

7.7 **PVC& Wooden Flooring**

The PVC & wooden flooring shall be procured from the approved manufacturer and work shall be carried out as per approved drawings and direction of Engineer-in-charge.

7.8 **Ceramic/ Vitrified Tiles Flooring**

The tiles shall be procured from the approved manufacture of the approved shade & colour.

The tile shall be conforming to IS-13755, IS-13753 and IS-15622 for floor and wall tiles respectively.

Tiles for dado shall be 200mm x 300mm (minimum size) GROUP-III as approved.

Tiles for flooring shall be 300mm x 300mm (minimum size) GROUP-V Tiles as approved.

Test shall be conducted to satisfy the quality of material as per CPWD Specifications

7.9 Glass Mosaic Tile Flooring shall be with approved random colour mix design tiles and work shall be carried out as per direction of Engineer-in-charge.

7.10 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 proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard, etc. as per the directions of Engineer-in-charge.

8.0 WATER PROOFING FOR SUNKEN FLOORS:-

8.1 The work shall be got executed from the specialized agency as approved by the Engineer in Charge.

8.2 Total quantity of the water proofing compound required shall be arranged only after obtaining the prior approval of the make by 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.

8.3 The finished surface after water proofing treatment shall have adequate smooth slope as per the direction of the Engineer-in-charge.

8.4 Before commencement of treatment on any surface, it shall be ensured that the outlet drain pipes / spouts have been fixed and the spout openings have been chased and rounded off properly for easy flow of water.

8.5 **GUARANTEE BOND:-**

Ten years Guarantee bond in prescribed proforma attached shall be submitted by the contractor which shall also be signed by both the specialized agency and the contractor to meet their liability / liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the building contractor. **(Ten per cent) of the cost of water-proofing work shall be retained as Security Deposit and the amount so deducted would be released after ten years from the date of completion of the entire work under the agreement, if the performance of the treatment is found satisfactory**. If any defect is noticed during the

guarantee period, the contractor shall rectify it within 15 days of receipt of intimation of defects in the work. If the defects pointed out are not attended to within the specified period, the same will be got done from another agency at the risk and cost of contractor.

9.0. **FINISHING:-**

9.1 The work shall be done in accordance with CPWD Specifications.

9.2 All painting material of approved brand and manufacturer 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 containers shall not be removed from the site till the completion of the work without permission of the Engineer-in-charge.

10.0 **SANITARY INSTALLATIONS /WATER SUPPLY / DRAINAGE:-**

10.1 The contractor shall submit schematic drawing of water supply and sanitary installation showing details of layout, including internal water supply and drainage details, showing the detail of water supply lines including fittings diameter wise and fixtures connecting to soil waste through traps and connection of W.C. to main shaft pipe for drainage including its ventilation system for approval of Engineer-in-Charge.

10.2 For the work of water supply and sanitary installations, the contractor shall engage the approved licensed plumbers and submit the name of proposed plumbing agencies with their credentials for approval of the Engineer-in-Charge.

10.3 The work in general shall be carried out as per CPWD Specifications.

10.4 The tendered rates shall include the cost of cutting holes in walls, floors, RCC slabs etc. wherever required and making good the same for which nothing extra shall be paid.

10.5 The Centrifugally spun cast iron pipe IS: 3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.

10.6 The pig lead to be used in the jointing should be as per CPWD specifications.

10.6(a) The Centrifugally spun cast iron pipe IS: 3989-1984 wherever necessary shall be fixed to RCC columns, beams etc. with rawl plugs of approved quality and nothing extra shall be paid for on this account.

10.6.(b) Nothing extra for providing and fixing CP brass caps/ extension pieces wherever required for CP brass fittings shall be paid beyond the rates payable for corresponding CP brass fittings.

10.7 The pig lead to be used in jointing should be as per C.P.W.D. Specifications.

10.8 Nothing extra for providing & fixing CP Brass caps /extension pieces wherever required for CP Brass fittings shall be paid beyond the rates payable for corresponding CP Brass fittings

10.9.1 The entire responsibility for the quality of work will however rest with the building contractor only and he shall submit a Guarantee Bond as per Proforma attached**.** 10% (ten percent) of the cost of these items would be retained as security deposit and the amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be got done from another agency at the risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

11.0 **Aluminium doors, windows, ventilators etc. glazing specifications**

11.1 **Extent and Intent:** - The work shall be carried out through an approved Special Agency, who shall furnish all material, labour, accessories, equipment, tool and plants and incidentals required for providing and installing anodized aluminium doors, windows, claddings, louvers and other items as called for on the drawings. The drawings and specifications cover the major requirements only. The supplying of additional fastenings, accessories, fixtures and other items not mentioned specifically herein, but which are necessary to make a complete installation shall be a part of this contract.

11.2 **General:** - Aluminium doors, windows etc. shall be of sizes, section details as shown on the Architectural drawings. The details shown on the drawings indicate generally the sizes of the component parts and general standards. These may be varied slightly to suit the standard adopted by the manufacturers. 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.

11.3 **Shop Drawings:** - The contractor shall submit the shop drawings of doors, windows, louvers, cladding and other aluminium work, based on the architectural drawings to the Engineer-in-Charge for his approval. The shop drawing 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.

11.4. **Samples:** - Samples of doors, windows louvers etc. shall be fabricated, assembled and submitted to 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.

11.5. **Sections:** - Aluminium doors and windows shall be fabricated from extruded sections of profiles as detailed on drawings. The sections shall be extruded by the manufacturers approved by the Engineer-in-Charge. The aluminium extruded sections shall conform to BIS designation IIE/IIV 9 WP alloy, with chemical composition technical properties, as per IS: 733 and IS: 1285. The permissible tolerance of the extruded sections shall be such as not to impair the proper and smooth function/ operations and appearance of doors and windows.

11.6 **Fabrication:** - Doors, windows etc. shall be fabricated to sizes at factory and shall be of section, sizes, combinations and details as shown on the drawings. All doors, windows etc. shall have mechanical joints. The joints shall be designed to withstand a wind load of 150 Kg. Per Sqm. The design shall also incur that the maximum deflection of any member shall not exceed 1/175 of the span of the member. All members shall be accurately machined and fitted to form hairline joints prior to assembly. The joints accessories such as cleats, brackets etc. shall be of such material as not to cause any bimetallic action. The design of the joints and accessories shall be such that the accessories are fully concealed. 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 fixture as approved by the Architect.

11.7 **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 as specified in item schedule after cutting the member to requisite sizes before the final assembly. Anodizing confirming to specified grade with minimum average thickness of 15 microns when measured as per IS: 612. The anodic coating shall be properly sealed by steams or in boiling water are cold sealing process as per IS:1868/IS: 6057. Polythene tape protection shall be applied on the anodised 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 sample will be tested in the approved laboratory and cost of samples; cost of testing etc. shall be borne by the contractor.

11.8 **Protection of finish:** - All aluminum members shall be wrapped with approved self-adhesive non-staining. PVC tapes.

11.9 **Handling and Stacking:** -

11.9.1 Fabricated materials shall be carried 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 material at site, it shall be carefully examined to detect any damaged pieces. Arrangements shall be made for expeditious replacement of damaged pieces/ parts. Materials found to be acceptable on inspections shall be repacked in crates and stored safely.

11.9.2 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 out how to be assembled in their final locations if situation so warrants.

11.9.3 The contractor shall be responsible for assembling composite, bedding and filling the grove with poly sulphide sealant inside and outside, at transoms and mullions placing the doors, windows etc. in their respective openings. 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 finished neat.

11.9.4 The contractor shall be responsible for doors, windows, etc. being set straight, plumb, level and for their satisfactory operation after fixing is complete.

11.10 **Installation**: -

11.10.1 Just prior to installation the doors, windows, etc. shall be uncreated 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 manufacture and in an approved manner. The holes in concrete/masonry members for housing anchor bolts shall be drilled with an electric drill.

11.10.2 The door/ windows assembled as shown on drawings shall be placed in correct final position on the 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 holes 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 blots. The expansion bolts shall then be inserted in the holes, struck with a light hammer till the nut is forced into the anchor shell. The frame shall then be placed in final position in the opening and anchored to the support thought cadmium plated machine screws of required size 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 supports and be plumbed in position. The wedges shall invariably be placed at the meeting at points of glazing bars and frame.

11.10 **PVC/ Neoprene gaskets:** - The contractor shall provide and install PVC/ 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 contractor shall produce samples of the gaskets for approval and shall procure the same after approval only.

11.12.1 Fittings: - Hinges, stays, handles, tower bolts, locks and other fittings shall be of quality and manufacturer as approved by the Engineer-in-Charge.

11.13 **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.

11.14 **Poly-sulphide:** -The gaps between frames and supports and also any gaps in the door and windows sections shall be raked out as directed and filled with poly-sulphide of approved colour and make to ensure complete water tightness. The poly-sulphide shall be of such colour and composition that it would not stain the masonry/concrete work, shall receive paint without bleeding, will not sag or run and shall not set hard or dry out under any conditions of weather. The sample of poly-sulphide to be used for this purpose shall be got approved from the architect before its actual use.

11.15 **Details of Test:** -

11.15.1 The various tests on aluminium sections shall be conduced in accordance with the relevant IS codes.

11.15.2 The minimum number of tests for anodizing and corrosion resistance shall be as given below: -

S.No.	Details	No. of Tests
1.	Doors, windows and ventilators	One test for every 1000 kg or part thereof.

11.15.3 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 aluminium section shall be got tested.

11.16 **Acceptance Criteria:** - The aluminum work shall carry two years guarantee after completion of work against unsound material, workmanship and defective anodizing/ powder coating as per guarantee bond. Two years guarantee in prescribed Performa attached must be given by the specified firm, which shall be counter signed by the contractor, in token of his overall responsibility. 10% (ten percent) of the cost of these items would be retained as security deposit and the amount so deducted would be released after two years from the date of completion of the entire work under the agreement, if the performance of the items is found satisfactory. If any defect is noticed during the guarantee period, the contractor should rectify it within seven days and if not attended to the same will be got done from another agency at the risk and cost of contractor. However, this security deposit can be released in full if bank guarantee of equivalent amount is produced and deposited with the department.

11.17 **Rates:** -

11.17.1 The rates of the item shall include the cost of materials, labour required in all the above operations.

11.17.2 The rates include the cost of hinges/ pivots and rest of the fittings shall be paid separately.

12.0 **SPECIFICATIONS FOR SOLID POLY VINYL CHLORIDE (PVC) DOOR SHUTTERS: -**

12.1.0 **SCOPE**:

12.1.1 This specification lays down requirement regarding types, sizes, material, construction, workmanship, finish, performance evaluation, sampling and testing of solid Poly Vinyl Chloride (PVC) Panelled door shutters for use in residential buildings, non-residential buildings such as offices, schools, hospitals, etc.

12.1.2 This specification does not cover large size door shutters for industrial and special buildings such as workshops, garages, godowns etc.

12.1.3 PVC door shutters shall be used in internal locations only.

12.2.0 **REFERENCES:**

12.2.1 The Indian Standards and other Standards listed in Annexure-I are necessary adjuncts to this standard. The products bearing BIS certification i.e. ISI Mark with code number shall have precedence over those not bearing ISI Mark.

12.3.0 **TERMINOLOGY**:

12.3.1 For the purpose of this specification, the definitions given below in addition to those given in IS 707-1976 shall apply:

12.3.1.1

(i) Blistering: Air or solvent entrapped during moulding.

(ii) Colour blots: Colour blots occurring on account of uneven distribution of pigment.

(iii) Crazing: Fine hair cracks on the surface.

(iv) Defective Impregnation: Imperfect impregnation of PVC resin with other additives.

(v) Colour Fading: Fading of colour on exposure to sunlight.

(vi) Impurities: Presence of matter other than those specified.

(vii) Pin holes: Pores of size less than 1mm appearing on the surface.

(viii) Small Pores: Pores of size more than 1mm but less than 2mm appearing on the surface.

(ix) Wrinkling: A slight ridge or furrow on surface.

(x) Aggregate Defects: Presence of defects such as pin holes, impurities and traces of mending 5 or more in aggregate for defects at localized place.

12.4.0 **HANDLING**:

12.4.1 Handling and direction of closing of shutters shall be designated in accordance with IS: 4043:1969.

12.5.0 **MATERIAL**:

12.5.1 Poly Vinyl Chloride Resin (suspension grade) is the basic raw material of PVC compound. PVC resin in mixed with chemicals like calcium searate, hydrocarbon Wax, Titanium dioxide, calcium carbonate Acrylic base etc. Further additives like UV stabilizers, impact modifiers, pigments, epoxy plasticizer, lubricants, acrylic processing aid etc. are also added. The purpose of adding the chemicals and additives is to impart strength, surface finish, colour and resistance to fading by light rays. These chemicals are mixed in the desired proportion and shall be used in the formulation of PVC material and for free and smooth extrusion of PVC cellular sheets.

12.6.0 **PROCESS**:

12.6.1 MIXING: The PVC material so formulated with the addition of chemicals, fillers & additives shall be mixed dry powder form in a high speed hot mixer at a temperature of 110^0 C to 125^0 C. The heated dry blend is then to be cooled at room temperature. However, the temperature has to be determined keeping in view the climatic conditions and the process requirements.

12.6.2 EXTRUSION: The cooled dry blend is off loaded into the hopper of the extruder, and then is fed to the screw & barrel of the extruder, where it is melted and kneaded at

varying temperatures upto 205^0 C by rotating screws. The thick paste of PVC material is then passed through a hot die to make the sheet of required thickness.

12.6.3 POLISHING: The basic shape of the sheet so acquired is then polished with the help of a three-roll calendar. At the same time the sheet is cooled by circulating water in the rolls of the calendar and there after on a roller table by atmospheric air.

12.6.4 CUTTING: The final finished product coming out of the haul-off is cut as per the required size.

13 ROAD WORK(PARTICULAR SPECIFICATION/CONDITION) :-

13.1 The Contractor shall engage one of the following approved laboratories / test house for designing the concrete mix/Dense Bituminous macadam/Dense Bituminous concrete in accordance with relevant IS Code and to conduct laboratory tests to ensure the target strength & workability criteria for a given grade of concrete/ Dense Bituminous macadam/Dense Bituminous concrete: -

i) Technical Teacher Training Institute, Sector 26, Chandigarh.
ii) Punjab Engineering College, Chandigarh.
iii) NIT, Jalandhar. (Formerly known as REC, Jalandhar.)
iv) IIT, New Delhi.
v) Chandigarh Engineering College, Sector 26, Chandigarh. vi) NIT, Kurukshetra.

The various ingredients for mix design / laboratory tests shall be sent to the lab / test houses through the Engineer-in-charge and the samples of such aggregates sent shall be preserved at site by the department.

In the event if all the above laboratories are unable to carry out the requisite design / testing, the contractor may have it done from any other laboratory with prior approval of the Superintending Engineer.

13.1.2 The contractor shall submit the report on design mix from any of above approved laboratories for approval of Engineer in Charge within 15 days from the date of issue of letter of acceptance of the tender. No concreting/DBM/DBC 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.

13.1.3 In case of change of source or characteristic properties of the ingredients used in the concrete/ DBM/DBC mix during the work, the contractor as per the directions of the Engineer-in-charge shall submit a revised laboratory mix design report conducted at laboratory established at site.

13.1.4 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/DBM/DBC mix whenever required & as directed by Engineer-In-Charge.

13.2 BITUMINOUS WORK

13.2.1 The Sub-base layer of granular materials 150mm thick as per MOST specifications (Table-400-1),gradation-1 should be provided with required slope.

13.2.2 Dense Bituminous concrete/Dense Bituminous macadam will be laid in such a manner that the average thickness thereof is 40mm/50mm approx. and finished Surface has requisite gradient. However, if extra quantity of DBC is required to be laid to achieve the minimum thickness as decided by the Engineer-inCharge as well as the desired gradient, the contractor shall be entitled to payment for the actual quantity of DBC/DBM as laid.

13.2.3 The paver finisher with which the work shall be executed shall have such devices as are necessary to achieve the required levels, slope and profile and surface accuracy of the compacted/ finished work. The Department shall, however, have no objection if the contractor employs any additional equipments or devices at his own cost to ensure that the finished work fulfils all the prescribed parameters including surface accuracy, pitch slope and pitch profile.

13.3 QUALITY ASSURANCE FOR BITUMINOUS WORK

13.3.1 The work of Dense Bituminous Macadam & Dense Bituminous Concrete shall be done as per job-mix formula to be got designed from Laboratory as approved by the Engineer-in-

charge. All expenditure involved in providing and sending the samples to the laboratory and laboratory charges for job-mix formula shall be borne by the contractor.

13.3.2 Various laboratory and field tests shall be carried out as per CPWD specifications.

13.3.3 **FOR ITEM OF PROVIDING LAYING BITUMINOUS MACADAM AND BITUMINOUS CONCRETE THE HOT MIX PLANT OF 100-120 TPH CAPACITY SHALL BE GOT APPROVED FROM COMPETENT AUTHORITY BY CONTRACTOR BEFORE EXECUTION OF WORK.**

13.4 MODE OF MEASUREMENTS

13.4.1 The measurements of work done under item Tack coat, Dense Bituminous Concrete and Dense Bituminous Macadam shall be governed by the provisions of CPWD specifications. There will, however, be no separate measurements or computation of quantity in respect of item of DBC/DBM if the same is laid in two layers

FORM OF PERFORMANCE SECURITY
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 between _____ and _____ (hereinafter called "the said contractor(s)" for the work _____ (hereinafter called "The said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs._____ (Rupees _____ only) as 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. We _____do hereby undertake to pay the amounts due and payable
(indicate the name of the bank)
under this Guarantee without any demure, 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 there under and the contractor(s) shall have no claim against us for making such payment.

4. We _____ further agree that the guarantee herein contained
(indicate the name of the Bank)
shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that 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 Engineer-in- Charge on behalf of the Government certified 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
(indicate name of the bank)
government 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) form 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
(indicate the name of Bank)
with the previous consent of the Government in writing.

8. This guarantee shall be valid upto _____unless extended on demand by 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 the 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 Bank)

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER-PROOFING WORKS/OVER HEAD TANK.

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

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated ..... and made between the GUARANTOR OF THE ONE PART AND the Government of the other part whereby the contractor inter alia undertook to render the building and structures in the said contract recited completely water and leak-proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain water and leak proof, for ten years from the date of completion of work.

NOW THE GUARANTOR hereby guarantees that work executed by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defect shall be final and binding on Guarantor.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found render the building water proof to the satisfaction of the Engineer-In-Charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer-in-charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and / or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

SIGNED, sealed and delivered by OBLIGATOR in the presence of:-

1. ..... 2. .....

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY ..... in the presence of :-

1. ..... 2. .....

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

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

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

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

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

The decision of the Engineer-In-Charge with regard to nature and cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect to satisfaction of Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the guarantor's cost and risk. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all defects or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

1. ..... 2. .....

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

1. ..... 2. .....

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF STONE WORK/ TILE WORK.

The agreement made this..... day of ..... (Two Thousand _____only).....between .....S/o .....(hereinafter called the GUARANTOR of the one part) and the President of India (hereinafter called the Government of the other part)

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

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable and guaranteed against faulty workmanship, finishing and materials.

NOW THE GUARANTOR hereby guarantees that work executed by him will remain structurally stable after the expiry of maintenance period prescribed in the contract for the minimum life of five years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

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

During this period of guarantee, the guarantor shall make good all defects to the satisfaction of the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer-in-charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all the defects, commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator ..... and ..... by ..... for and on behalf of the President of India on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

1. ..... 2. .....

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY ..... in the presence of :-

1. ..... 2. .....

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ANTI TERMITE WORKS.

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

WHEREAS THIS agreement is supplementary to a contract (Hereinafter called the Contract) dated ..... and made between the GUARANTOR OF THE ONE PART AND the Government of the other part whereby the contractor inter alia undertook to render the building and structures in the said contract recited completely termite proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said structure will remain termite proof, for ten years from the date after the maintenance period prescribed in the contract expires.

NOW THE GUARANTOR hereby guarantees that work executed by him will render the structures completely termite proof and the minimum life of such termite proofing treatment shall be ten years to be reckoned from the date after the expiry of maintenance period prescribed in the contract.

The decision of the Engineer-in-charge with regard to nature and cause of defect shall be final and binding on Guarantor.

During this period of guarantee, the guarantor shall make good all defects and for that matter, shall replace at his risk & cost such wooden members as may be damaged by termites and in case of any other defect being found, he shall render the building termite proof at his cost to the satisfaction of the Engineer-In-Charge and shall commence the works of such rectification within seven days from date of issuing notice from Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk and in the latter case the decision of the Engineer-in-charge as to the cost recoverable from the Guarantor shall be final and binding.

That if the guarantor fails to execute the anti termite treatment or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and / or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

1. ..... 2. .....

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY ..... in the presence of :-

1. ..... 2. .....

Form 'F'

(Undertaking on structural stability and soundness of already completed buildings and infrastructure Projects.)

I/we undertake and confirm that any building / infrastructure constructed by our firm /partnership firm/ company has not suffered any failure, making it unfit for intended use, either due to structural design and defects or due to use of sub-standard materials or execution of sub-standard work, poor workmanship or any other reason during the last 25 (twenty-five) years.

I/we, further, undertake that if such information comes to the notice of CPWD, then Engineer-in-Charge shall be free to terminate the bid/agreement and to forfeit the entire amount of earnest money deposit, performance guarantee and security deposits.

I/we, also undertake that in addition to above, the Engineer-in-Charge shall be free to debar us forever from tendering in CPWD.

The decision of Engineer-in-Charge or any higher authority shall be final and binding.

Signature of notary with seal

Signature of bidder of an Authorized person of the firm with stamp

Note :- Affidavit to be furnished on a 'Non-judicial' stamp paper of Rs. 200/- (scanned copy of the notarized affidavit to be uploaded at the time of submission of bid)

LIST OF FIELD TESTS

i) Particle size and shape
ii) Slump test
iii) Flakiness & Elongation Index tests
iv) Compressive strength (concrete or bricks) test
v) Rebound Hammer test
vi) Bulking of sand
vii) Silt content of sand
viii) Temperature measuring with thermometer with brass protected end 0-200° C

FIELD TESTING EQUIPMENT AND INSTRUMENTS

A. **Testing Equipment at Field Laboratories**

i) Balances
a) 7kg to 10 kg. Capacity, Semi-self indicating type-Accuracy 10 gm
b) 500 gm. Capacity, Semi-self indicating type Accuracy 1 gm
c) Pan Balance – 5 Kg. Capacity, accuracy 10 gm.
ii) Sieves: as per IS 460-1962.
a) I.S. Sieves – 450 mm internal dia of sizes 100 mm, 80 mm, 63 mm, 50mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm complete with lid and pan.
b) IS Sieves – 200 mm internal dia(brass frame) consisting of 2.36 mm, 1.18 mm, 600 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.
iii) Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.
iv) Equipment for slump test – Slump Cone, Steel Plate, tamping rod, steel scale, scoop
v) Graduated measuring cylinders 200 ml capacity
vi) Enamel trays (for efflorescence test for bricks and other tests)
   a. 300 mm X 250 mm X 40 mm
   b. Circular plates of 250 mm dia
   c. 600 mm X 450 mm X 500 mm
   d. 450 mm X 300 mm X 40 mm.
vii) ISI marked 150 X 150 X 150 mm concrete cube moulds as per site requirement.
viii) Graduated cylinder 1000 ml. Capacity.

B. **Field Testing Instruments**

i) Steel tapes – 3 m
ii) Vernier Calipers
iii) Micrometer Screw 25 mm gauge
iv) A good quality plumb bob
v) Spirit level minimum 30 cms long with 3 bubbles for horizontal vertical
vi) Wire gauge (circular type) disc.
vii) Foot rule
viii) Long nylon thread
ix) Magnifying glass
x) Screw driver 30 cms long
xi) Ball pin hammer, 100 gms
xii) Plastic bags for taking samples
xiii) Levelling machine
xiv) Theodolite

Note : The above equipments and instruments shall be made available at site by the agency as and when required.

PROFORMA FOR TESTS CARRIED OUT

NAME OF THE WORK : DIVISION/

AGREEMENT NO. & DATE : SUB-DIVISION

Sl. No.	Item	Quantities as per agreement	Frequency as per specification	No. of tests required	R.A. bill No.	Uptodate quantity	No. of tests required	No. of tests actually done	Remarks
1	2	3	4	5	6	7	8	9	10

Signature of Contractor

CEMENT/PAINT REGISTER

NAME OF WORK: DIVISION

AGREEMENT NO. SUB-DIVISION

Particulars of Receipt

Date of Receipt	Source of receipt with details if any	Batch No.	Date of manufacture	Date of expiry	Qty. received	Progressive Total	Date of Issue	Qty Issued	Items of work for which Issued	Qty. Returned at the end of day's work
1	2	3	4	5	6	7	8	9	10	11

Particulars of Issue

Net Qty. Issued	Progressive Total	Daily Balance in Hand	Contractor's Initial	J.E.'s Initial	Periodical Check	
					By AE	By EE
12	13	14	15	16	17	18

Correction – Nil Insertion – Nil Deletion - Nil

A.E.(P)

LIST OF APPROVED MAKES OF MATERIALS FOR CIVIL WORKS

Sr.No.	Name of Product/ Material	Preferred Brand Names
1	ORDINARY PORTLAND CEMENT (GREY) (43 GRADE)	ACC, ULTRATECH, VIKRAM, SHREE CEMENT, AMBUJA, JAYPEE CEMENT, CENTURY CEMENT & J.K. CEMENT.
2	PORTLAND POZZOLONA CEMENT (GREY) (43 GRADE)	ACC, ULTRATECH, VIKRAM, SHREE CEMENT, AMBUJA, JAYPEE CEMENT, CENTURY CEMENT & J.K. CEMENT.
3	WHITE CEMENT	J.K.WHITE, JAIPUR SUPREME PACKAGING PVT. LTD., ULTRATECH CEMENT LIMITED.
4	REINFORCEMENT STEEL	SAIL, TATA STEEL LTD., RINL, JINDAL STEEL & POWER LTD. AND JSW STEEL LTD.
5	ADMIXTURES	CICO, FAIRMATE, HIND PLAST SUPER, SUPAPLAST, SIKA, ANEEB, RHEOPLAST
6	WATER PROOFING COMPOUND	FOSROC, CICO, KRYTON, BUILDMATE, PIDLITE, PRIYA ENTERPRISES, FAIRMATE, SIKA, ANEEB, RHEOPLAST
7	AUTOCLAVED AERATED BLOCKS	BILTECH, ECO GREEN, FINECRETE, J.K. LAKSHMI CEMENT LTD.
8	POLYMER MODIFIED ADHESIVE FOR AAC BLOCKS	MYK LATICRETE, FERROUS CRETE, ARDEX ENDURA, ULTRATECH, SIKA, RHEOPLAST
9	FACTORY MADE PANELLED & WIRE GAUGE WOODEN DOOR/ WINDOW SHUTTERS.	M/S JAIN WOOD INDUSTRIES, KUTTY DOORS, SAMRAT PLYWOOD, NEW JAGDAMBA DOORS, MERINO, KITPLY, AS TIMBER, A-1 TEAK PRODUCTS
10	FLUSH DOOR SHUTTERS	KUTTY FLUSH DOOR, SAMRAT LAMINATE, NATIONAL PLYWOODS, JAIN WOOD INDUSTRIES, MERINO, MINIMAX, CENTURY, AS TIMBER.
11	BLOCK BOARD	MERINO, MINIMAX, NATIONAL, ARCHIDPLY, CENT PLY, JAYNA, CENTURY.
12	LAMINATES	SAMRAT, VIRGO, MERINO, ARCHIDPLY, CENTURY LAMINATES, GREENLAM
13	PRE-LAMINATED PARTICLE BOARD	ARCHIDPLY, CENTURY PLY BOARDS, BALAJI ACTION BUILDWELL, ECOBOARD
14	PARTICLE BOARD (MEDIUM DENSITY)/ VENEERED PARTICLE BOARD	CENTURY PLYBOARDS (INDIAN) LTD., BALAJI ACTION BUILDWELL, EVERGREEN BOARDLAM, ECOBOARD INDUSTRIES LTD.
15	PRE-LAMINATED MEDIUM DENSITY FIBRE BOARD	CENTURY PLYBOARDS, GREEN PLY, BALAJI ACTION BUILDWELL
16	OMS/ MS DOOR FITTINGS	ASHISH, AGGARWAL STEELS, DOOR DEVICES MANUFACTURING COMPANY, MANU ENGINEERING COMPANY, M.C. MOWJEE & CO., SHRI GANPATI DOORS
17	ANODISED/ ZINC ALLOY/ ALUMINIUM HARDWARE DOOR/ WINDOW FITTINGS	PULSE, SAVIO, HOPPE, ALUTECH
18	FRP DOOR FRAMES & SHUTTERS	ASHISH INDUSTRIES, JAYNA, SAINIK (CENTURY PLYWOOD), SELECTED PRODUCTS CO.
19	WIDOWS BLINDS	VISTA, MAC, HUNTER, DOUGLAS, DE-DECOR
20	STRUCTURAL STEEL SUCH AS MS FLATS, SQ.BARS ANGLES ETC.	SAIL, TATA STEEL, RINL, JINDAL STEEL &POWER LTD. AND JSW STEEL LTD.
21	MILD STEEL DOOR, WINDOWS & VENTILATORS MANUFACTURERS	FRIENDS MANUFACTURING COMPANY, KOTKAPURA, PD INDUSTRIES, SHAKTI INDUSTRIES, STEELMAN INDUSTRIES, SKS STEEL INDUSTRIES, SHIVAM
22	PRESSED STEEL DOOR FRAMES MANUFACTURERS	KRISHNA STEEL FABRICATOR SIRSA, LAXMI STEEL WORKS BAHADURGARH, ASHISH INDUSTRIES GHAZIABAD, ASHWANI & SONS.
23	HOLLOW STEEL SECTIONS	JINDAL INDUSTRIES HISAR, TATA STEEL, STEEL & METAL TUBES (INDIA) PVT. LTD.
24	STEEL TUBES FOR STRUCTURAL STEEL	JINDAL INDUSTRIES HISAR, TATA STEEL, STEEL & METAL TUBES (INDIA) PVT. LTD.
25	DASH/ ANCHORING FASTENERS, BOLTS, SCREWS AND NUTS.	HILTI , FISCHER, CKW, ATUL, PRIYA
26	STAINLESS STEEL RAILING	DORMA, KICH, OM STEEL , D-LINE.
27	CHEQUERRED PRE-CAST CC TILES	NTC, SWASTIK TILE, POOJA CONCRETE FABRICATORS, GTC.
28	CERAMIC TILES	SOMANY, KAJARIA, ORIENTBELL, RAK, ASIAN GRANITO INDIA LTD.
29	VITRIFIED TILES	SOMANY, KAJARIA,ORIENTBELL, RAK, ASIAN GRANITO INDIA LTD.
30	ADHESIVE/ GROUTING FOR USE WITH TILES	FERROUS CRETE, MYK LATICRETE, ARDEX EDURA, FAIRMATE, DURA BUILD CARE, SIKKA, BASEX
31	UNPLASTICISED RIGID PVC PIPE & FITTINGS	SUPREME, FINOLEX, PRINCE, KISAN, DIPLAST, SENTINI,
32	FALSE CEILING- GYPSUM	SAINT GOBAIN, VANS GYPSUM, USG BORAL, LLYOD, DIAMOND, BSR CALSI CEILINGS
33	FALSE CEILING- METAL	ARMSTRONG, DEXUNE, SAINT GOBAIN, HUNTER DOUGLAS, GYPTECH, DIAMOND, BSR CALSI CEILINGS
34	FALSE CEILING- CALCIUM SILICATE/ CEMENT FIBRE BOARDS	HILUX, AEROLITE, ARMSTRONG, DIAMOND, VISAKA, BSR CALSI CEILINGS
35	FALSE CEILING-MINERAL FIBRE	ARMSTRONG, DEIKEN, DEXUNE, SAINT GOBAIN.

36	ACCOUSTIC: GLASS / WOODEN FIBRE FALSE CEILING AND WOODEN/ FABRIC WALL LINING / CEMENT FIBRE BOARDS	ARMSTRONG, DEXUNE, ACCOUSTIBLOK, HIMALYAN ACOUSTICS, ANUTONE, GYPTECH, VISAKA, BSR CALSI CEILINGS
37	FALSE CEILING-ALUMINIUM POWDER COATED	ARMSTRONG, DEXUNE, SAINT GOBAIN, HUNTER DOUGLAS, BSR CALSI CEILINGS
38	OIL BOUND DISTEMPER/ ACRYLIC DISTEMPER	NEROLAC ACRYLIC DISTEMPER, TRACTOR ACRYLIC DISTEMPER (ASIAN PAINTS) , MAXILITE ACRYLIC DISTEMPER (ICI), BISON ACRYLIC DISTEMPER (BERGER).
39	INTERIOR EMULSION/ PLASTIC EMULSION	DULUX ACRYLIC EMULSION/ SOLITAIRE A-1000 (ICI), APCOLITE PREMIMUM EMULSION (ASIAN), BEAUTY GOLD (NEROLAC), SILK (BERGER)
40	ACRYLIC SMOOTH EXTERIOR PAINT	ACE ADVANCED (ASIAN), DULUX EXTERIOR E-700, WEATHER COAT GLOW (BERGER)
41	DRY DISTEMPER	NEROLAC, BERGER, ASIAN PAINTS, ICI, JENSON & NICHOLSON (J&N)
42	SYNTHETIC ENAMEL PAINTS	DULUX HI-GLOSS (ICI), APCOLITE PREMIMUM GLOSS (ASIAN), NEROLAC HIGH GLOSS (NEROLAC), LUXOL HI-GLOSS (BERGER)
43	WOOD PRIMER	NEROLAC, BERGER, ASIAN PAINTS, ICI
44	STEEL PRIMER	NEROLAC, BERGER, ASIAN PAINTS, ICI
45	EXTERIOR WALL PRIMER	EXTERIOR NEROLAC PRIMER, EXTERIOR BERGER PRIMER, EXTERIOR ASIAN PAINTS PRIMER, EXTERIOR ICI PRIMER
46	WALL PUTTY (WHITE CEMENT BASED)	BIRLA WALL CARE, JK WHITE, BASEX
47	POLYMER MODIFIED SELF CURING PLASTER	MYK LATICRETE, FERROUS CRETE, ARDEX ENDURA, ULTRATECH, RHEOPLAST
48	PAVER/ GRASS **PAVER BLOCKS**& KERB STONES/RCC MANHOLE COVER/DRAIN COVER	NATIONAL TILES CORPORATION, SARAL IMPEX, BALAJI TILES, METRO PAVERS, MGM INFRA, KRISHNA TILES, POOJA CONCRETE FABRICATORS, A-1 TILES, DALAL TILES, Bharat Tiles (BT)
49	VITREOUS CHINA SANITARY WARE	HINDWARE, CERA, PARRYWARE, JOHNSON PEDDER, SOMANY.
50	PLASTIC FLUSHING CISTERN FOR WC AND URINALS	JINDAL, STEEL BIRD, SEEMLINE, VIKRAM PLASTIC, PRAYAG POLYMERS (P) LTD.
51	PLASTIC SEAT COVER OF W.C.	AJANTA POLYMERS, JINDAL MALPINE, JAIN POLYMERS
52	STAINLESS STEEL SINK	ALLEX, JAYNA, JMD INTERNATIONAL, STEEL CRAFT, KINGSTON, SILVER SHINE (BLUE STAR)
53	MIRROR GLASS	ATUL, MODIGUARD, GOLDEN FISH
54	CENTRIFUGALLY CAST (SPUN) IRON PIPES	NECO, RAJ PATTERN MAKERS & FOUNDERS, BENGAL IRON, DURGAPUR ISPAT UDYOG, SINGHAL IRON FOUNDRY (SKF), KAPILANSH DHATU UDYOG PVT. LTD., RPMF, HIF.
55	HUBLESS CENTRIFUGALLY CAST (SPUN) IRON PIPES	NECO, RAJ PATTERN MAKERS & FOUNDERS, SINGHAL IRON FOUNDRY (SKF).
56	CP FITTINGS & ACCESSORIES	JAQUAR, HINDWARE, PRIMA, JAINKO,CERA,KINGSTON
57	BRASS STOP & BIB COCK	DHAWAN SANITARY UDYOG, JAINKO, SHAKTI, VARDHMAN INDIA PRODUCTS
58	FERRULES FOR WATER SUPPLY	HIND METAL WORKS, KRITIKA, DRP, SHAKTI
59	BALL COCK WITH ROD	RESP FAUCET INDUSTRIES, DHAWAN SANITARY UDYOG, NEW METAL WORKS, KPR, PRAYAG.
60	POLYETHYLENE WATER STORAGE TANK	SINTEX, VECTUS, KAVERI
61	STONEWARE PIPES & GULLY TRAPS	SORKHI INDUSTRIES, RK INDUSTRIES, NAVNEET, MOLI CERAMICS, OCR, ANAND, SENTINI
62	PRE-CAST CONCRETE PIPES (NON-PRESSURE)	RAMNIK, BFSP, JAGDAMBEY SPUN PIPE, GURKIRPA SPUN PIPES
63	GI PIPE	JINDAL (HISSAR), TATA, BST, BHUSHAN POWER STEEL
64	GI FITTINGS	UNIK, AVR, ZOLOTO, SANT, HBI, C-BRAND, NVR
65	C-PVC PIPE/PVC PIPE	PRINCE, JINDAL (FLOWKEM), ASTRAL, AJAY POLYMERS, SUPREME, FINOLEX, SENTINI.
66	GUN METAL GATE, GLOBE, CHECK VALVES & NON-RETURN VALVES	LEADER, ZOLOTO, SANT, RAJAN METAL INDUSTRIES, H.B. METALS, HVI, NVR.
67	CENTRIFUGALLY CAST (SPUN) IRON PIPES (CLASS LA).	TRU FORM ENGINEERS, KAPILANSH, ELECTROSTEEL, HITECH METAL CASTINGS.
68	C.I. SLUICE VALVES & REFLEX VALVES	ZOLOTO INDUSTRIES, SANT VALVES, AMCO INDUSTRIES, KIRLOSKAR, RATAN INDUSTRIAL CORPORATION, HVI, NVR.
69	STAINLESS STEEL PIPES & FITTINGS	JINDAL STAINLESS STEEL, OM STEEL GROUP, V STEEL, VIEGA, RAMPART INDIA PVT. LTD.,
70	DUCTILE IRON PIPES & FITTINGS	JINDAL SAW LTD, ELECTRO STEEL, CHANDRANCHAL INFRA, ELECTROTHERAM
71	C.I./ D.I. MANHOLE COVERS & FRAMES	SWASTIKA ENTERPRISES, BENGAL IRON CORPORATION, NECO, BINAY UDYOG, CHANDERANCHAL, RAJ PATTERN MAKERS & FOUNDERS
72	WATER REPELLANT SILANE CHEMICAL	PIDILITE, FERROUS CRETE, ARDEX ENDURA
73	ALUMINIUM SECTIONS	HINDALCO, JINDAL, INDIAN ALUMINIUM CO.
74	BASIC/ TOUGHENED ETC. GLASS	SAINT GOBAIN, ASAHI, MODI, GOLD PLUS GLASS, PILINGTON.
75	APPROVED PROCESSORS FOR PERFORMANCE GLASS/ TOUGHENED GLASS/ HERMETICALLY	ART & GLASS, MIRAGE TOUGHENED GLASSES (P) LTD., AAR PAR GLASS, VERMA GLASS.

	SEALED/ LACQUERED GLASS etc.	
76	Plywood/ Veneer	Green Ply, Century, Merino, Duro, Durian.
77	Melamine Polish	Asian Paints Melamine Gold, Wudfin of Pidililte, Timbertone of ICI Dulux.
78	Floor Spring	Godrej, Dorma, Dorset, Kich.
	(a) Aluminium section	Hindalco, Jindal, Indian Aluminium Co.
	(b) Anodised Aluminium Hardware (Heavy Duty)	Kilong, Alualpha, Ebco, Classic.
79	Ployster Powder Coating Shades	NEROLAC, BERGER, J&N
80	Clear/ Float/ Frosted/ Refractive/ Coated Glass	Saint Gobain, Modiguard, Ashai Float.
81	Aluminium composite Panels	Reynobond, Alpolica, Aluco Bond
82	Friction Stay Hinges	Earl-Bihari, Ebco, Roto or approved equivalent
83	EPDM Gasket	Hanu/ Anand ,Raven,Zero.
84	Silicon Based water repellant/ weather sealant	G.E. Plastics, Dow Corning, Wacker, BASF, Pidilite (Dr. Fixit/Roff), Rheoplast
85	EPS	Snow pack Polymers, Reliable Insupacks , Fairmate
86	Cement Based wall putty	Birla Wall care, JK white
87	1st Quality Acrylic Distemper (washable/Ready mix/Low VOC)	Asian Paints (Tractor Aqua Lock Paint) Berger: Commando Or Equivalent paints of Nerolac or ICI-Dulux.
88	Premium Acrylic Emulsion Paints (Interior)	Asian Paints (Royale Luxury Emulsion) Nerolac: Impression Berger: Silk ICI-Dulux: Velvet touch.
89	Premium Acrylic Smooth Exterior Paints with Silicon Additive.	Asian Paints (Apex Ultima) Nerolac: XL Total Berger: Weather Coat all guard ICI-Dulux: Weather Shield Max
90	Cement Primer	Nerolac, Berger, BP White (Beger), Decoprime WT (Asian), White primer (ICI).
91	Epoxy Paint	Asian, Nerolac, Berger, ICI, Kansai Akzo Nobel.
92	G.I. Fittings	Unik, AVR, Zoloto, KS, AMCO
93	Float Valve	IVC, Leader, Prayag, Kalsi Pump Pvt. Ltd., Dhawan Sanitary Udyog (Prima)
94	Gun metal Valves, globes	Leader, Zoloto, Kilburn, CIM Valves, Sant,ANNAPURANA
95	Brass stop & Bib Cock	Zoloto, Sant, L&K, Leader, JAINKO, Kalsi Pump Pvt. Ltd., Dhawan Sanitary (PRIMA)
96	Non Return valve (Check valve)½" to 1¼"	Kalsi Pumps Pvt. Ltd. Zoloto,Annapurna
97	Stainless steel sliding door bolts	Dorma or Geze or Hafele, Bhawani Fire
98	White vitreous china Wall Mounted type water closet (European Type W C. pan)	Jaquar , Hindware, Cera
99	3/6 litre slim wall mounted concealed cistern with dual flushing cistern	Jaquar , Hindware, Cera
100	Flushing plate of with flush pipe	Jaquar , Hindware, Cera
101	White vitreous china flat back half stall urinal.	Jaquar , Hindware, Cera
102	GALVANISED STEEL SHEETS (UNCOATED & PRE-COATED)	SAIL, TATA, BHUSHAN POWER STEELS, JINDAL

*** Batch test certificate of Paints and Primer shall be supplied along with each lot.**

Note: (i) The Superintending Engineer-Karnal reserves the right to add or delete any materials and brands in the list of preferred materials/ brands.
(ii) Any materials/ brands bearing ISI mark can be used in the work with the prior approval of the Superintending Engineer-Karnal.

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

INTEGRITY PACT

To,

Executive Engineer,
Sonipat Division
CPWD, Sonipat

Sub: **Submission of Tender for the work of ".**
SH:- Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)

Dear Sir,

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

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

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

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

Yours faithfully

(Duly authorized signatory of the Bidder)

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:
   i. 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.

   ii. 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.

   iii. 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)/Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
   d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and 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 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.**

b. ~~**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.

c. **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 IPC 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, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from the Tender process.

Article 6- Duration of the Pact

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

Article 7- Other Provisions

1. This Pact is subject to Indian Law, place of performance and jurisdiction is the **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 intensions.
5. It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this **Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.**

Article 8- LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/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. ..... 2. .....

(signature, name and address) (signature, name and address)

Place:

Dated :

GUARANTEE BOND TO BE EXECUTED BY THE CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF ALUMINIUM DOORS, WINDOWS VENTILATOR WORK.

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

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

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the affect that the said work will remain structurally stable and guaranteed against faulty material and workmanship, defective anodizing/ powder coating for two years from the date of completion of work.

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

The decision of the Engineer-In-Charge with regard to nature and cause of defect shall be final.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect to satisfaction of Engineer-in-charge at his cost and shall commence the work for such rectification within seven days from the date of issue of the notice from the Engineer-in-charge calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the guarantor's cost and risk. The decision of the Engineer-in-Charge as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to make good all defects or commits breach thereunder, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and or cost incurred by the Government, the decision of the Engineer-in-charge will be final and binding on both the parties.

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

SIGNED, sealed and delivered by OBLIGATOR in the presence of :-

1. ..... 2. .....

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

1. ..... 2. .....

केन्द्रीय लोक निर्माण विभाग
कार्यालय ज्ञापन

No. DG/Manual-2024/20

ISSUED BY THE AUTHORITY OF DIRECTOR GENERAL, CPWD

Vidyut Bhawan, New Delhi Dated: 27.02.2026

Sub: Modification in Para 5.2 for CPWD Works Manual 2024.

Following modification is made in Para no. 5.2 for CPWD Works Manual 2024:

Existing Provision	Modified Provision
5.2 Performance Guarantee Sl. No. 1 **2.** PG shall be 5% of the contract amount or as prescribed from time to time to be submitted in the form as prescribed in GCC. Performance Guarantee shall remain valid for a minimum period of sixty days beyond the date of completion of all contractual obligations as per GCC. In case of contracts where supplementary agreement is drawn, the fresh PG shall be obtained from the contractor @ 5% of the amount of the supplementary agreement or as prescribed from time to time. The PG received against the original work shall be released as per contract conditions.	**5.2 Performance Guarantee** **No Change** **2.** PG shall be 5% of the **Estimated cost put to tender (ECPT) or** contract amount **whichever is higher,** or as prescribed from time to time, to be submitted in the form as prescribed in GCC. Performance Guarantee shall remain valid for a minimum period of **six months** beyond the date of completion of all contractual obligations as per GCC. In case of contracts where supplementary agreement is drawn, the fresh PG shall be obtained from the contractor @ 5% of the amount of the supplementary agreement or as prescribed from time to time. The PG received against the original work shall be released as per contract conditions.
Sl. No. 3	**No Change**
4. No provision	**4. A bid will be treated as abnormally low if the quoted bid amount is lesser than 80% of the estimated cost put to tender.**
5. No provision	**5. Requirement of Additional Performance Guarantee (APG) : In case of abnormally low bids as defined above, the bidder shall be required to submit Additional Performance Guarantee (APG) in addition to the Standard Performance Guarantee (PG). The amount of Additional Performance Guarantee (APG) shall be equivalent to the difference between the 80% amount of ECPT and quoted amount. (e.g. if ECPT is A and quoted amount is 0.7A then the amount of APG shall be**

27/2/26 P. Jindal EE(Contract)

Correction – Nil Insertion – Nil Deletion - Nil

A.E.(P)

	0.8A – 0.7A). **The Additional Performance Guarantee (APG) shall be in the prescribed format of Performance Guarantee and has to be submitted within the time frame prescribed for submission of Performance Guarantee. The other terms and conditions of release etc. of APG shall be same as that of PG.**

This is issues with the approval of DG CPWD.

27.02.2026

((चन्द्र पाल)
अधीक्षण अभियंता (सी एण्ड एम)
Chander Pal, SE (C&M)

Issued from file No. CSQ/CM/16(1)/2026 e-file 9212995 (DFA/ 9365789)

केलोनिवि तथा लोनिवि दिल्ली के सभी अधिकारियों को आवश्यक सूचना एवं कार्यवाही हेतु। (केलोनिवि वेबसाईट के माध्यम से)

27/2/26

D.P. Jindal
EE (Contract)

SCHEDULE OF QUANTITY						
Name of Work:- Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)						
S.No.	**DSR Code 2023**	**Description**	**Qty.**	**Unit**	**Rate**	**Amount**
1	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and for all lift, as directed by Engineer-in-charge.				
1.1	2.6.1	All kinds of soil	495.00	Cum	177.50	87863.00
2	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 and for all lift.	163.00	Cum	196.00	31948.00
3	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :				
3.1	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	18.00	Cum	6812.00	122616.00
4	5.9	Centering and shuttering including strutting, propping etc. and removal of form for				
4.1	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	96.00	Sqm	392.15	37646.00
4.2	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	428.00	Sqm	842.50	360590.00
4.3	5.9.3	Suspended floors, roofs, landings, balconies and access platform	96.00	Sqm	927.25	89016.00
4.4	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers	13.00	Sqm	736.40	9573.00
5	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
5.1	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more.	15820.00	Kg	107.85	1706187.00
6	5.22A	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				

6.1	5.22A.6	Thermo-Mechanically Treated bars of grade Fe-500D or more.	240.00	Kg	107.85	25884.00
7	5.33	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				
7.1	5.33.1	All works upto plinth level				
7.1.1	5.33.1.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	113.00	Cum	9655.70	1091094.00
7.2	5.33.2	All works above plinth level upto floor V level				
7.2.1	5.33.2.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	2.00	Cum	10011.35	20023.00
8	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
8.1	6.4.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	9.00	Cum	9105.95	81954.00
10	10.5	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
10.1	10.5.1	Using M.S. angels 40x40x6 mm for diagonal braces	2.00	Sqm	5804.35	11609.00

11	10.13	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer.				
11.1	10.13.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	100.00	Kg	141.70	14170.00
12	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
12.1	10.25.2	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	2000.00	kg	172.60	345200.00
13	11.38	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), jointing with grey cement slurry @ 3.3 kg/ sq.m including pointing the joints with white cement and matching pigments etc., complete.	74.00	Sqm	1315.30	97332.00
14	11.53	Providing and fixing Glass mossaic tiles on finished plain wall surface of size 20 mm x 20 mm x 4 mm in all colour, design , fixing in customize design as per direction of Engineer-in- Charge. The glass mosaic tiles to be fixed on the wall surface with the help of approved adhesive applied at the rate of 2.5 kg per sqm and grouting of the same. The rate is inclusive of all operation, material and required pattern approved by Engineer-inCharge:	204.00	Sqm	3891.15	793795.00

16	12.52	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x1.6 mm fixed to ceiling with 12.5 mm dia and 50mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.				
16.1	12.52.2	GI Metal Ceiling Lay in perforated Tegular edge global white color tiles of size 595x595 mm and 0.5 mm thick with 8 mm drop; made of GI sheet having galvanizing of 100 gms/sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC (Noise Reduction Coefficient) of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation, and backed with a black Glass fiber acoustical fleece.	138.00	Sqm	2068.75	285488.00
17	13.4	12 mm cement plaster of mix :				
17.1	13.4.2	1:6 (1 cement: 6 coarse sand)	38.00	Sqm	343.65	13059.00
17.2	13.5	15 mm cement plaster on rough side of single or half brick wall of mix:				
17.2.1	13.5.2	1:6 (1 cement: 6 coarse sand)	38.00	Sqm	395.35	15023.00
18	13.46	Finishing walls with Acrylic Smooth exterior paint of required shade :				

18.1	13.46.1	New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	38.00	Sqm	160.60	6103.00
19	13.61	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :				
19.1	13.61.1	Two or more coats on new work	52.00	Sqm	155.90	8107.00
20	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	77.00	Sqm	156.05	12016.00
21	13.83	Wall painting with premium acrylic emulsion paint of interior grade, having VOC (Volatile Organic Compound) content less than 50 grams/ litre of approved brand and manufacture, including applying additional coats wherever required to achieve even shade and colour.				
21.1	13.83.2	Two coats	38.00	Sqm	142.80	5426.00
22.0	16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-in-charge. (The panel shuttering work shall be paid for separately). (Note:- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	12.00	cum	9823.80	117886.00
23	18.10	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				
		Internal work - Exposed on wall				
23.1	18.10.4	32 mm dia nominal bore	50.00	Mtr	667.00	33350.00
24	18.12	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.				
		External work				
24.1	18.12.6	50 mm dia nominal bore	50.00	Mtr	762.15	38108.00
25	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) :				
25.1	18.17.4	50 mm nominal bore	3.00	Each	1026.65	3080.00

26	18.31	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) :				
26.1	18.31.1	100 mm diameter				
	18.31.1.1	Class I	2.00	Each	4791.20	9582.00
27	18.72	Providing and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS : 8329 :				
27.1	18.72.15	100 mm dia Ductile Iron Class K-9 pipes	50.00	Mtr	1344.60	67230.00
28	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:				
28.1	19.4.1	100x100 mm size P type				
28.1.1	19.4.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	3.00	Each	2707.65	8123.00
29	22.1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of :				
		(i) Ist layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) including applying of twice (at base and top of mortar) cement slurry @ 2.2kg/m2 (each time) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.				
		(ii) 2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions.				
		(iii) Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.				
29.1	22.1.1	Using rough kota stone.	127.00	Sqm	1515.60	192481.00

30	22.2	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				
30.1	22.2.1	Using rough Kota stone	163.00	Sqm	2024.70	330026.00
31	22.7	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations:				
		(a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.				
		(b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.				
		(c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer- in-charge.				

		(d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer- in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep.				
		(e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :				
31.1	22.7.1	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	9.00	Sqm	1684.60	15161.00
		Total Rs.				**6086749.00**
		Modified Estimate Cost after using Correction Factor on DSR 2023 on account of GST @ 0.973 As Per OM No. 158/SE(TAS)/GST/2024/02-E Dated 08.08.2024				5922407.00
		G. Total Rs.				**Rs. 59,22,407/-**

Assistant Engineer-(P)
CPWD, Sonipat

Executive Engineer-Sonipat
CPWD, Sonipat

PART C
(Electrical Work)

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

PROFORMA OF SCHEDULES: A TO F

(FOR MINOR COMPONENT OF WORK)

SCHEDULE 'B'

Schedule of quantities: **Page no. As Per BOQ**

SCHEDULE 'B'

Schedule of material to be issued to the Contractor: Nil

SCHEDULE 'C'

Tools and Plants to be hired to the Contractor: Nil

SCHEDULE 'D'

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

SCHEDULE 'E'

Reference to General Conditions of Contract: General Conditions of Contract 2023 for Construction works as amended / modified up to the last date of submission of Tenders.

Name of Work: Construction of 3 Doctors Dispensary at BARHI, Sonepat, Haryana (Civil plus Electrical) (SH:-SITC of Wet Riser & Sprinkler System).

Estimated cost of work : Rs. 3177249/- (Electrical Works)

(i)	Earnest Money	As per major component
(ii)	Performance Guarantee	As per major component
(iii)	Security Deposit	As per major component

SCHEDULE 'F'

General Rules & Directions:

Officer inviting Tender: Executive Engineer (C), Karnal, CPWD, Karnal.

Definitions:

2(i)	Engineer-in-Charge	Executive Engineer (E), Karnal Electrical Division, CPWD, Karnal (For Electrical Work), or his successor thereof.
(ii)	Accepting Authority	As per major component
(iii)	Percentage on cost of materials and Labour to cover all overheads and profits	15%
(iv)	Standard Schedule of Rates	Delhi Schedule of Rates 2025 (E&M) with up to date correction slips.
(v)	Department	Central Public Works Department (CPWD)
(vi)	Standard CPWD Contract Form:	**General Conditions of Contract 2023 for Construction works, CPWD Form 7 as** modified/corrected up-to the last date of submission of tenders

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.	As per major component

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

(ii)	Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period provided in (i) above	As per major component

Clause-2:

(i)	Authority for fixing compensation under clause 2	Superintending Engineer, Karnal, CPWD, or his successor thereof

Clause-5:

(i)	Number of days from the date of issue of letter of acceptance for reckoning date of start	As per major component
(ii)	Time allowed for completion of work	As per major component

TABLE OF MILE STONES

Sl. No.	Description of mile stone	Period for completion from date of start in months	Withheld amount for non-achievement of mile stone.
1			
2	**Refer Para (B) TABLE OF MILESTONES at PAGE NO**		
3			
4			

Clause-6: Computerised Measurement book (CMB)/
Electronic Measurement (Book) (EMB)
Mode of Payment **EMB/CMB**

Clause-7:

Gross work to be done together with net payment /adjustment of advances for material collected, if any, since the last such payment for being eligible to interim payment	Rs. 10 Lakhs

Clause-7A:

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

Clause-10A:

List of testing equipment's to be provided by the agency at site lab	As given in General Condition of Contract under Quality Assurance & as per CPWD Manuals & Specifications with upto date correction slips.

Clause-10B(i): Yes, Applicable

Clause-10B(ii): Not Applicable

Clause-10 B(iii): Not Applicable

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

Clause-10C:

Component of labour expressed as %Percentage of total value of Electrical Work **15%**

Clause-10CC: **Not Applicable**

Clause-11:

Specifications to be followed for execution of work:	
Electrical work	Electrical work Internal 2023 and External (Part-II) 2023 Amended up to date, CPWD General Specifications for Electrical Works Part-IV- Sub-Station –2013, Generation Specifications for Heating, Ventilation & Air- Conditioning (HVAC)-2024. CPWD, Generation Specifications for Electrical Works, Part-VI Fire Detection and Alarm System – 2018, Part-V Wet Riser & Sprinkler system-2020, Part VII D.G. Sets – 2013 (as amended up to date).

Clause-12:

Type of work: As per major component

12.2 & 12.3	Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for building work	As per major component
12.5	*1.* Deviation Limit beyond which clauses 12.2 & 12.3 shall apply for foundation work (except items mentioned in earth work sub head in DSR and related items)	As per major component
	2. Deviation Limit for items mentioned in earth work sub head of DSR and related items.	As per major component

Clause-16:

Competent Authority for deciding reduced rates:
Superintending Engineer, Karnal, CPWD or his successor thereof

Clause-18: AS PER MAJOR COMPONENT

Clause-19:

Clause 19C	**:**	Authority to decide penalty for each default	**Executive Engineer (E), Karnal, CPWD** or his successor thereof.
Clause 19D	**:**	Authority to decide penalty for each default	**Executive Engineer (E), Karnal, CPWD** or his successor thereof.
Clause 19G	**:**	Authority to decide penalty for each default	**Executive Engineer (E), Karnal, CPWD** or his successor thereof.
Clause 19K	**:**	Authority to decide penalty for each default	Executive Engineer(E), Karnal, CPWD or his successor thereof

Clause-25:
Place of Arbitration: AS PER MAJOR COMPONENT

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

Clause-32 (i): Requirement of Technical Representative(s) and Recovery Rates

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation	Minimum Experience	Number	Rate at which recovery shall be made from contractor in the event of non deployment.	
						Figures	Words
AS PER MAJOR COMPONENT							

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

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

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

Terms & Conditions for Association of specialized firms for E&M Works

Estimated cost of various electrical & Mechanical services are as under:

S. No.	Component of E&M works	Minimum Eligibility
1.	**Fire Fighting System (Rs. 31,77,249/-)**	Experience of having successfully completed works during last seven years ending previous day of last date of submission of bid. One similar work of financial value not less than Rs. 25,41,799/-. OR Two similar works of financial value not less than Rs. 19,06,349/- OR Three similar works of financial value not less than Rs. 12,70,900/- **Similar work means:- "Supply, Installation, Testing and Commissioning of Fire Fighting System."**

The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to last date of submission of bids.

However, the Civil contractor shall also be allowed to carry out the works included in the enlistment provisions as per the eligibility and the category of the enlistment, without associating any specialized agency provided.

The Civil contractor shall have to associate other agency(s) for execution of each of the work(s) mentioned above including works of Internal & External Electrical Installations, forming part of the tender, which fulfills the eligibility criteria for these works(s) duly taking prior approval from the department. However, the Civil contractor shall also be eligible to carry out himself any or all of these works without associating any specialized agency provided:

He fulfills the prescribed eligibility criteria respectively for these work(s).

Or

He directly procures the equipment of approved make from manufacturer and get it installed from authorized agency/service provider of the manufacturer or specialized agency as per criteria mentioned in NIT.

Eligibility criteria of each such agency to be associated are to be set out in the tender documents. The Civil Contractor and the associated specialized agencies shall give required affidavit to confirm their association. The Department may approve change of associated agency in case it is required during the currency of the contract.

Note:-

The main contractor/agency has to submit details of such agency to be associated to the Engineer- in-charge (of E&M Work) within 30 days from date of start of work. The associated agency shall be approved by Engineer-in-charge (of E&M Work). In case the main contractor intends to change associated agency/agencies during the operation of the contract, he shall obtain prior approval of Engineer- in-charge (of E&M Work).The new agency/agencies shall also have to satisfy the laid down eligibility criteria mentioned above. In case Engineer-in-charge is not satisfied with the performance of any agency, he can direct the main contractor to change the agency executing such items of work and this shall be binding on the contractor.

1. Even if, such specialized items of work shall be executed by the specialized agencies at later date the work shall be deemed to be executed by the bidder for all purposes and the responsibility of the quality of items of works executed etc. shall continue to be that of the bidder only.
2. The applicant should submit the willingness from eligible electrical contractors to get associated with the applicant for execution of the electrical component of works in wholesome manner and as per the conditions set out in the MOU to be entered into, between the one who is awarded the work and the associated eligible electrical contractor. (Format of willingness and MOU is enclosed).

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

3. In support of the eligibility conditions of the proposed associated electrical contractor, copy of their registration documents, Electrical Contractor's License, GST documents, eligibility documents duly attested by the applicants (Main Contractor) shall be submitted to the EE(E) for deciding the eligibility. Such associate electrical contractor will certify that they are not debarred as on the day of application for sale of tender.
4. In the event of the concerned E&M agency not performing satisfactorily or failure of associate/ sub- contractor to complete the E&M work, the main contractor on the written direction of the department, shall remove the Associate/sub-contractor deployed on the work and shall submit name of new associate who fulfills the conditions mentioned in NIT to execute the leftover work without any loss of time or variation in cost to the department in this regard. Such associates shall also enter into Agreement with the main bidder shall meet all the guarantee for the equipments already supplied for which payment has been released by the department in part. If any equipment supplied for the work, during the currency of the earlier Associate/sub-contractor and paid partly by the department becomes redundant /not in a position to be installed and commissioned and put to beneficial use due to change in agency for execution of E&M work, the main contractor shall be liable for replacement of the equipment(s) at no cost to Department. No change of Electrical Contractor will be allowed without prior approval of the Department.
5. Executive Engineer (E) shall be the Engineer-in-charge as far as electrical works are concerned. Special Conditions for each of electrical work subhead are appended with this tender. It will be obligatory on the part of the contractor/bidder to sign the tender documents for all the component parts.
6. The main contractor shall be responsible and liable for proper and complete execution of the Electrical work and ensure coordination and completion of both Civil and Electrical work.
7. The main contractor has to enter into agreement with contractor(s) associated by him for execution of E&M subheads. Copy of such agreement shall be submitted to EE (E) in charge as well as to EEI.
8. The associate or sub contractor shall attend the inspection of the work by the Engineer-in-Charge of E&M works as and when required.
9. The agencies executing the Electrical work should have valid license for LT/HT as applicable.

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

MEMORANDUM OF UNDERSTANDING [M.O.U] BETWEEN

Name of Work:- Construction of 3 Doctors Dispensary at BARHI, Sonepat, Haryana (Civil plus Electrical) (SH:-SITC of Wet Riser & Sprinkler System).

1. M/S[Name of the firm with full address]
   Enlistment Status Valid Upto:
   [Hence forth called the main contractor]

   And

2. M/S[Name of the firm with full address]
   Enlistment Status Valid Upto:
   [Henceforth, called Associated Contractor]

Name of Work: Construction of 3 Doctors Dispensary at BARHI, Sonepat, Haryana (Civil plus Electrical) (SH:-SITC of Wet Riser & Sprinkler System).

We state that M.O.U. between us will be treated as an agreement and has legality as per Indian Contract Act (amended up to date) and the department (CPWD) can enforce all the terms and conditions of the agreement for execution of the above work. Both of us shall be responsible for the execution of work as per the agreement to the extent of this MOU allows. Both the parties shall be paid consequent to the execution as per agreement to the extent this MOU permits.
We have agreed as under:

1. The associated contractor shall be liable for disciplinary action if he failed to discharge the action(s) and other legal action as per agreement besides forfeiture of the security deposit.
2. All the material, machinery and equipments, tools and tackles required for execution of the electrical works as per agreement shall be the responsibility of the associated contractor.
3. The site staff required for the electrical work shall be arranged by the associated contractor as per terms and conditions of the agreement.

Signature of main contractor
Date:

Place:

Signature of associate contractor
Date:

Place:

Countersigned by
Executive Engineer

(Note:- It should be submitted on Stamp paper. Separate MoU for each subhead shall be submitted).

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

WILLINGNESS CERTIFICATE

Name of Work: Construction of 3 Doctors Dispensary at BARHI, Sonepat, Haryana (Civil plus Electrical) (SH:-SITC of Wet Riser & Sprinkler System).

I hereby give my willingness to work as associated contractor for the above- mentioned work. I will execute the work as per specifications and conditions for the agreement and as per direction of the Engineer- in-charge. Also, I will employee full time technically qualified supervisor for the works. I will attend inspection of officers of the department as and when required.

Date: **Signature of Contractor**

(Note:-

1. **To be submitted separately for each subhead.**
2. **The willingness certificate should be on letter head of the associate agency & duly counter sign by Main agency.)**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

GENERAL TERMS AND CONDITIONS

Name of Work: Construction of 3 Doctors Dispensary at BARHI, Sonepat, Haryana (Civil plus Electrical) (SH:-SITC of Wet Riser & Sprinkler System).

1.0 All the works shall be carried out as per CPWD General specification for Electrical Works, Part-I (Internal)-2023; Part-II (External)-2023; Part-IV (Sub-Station)-2013, amended up to date and should also comply with relevant provisions of the Indian Electricity Rules and Acts as applicable, amended up to date.

2.0 The contractors are advised to visit the site of work to have an idea of the execution of the work; failure to do so shall not absolve their responsibility to do the work as specified in agreement.

3.0 Rates:

3.1. The work shall be treated as on works contract basis and the rates tendered shall be for complete items of work inclusive of all taxes (including GST), duties, and levies etc. and all charges for items contingent to the work, such as packing, forwarding, insurance, freight and delivery at site for the materials to be supplied by the contractor, watch and ward of all materials for the work at site etc

4.0 Taxes and Duties:

4.1. The works contract tax, Labour Welfare Cess shall be deducted from the bills of the contractor as applicable in the State in which the work is carried out, at the time of payments.

5.0 Mobilization Advance:

No mobilization advance shall be paid for the work.

6.0 Completeness of Tender:

All sundry fittings, assemblies, accessories, hardware items, foundation bolts, termination lugs for electrical connections as required, and all other sundry items which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

7.0 Works to be done by the contractor:

Unless and otherwise mentioned in the tender documents, the following works shall be done by the contractor, and therefore their cost shall be deemed to be included in their tendered cost:-

(i) Cutting and making good all damages caused during installation and restoring the same to their original finish.

(ii) Sealing of all floor openings provided by him for pipes and cables, from fire safety point of view, after laying of the same.

(iii) Painting at site of all exposed metal surfaces of the installation other than pre-painted items like fittings, fans, switchgear/distribution gear items, cubicle switchboard etc. Damages to finished surfaces of these items while handling and erection, shall however be rectified to the satisfaction of the Engineer-in-Charge.

(iv) Testing and commissioning of completed installation.

(v) Storage space for all equipments, components and materials for the work.

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

(vi) Dismantling of existing overhead line, feeder pillars/LT Panels/Meter Boards, LT cables, LED Fittings, HT cables & all misc. items as & when encountered during the execution of work/laying of new cable & shifting the same to Client/JE store. Nothing extra on account of this shall be paid.

(vii) During the execution of work if any damaged such as Sewerage Pipe line, Water supply pipe line, existing LT/HT cable, LAN cable & other type of works in the campus to be repaired immediately. Nothing extra on account of this shall be paid.

8.0 Storage and Custody of Materials:

The contractor has to make his own arrangement for the storage of the material at site & necessary watch and ward of the electrical installation during the execution of work till the same is handed over to the department. No extra payment will be made on this account. The storage space shall however be arranged by the department at site, if available.

The contractor shall however be responsible for proper storage and safe custody of the same till their installation and handing over to the department.

9.0 Electric Power Supply and Water Supply:

Power and water supply will be arranged by the contractor at his own at the site for installation purpose. Contractor will take due care to ensure safety of electrical installation during execution of work.

10.0 Tools for handling and Erecting:

All tools and tackles required for handling of equipments and materials at site of work as well as for their assembly and erection and also necessary test instruments shall be the responsibility of the contractor.

11.0 Payment Terms:

Payment shall be made as per the relevant clauses of form PWD 7/8 forming part of the tender documents.

11.1. Care of buildings/Campus:

Care shall be taken by the contractor to avoid damage to the building/Campus during execution of his part of the work. He shall be responsible for repairing all damages and restoring the same to their original finish at his cost. He shall also remove, at his costs, all unwanted and waste materials arising out of his work, from the site.

12.0 Structural Alterations to Buildings:

(i) No structural member in the building shall be damaged/altered, without prior approval from the competent authority through the Engineer-in-charge.

(ii) Structural provisions like openings, cutouts, if any, provided by the department for the work, shall be used. Where these required modifications, or fresh provisions are required to be made, such contingent works shall be carried out by the contract at his cost.

(iii) All such openings in floors provided by the department shall be closed by the contractor after installing the cables/conduits/rising mains etc. as the case may be, by any suitable means as approved by the Engineer-in-charge without any extra payment.

(iv) All chases required in connection with the electrical works shall be provided and filled by the contractor at his own cost to the original architectural finish of the buildings.

13.0 Addition to an installation:

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

Any addition, temporary or permanent, to the existing electrical installation shall not be made without a properly worked out scheme/design by a qualified Electrical Engineer to ensure that such addition does not lead to overloading, safety violation of the existing system.

14.0 Drawings:

i) The work shall be carried out in accordance with the drawings and the tender documents and also in accordance with modification thereto from time to time as approved by the Engineer-in-charge.

ii) ~~All wiring diagrams shall be deemed to be 'Drawings' within the meaning of the term as used in Clause 11 of the conditions of contract (PWD 7 or PWD 8). They shall indicate the main switch board, the distribution boards (with circuit numbers controlled by them), the runs of various mains and sub mains and the position of all points with their controls.~~

iii) ~~All circuits shall be indicated and numbered in the wiring diagram and the points shall be given the same number as the circuit to which they are electrically connected.~~

iv) After award of the work, the firm will be required to submit the drawings for the proposed work with layout of cables, location of feeder pillar etc as per satisfaction of Engineer-in-Charge.

15.0 Conformity to IE act, IE Rules, and standards:

15.1. All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act, 1910 and Indian Electricity Rules, 1956 amended up to date (Date of call of tender unless specified otherwise

16.0 General requirements of components:

16.1. Quality of material: All materials and equipments supplied by the contractor shall be new. They shall be of such design, size and materials as to satisfactorily function under the rated conditions of operation and to withstand the environmental conditions at site.

17.0 Inspection of materials and equipments:

17.1. Adequate care to ensure that only tested and genuine materials of proper quality are used in work shall be ensured by firm. The firm shall ensure that:

i) As and when the order is placed for the Cable, Fire Fighting & Fire Alarm equipments, GI Pipe etc its copy shall be endorsed to the CPWD Engineer-in-charge.

ii) The firm will be required to procure material Cable, Fire Fighting & Fire Alarm equipments, GI Pipe etc directly from the manufacturer/ authorized dealers to ensure genuineness & quality and as per the approved makes only. Proof in this regard shall be submitted by the contractor.

iii) Inspection at factory or at godown of the manufacturer of feeder pillar/cables/major items, if required, shall be arranged by the firm on a mutually agreed date. Certificate for genuineness of the material shall have to provide duly signed by the manufacturer's authorized representative.

iv) Delivery of material shall be taken up only with the consent of department, after clearance of the material.

v) Department shall reserve the right to waive inspection in lieu of suitable test certificate, at its discretion.

18.0 Ratings of components:

18.1. All components in a wiring installation shall be of appropriate ratings of voltage, current and frequency, as required at the respective sections of the electrical installations in which they are used.

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

18.2. All conductors, switches and accessories shall be of such size as to be capable of carrying the maximum current, which will normally flow through them, without their respective ratings being exceeded.

19.0 Conformity to standards:

19.1. All components shall conform to relevant Indian Standard Specifications wherever existing. Materials with ISI certification mark shall be preferred.

19.2. Relevant Indian Standards including amendments or revisions thereof up to the date of tender acceptance shall be applicable in the respective contracts for respective items, firm to ensure its compliance.

20.0 Workmanship:

20.1. Good workmanship is an essential requirement to be complied with. The entire work of manufacture/fabrication, assembly and installation shall conform to sound engineering practice.

20.2. **Proper supervision/skilled workmen**: The contractor shall be a licensed electrical contractor of appropriate class suitable for execution of the electrical work. He shall engage suitably skilled/licensed workmen of various categories for execution of work supervised by supervisors / Engineer of appropriate qualification and experience to ensure proper execution of work. They will carry out instruction of Engineer-in-charge and other senior officers of the Department during the progress of work.

20.3. **Use of quality materials**: Only quality materials of reputed make as specified in the tender will be used in work.

21.0 Testing:

All testes prescribed in this General Specification, to be done before, during and after installation, shall be carried out, and the test results shall be submitted to the Engineer-in-charge in prescribed Performa, forming part of the Completion Certificate.

22.0 Commissioning on completion:

After the work is completed, it shall be ensured that the installation is tested and commissioned.

23.0 Completion plan and completion certificate:

23.1. Completion certificate after completion of work shall be submitted to the Engineer-in-charge.

~~**23.2.** Completion plan drawn to a suitable scale indicating the complete work executed on site.~~

24.0 **GUARANTEE/WARRANTEE:-** The installation will be handed over to the department after necessary testing and commissioning. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith rectified/ repaired or replaced free of cost, to the satisfaction of the Engineer-in-Charge. In case it is felt by the department that undue delay is being caused by the contractor in doing this, the same will be got done by the department at the risk and cost of the contractor. The decision of the Engineer-in-charge in this regard shall be final & building on the contractor.

The contractor shall submit the relevant test certificates at the time of supply of equipment/Material.

25.0 Nothing extra shall be paid on account of dismantling of material such as overhead line, feeder pillar/electrical panel, fittings/fan etc.

26.0 Payment Terms:

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

The following percentage of contract rates shall be payable against the stage of work shown herein.

i) 70% against supply, as per items of the schedule of work, after delivery at site in goodcondition.
ii) 20% after completion of installation/laying as per items in the schedule of work at specifiedlocations in all respect.
iii) Balance 10% will be paid only after testing, commissioning, submission of completion drawings.

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

ADDITIONAL SPECIFICATIONS FOR ELECTRICAL WORKS

(A) GENERAL:-

1. All the works shall be executed strictly as per relevant CPWD Specifications as amended up to date **by a contractor having valid Electrical Contractor's License.**

2. All repairs & patch work shall be neatly carried out to match with the original finish & all damages caused to the building installation during the execution of work shall have to be made good by the contractor immediately at his own cost to the entire satisfaction of Engineer-in-charge. In case contractor fails to comply with the instructions of the Engineer-in-charge, Engineer-in-charge shall be at liberty to get the work done by any other agency and recover such amount as paid to the other agency from the bill(s) of the contractor. Contractor shall have no claim, whatsoever, on the extent of such amount.

3. Contractor shall provide polythene/PVC plastic cover for all MDB's/SDB's/DB's to protect them from rust/damages, during execution of work till the work is actually completed and handed over to the department.

4. All debris/malba resulting due to electrical work shall be removed on daily basis and completion of the work shall only be accepted after the site has been cleaned of all melba. In case, contractor fails to comply, the same shall be got removed by the other agency and the payment so made shall be recovered from the bill(s) of the contractor.

5. The contractor shall have to make arrangements, at his own risk and cost, for transportation of materials from the point of issue of stores to site of work, if any.

6. Makes of all items that are not covered in the schedule of work/additional specifications shall be got approved from the Engineer-in-charge and shall conform to relevant Indian Standard as applicable.

7. The contractor shall ensure that the staff employed by him for execution of the electrical work, possess the valid electrical license issued by competent authority. Consequences arising due to the default of the contractor in not complying with the above condition shall be the responsibility of the contractor.

8. Copper lugs shall be provided for terminating copper/I/GI earth wire to all switchboards for which nothing extra shall be paid. All multistranded/ stranded wires shall be terminated through copper lugs.

9. All concealed work and earthing shall be done in the presence of the Engineer-in-charge or his authorized representative.

10. The work shall be carried out according to drawing approved by the Engineer-in-charge. The layout once approved can only be changed by the Engineer-in-charge as per requirement at site. It shall be the responsibility of the contractor to plan the layout and get the approval from the Engineer-in-charge before laying the conduits etc.

11. Contractor shall have to check the Site Order Book for any instructions of the Engineer-in-charge or his authorized representative and sign the site order book. He shall be bound to ensure compliance with the instructions recorded therein.

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

12. Conduit layout as per switching arrangement shall be prepared by contractor and got approved from the Engineer-in-Charge before slab casting.

13. To facilitate drawing of wires 16/18 SWG G.I fish wire shall be provided along with laying of recessed conduit for which no extra payment shall be made to contractor.

14. Conduit and termination to SDB and main board adapter box i/c connection wires to MCB,s inter connection between SDB and main board etc shall be included in the tendered rates and nothing extra shall be paid for the same.

15. The contractor shall provide junction boxes / looping boxes of required sizes and such boxes shall be measured as part of conduit / batten wiring without any extra payment.

16. Only brass screws along with brass washers will be used for fixing Phenolic laminated sheet covers and at other places aluminum alloy/ brass / cadmium plated screws will be used.

17. In wiring items like point wiring / wiring for light and power plug /circuit wiring / submain wiring, the item includes the cost of conduit also.

18. All material to be used on this work by the contractor shall be got approved from the Engineer-in-charge before installation at site.

19. The entire installation shall be at the risk and responsibility of the contractor until the same are tested and handed over the department. However if there is any delay in construction from the department side the installation may be taken over in parts but decision on the same shall rest with Engineer-in-charge which shall be binding on the contractor.

20. The connection, interconnection earthing and inter-earthing shall be done by the contractor wherever required to be done for energisation of the installation and nothing extra shall be paid on this account.

21. The contractor shall make his own arrangement for storage of material either brought by or issued to him by the department.

22. Cement for this bonafide work is to be arranged and used by the contractor himself and nothing extra will be paid on this account.

23. The power supply and water supply required for the execution of work shall have to be arranged by the contractor themselves however the power supply for testing of the equipments shall be made available by the department at one single point free of cost.

24. All existing termination of cables submain/circuit wires & copper/GI /Earth wires into SDB shall be done using lugs/ferrules only & nothing extra shall be paid on this account this condition shall not apply if wiring has been done with solid single conductor wire.

25. Loss of life/damages/accident etc. shall be the sole responsibility of the contractor and no compensation shall be payable by the department.

26. All chases in wall shall be made through electrically operated chase cutting machine.

27. Testing of materials shall be done at approved laboratories as per the direction of the Engineer-in-Charge. The charges of testing of materials approved in the laboratories shall be reimbursed

to the contractor and the charges of testing of materials failed during testing shall be borne by the contractor.

28. Watch & Ward of material procured or issued by the department is the sole responsibility of contractor. Nothing extra will be paid.

29. If any material is issued by the department for stipulation then no T & P and shifting changes whatsoever will be issued/paid additionally by the department. Contractor has to comply the instruction as given by site incharge.

30. If any work arises on account of occurrence of faults then the contractor has to respond immediately and undertake the work and ensure resumption of services with short possible time.

31. For laying of cable/pipe across road, road cutting to be avoided crossing to be entered by Boki/Trenchless.

32. **To get repair cables or piping if damaged during resumption of cabling work is the sole responsibility of contractor. If this condition is not get complied by agency, then suitable recovery will be done from the bills of contractor.**

33. ~~**The agency has to supply all the items given in item no. 18 & 19 within 15 days of receiving the award letter.**~~

34. ~~**For Testing of Transformer oil and dehydration and other type of high potential tests, the agency shall engage the specialized agency with sufficient experience. So, relevant documents and records like experience certificates, BOQS, HT electrical license etc. to be submitted by the lowest rates quoted agency prior to execution of work.**~~

35. ~~**The work of servicing of Sub-station i/c all items are mentioned in item no. 11,12,13,14,15 & 16 shall be carried out within 15 days of receiving the award letter as the work is of urgent nature.**~~

36. ~~The agency will provide cable route marker to mark the layout of cable at site.~~

37. **Fire Alarm System :-** The work shall be carried out as per CPWD specifications Part VI Fire Detection and Alarm System – 2018 amended upto date and should also comply with the relevant provisions of the Indian Electricity Rules and Acts, BIS and IS codes.

38. **Fire Fighting System :-** The work shall be carried out as per CPWD specifications Part V Wet Riser & Sprinkler Systems – 2020 amended upto date and should also comply with the relevant provisions of the Indian Electricity Rules and Acts, BIS and IS codes.

39. **HANDING OVER:** All commissioning and testing shall be done by the contractor to the complete satisfaction of the Engineer In-charge, and the job handed over to the Engineer In-charge, or his authorized representative.

Contractor shall also handover, to the Engineer In-charge, all maintenance & operation manuals and all other necessary documents after completion of work.

40. **Fire NOC & Drawings:- The contractor shall carry out all the work of Fire Fighting system as per the NBC provisions. The contractor shall also be responsible for obtaining the final No Objection Certificate (NOC) from the Chief Fire Officer (CFO) after completion of the work. It is also stated that final bill will be done only after obtaining fire NOC of the building.**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

LIST OF APPROVED MAKES

Only the following makes of equipment/accessories which should comply with the relevant specifications given in the BOQ/tender documents shall be acceptable.

Description of Items	Approved Makes
M.S/PVC. Conduit & Accessories (ISI Marked)	BEC/AKG/ STEEL KRAFT/NIC
PVC Insulated FRLS Copper Conductor Wires 1.1 kV Grade (ISI Marked)	Polycab/ Havells/ KEI/Grandlay
Modular Plate/Modular Switch & Socket/GI Boxes/ Fan Regulator/ Telephone/RJ-45/RJ-11Modular Socket/ Bell	Schneider/ Legrand/ ABB/Mk /Cabtree / INDOASIAN
MCB DB/MCB /Isolator/DB/RCCB /ELCB/MCCB	Legrand / Schneider /ABB/ Siemens / L&T/INDOASIAN
DWC Hdpe Pipe (Isi Marked)	Rex / Duraline /Trupati / Gemini
1.1 KV XLPE (Alumium/Cu) Cable (ISI Marked)/11 kV HT cable	Polycab/ Havells/ KEI/Grandlay
MCCBs	Siemens / Schneider / Equivalent model of Legrand/ABB/ L&T/INDOASIAN
Digital Indicating / Measuring Instruments/Multifunction Meters / CT	L&T/Schneider/Conzerv/AE/ABB/Siemens/Krykard/Neptune/Kappa
G.I Pipe	Tata/Jindal(Hisar)/SAIL
LT panel/Electrical panels/Feeder Pillar	SPC Electrotech Pvt Ltd/ Tricolite/Adlec/ Neptune/Advance Panel Control System/Associated Switchgears Pvt. Ltd./ RP Control/Mile Stone
Indication Lamp	BCH/ L&T/Siemens/ Schneider / ABB/Salzer
Cable Gland/Lugs/Thimbles	Commet/Jainson/Dowells/Raychem/Gripwell
Cable Tray & Accessories	Venus/ Slotco/ Pilco/ Rceco/ Rmcon

- **SH: Fire Fighting System**:

DESCRIPTION	APPROVED MAKES
Fire Pump	Kirloskar/ Mather & Platt/Grundfoss/ KSB
Electrical Motors	Kirloskar/ Siemens/ ABB/Crompton
Diesel Engine	Kirloskar / Cummins / Ashok Leyland /Mather & Platt+Willo
MS pipe (ISI marked)	Jindal (Hisar)/ Tata/ Sail/
Elect. Control Panel/Feeder Pillars/ MCCB/ ISOLATOR/ Ammeter/ Voltmeter/CTs/Other accessories	As per IEI Works
Butterfly/Non Return Valve/Sluice Valve /Dual Plate Check Valve /Y-Stainer	Kirloskar/Audco/Advance / Zoloto / Sant
Fire Hydrant Valves/Landing Valves/FBC/ Hose Couplings /Branch Pipe & Nozzles/ Fire Man Axe	Newage/ Firex/Lifeguard/Ceasefire
R.R.L Hose (ISI Mark)	Newage/ Firex/Lifeguard/Ceasefire
First Aid Hose Reel (Drum and Bracket)	Newage/ Firex/ Lifeguard/Ceasefire
Thermo Plastic Textile Reinforced Water Hose (ISI Mark)	Kesara/Mitraz/Newage/Lifeguard
Gun Metal/Bronze Gate/Globe/ Check/Ball Valves/Control valve	Kirloskar/Audco/Advance / Zoloto / Sant

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

Vibration Eliminator Metalic Expansion Bellows Connectors	Resisto Flex/ Easy Flex/ D.Wren
Pressure Switch	Indfoss / System sensor/Plotter Johson
Sprinklers/Rosette plate/Orifice Plate	HD/Tyco/Viking/Lifeguard
Weather Proof Hose Cabinet	Padmini/ Getech/ Omex/ Lifeguard/ Nerwage
Contactors/ Starters/ Relay	Siemens /L&T/Schneider/ABB /Legrand
Deluge Valve	HD Fire/Newage
XLPE Cable (ISI Marked)	As per IEI Work
Water Curton Nozzles/Sprinkler Heads	Padmini/ HD Fire/ Newage/Lifeguard
Pressure Gauge	Danfoss/ H-Guru/ Fiebig / Switzer / Plotter
Flow Switches	System Sensor/ Plotter/ Jhonson Control / H-Guru
Fire Extinguishers	Cease Fire/ Lifeguard/ Padmini/ Superex/ Omex/ Minimax
Air Vessel	Lifeguard/Chawla/Firex/Getech/Nerwage
Single Phasing Preventor (Current Sensing)	L&T/ Siemens / ABB/Legrand/Schneider
Battery	Amaron/ Exide/Amaraja/ Lumminous
Enamel Paint	Asian/ Nerolac/ Berger
Paint Primers	Asian/ Jenson Nicholson
Pipe Hangers	Camry/ Chilly/ GMGR
Air Release Valves	TBS/ SKG/ ARCO
Cable Gland/ End Termination Lugs/ Terminal Blocks	As per IEI Work
Sprinkler flexible connection pipe	Newage/Youngjin/Flxhead/Lifeguard
Note:- For materials/equipment to be used in items of work for which approved makes are not given herein, the makes of such materials/equipment shall be as decided by Engineer –in-charge.	

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

SCHEDULE OF QUANTITY

Name of Work:- Construction of 3 Doctors Dispensary at BARHI, Sonepat, Haryana (Civil plus Electrical) (SH:-SITC of Wet Riser & Sprinkler System)

Sr. No.	Description of item	Qty		Rate	Unit	Amount	Remarks DSR 2025
1.0	(a) Supplying, installation, testing and commissioning of Electric driven Main Fire Pump suitable for automatic operation and consisting of following, complete in all respects, as required: (b) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520. (c) Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325. (d) M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required. (e) Suitable cement concrete foundation duly plastered with anti vibration pads.						**27.1**
1.1	1620 Ipm at 56 m Head	1	Set	299587.00	Per Set	299587.00	**27.1.9**
2.0	(a) Supplying, installation, testing and commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following, complete in all respects, as required : (Diesel Driven Pump)						
	(b) Horizontal type, multistage, centrifugal pump of cast of iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.						
	(c) Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12 /24 volts electric starting equipment, diesel tank, exhaust pipe extended upto 10 m outside pump house duly insulated with 50 mm thick glass wool with 1.0 mm thick aluminium sheet cladding, residential silencer, instruments and protection as per standard specification, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc. as required.						
	(d) M.S fabricated, common base plate, coupling, coupling guard, foundation bolts etc. as required.						

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

	(e) Suitable cement concrete foundation duly plastered and with anti vibration pads.						**27.2**
2.1	**1620 Ipm at 56 m Head**	1	Set	538291.00	Per Set	538291.00	**27.2.9**
3.0	(a) Supplying, installation, testing and commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following, complete in all respects, as required : (Jockey Pump)						
	(b) Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS : 1520.						
	(c) Suitable HP squirell cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz AC supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.						
	(d) M.S.fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.						
	(e) Suitable cement concrete foundation duly plastered and with anti vibration pads.						**27.3**
3.1	**300 lpm at 56 m Head**	1	Set	121712.00	Per Set	121712.00	**27.3.6**
4.0	Fabrication, supply, Insallation testing & commissioning of Electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm thick CRCA sheet, compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, inter-connection with suitable size copper conductor cable/solid copper strip, having switchgears and accessories, mountings and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for main fire pump, pressurisation pump & diesel pump set complete as per CPWD specification with following in coming and Outgoings, suitable for operation on 415V, 3 phase, 50Hz Ac Supply with enclosure protection class IP 42 as required :						

4.1	**INCOMING**250A, 50kA 4 Pole MCCB, Ics=100% Icu rating Digital Voltmeter 0-500V with selector switchDigital Ammeter (0-250 A) with selector swtich & CTs etc.LED type RYB phase indicating lamps, ON, OFF, trip indicating lampsSet of Copper Bus Bar 300A**OUTGOING**(Note : All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps)**MAIN FIRE PUMP**125 A, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 60 HP pump with overload protection, current sensing type single phase preventor complete with all acceessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.						
	JOCKEY PUMP63 A, 50kA TPN MCCB, Ics=100% Icu, with suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all acceessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation.**DIESEL ENGINE CONTROL**Control for diesel engine comprising -Automatic/Manual selctor switch & 3 attempts starting device, timers and relays as required, push buttons, start/stop in manual mode Indicating lamp for high/ Low Lub. Oil pressure, High Water Temp and Engine on indication Battery charger suitbale for 12V/24 V DC with boost and trickle selector switch, 0-30 V DC volt meter, and 0-20 A DC Ammeter All standard relays and accessories for automatic operation of diesel engine						**27.5**
	SYSTEM CONTROLLER Designing, Supply, Installation, Testing and commissioning of system controller to control operation of main electric fire pump, diesel pump, Pressurization pump, Terrace pump in sequence as per specification consisting of relays,	1	Set	256783.00	Per Set	256783.00	**27.5.1**
5.0	Providing laying, testing & commissioning of 'C' class heavy duty MS Pipe conforming to IS 1239/3589 i/c fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. in ground including welding, excavation & providing cement concrete blocks as supports, anticorrosive treatment with coaltar/asphalt tape as per IS 10221, refilling the trench etc. of following sizes complete as required.						**27.6**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

5.1	150 mm. Dia	95	Mtrs	5104.00	Per Mtrs	484880.00	**27.6.2**
6.0	Providing, laying, testing & commissioning of 'C' class heavy duty MS pipe conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :						**27.7**
6.1	25 mm dia	60	Mtrs	920.00	Per Mtrs	55200.00	**27.7.1**
6.2	32 mm dia	30	Mtrs	1039.00	Per Mtrs	31170.00	**27.7.2**
6.3	50 mm dia	15	Mtrs	1557.00	Per Mtrs	23355.00	**27.7.4**
6.4	65 mm dia	30	Mtrs	1955.00	Per Mtrs	58650.00	**27.7.5**
6.5	80 mm dia	20	Mtrs	2277.00	Per Mtrs	45540.00	**27.7.6**
6.6	100 mm dia	70	Mtrs	3077.00	Per Mtrs	215390.00	**27.7.7**
6.7	150 mm dia	70	Mtrs	4299.00	Per Mtrs	300930.00	**27.7.8**
6.8	200 mm dia (wall thickness 6.3 mm)	15	Mtrs	6620.00	Per Mtrs	99300.00	**27.7.9**
7.0	Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required :						**27.9**
7.1	Single headed Stainless steel	2	Set	6632.00	Per Set	13264.00	**27.9.2**
8.0	Supplying and fixing Single headed external yard hydrant valve with 1 No. 63 mm dia instantaneous FM Gunmetal/Stainless Steel coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required :						**27.10**
8.10	Single headed Stainless steel	4	Set	6632.00	Per Set	26528.00	**27.10.2**
9.0	Supplying, fixing, testing and commissioning of butterfly valve of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :						**27.11**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

9.1	65 mm dia	1	Set	4712.00	Per Set	4712.00	**27.11.3**
9.2	100 mm dia	1	Set	7271.00	Per Set	7271.00	**27.11.5**
9.3	150 mm dia	1	Set	9737.00	Per Set	9737.00	**27.11.6**
10	Supplying, fixing, testing & commissioning of double flanged sluice valve of rating PN 1.6 with non rising spindle, bronze/gun metal seat, ISI marked complete with nuts, bolts, washers, gaskets and conforming to IS 780 of following sizes as required:						**27.12**
10	100 mm dia	1	Set	15603.00	Per Set	15603.00	**27.12.5**
10	150 mm dia	1	Set	24088.00	Per Set	24088.00	**27.12.6**
10	200 mm dia	1	Set	41386.00	Per Set	41386.00	**27.12.7**
11	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	1	Set	1424.00	Per Set	1424.00	**27.13**
12	Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS: 5312 complete with rubber gasket, Gl bolts, nuts, washers etc.as required:						**27.14**
12	100 mm dia	1	Set	11853.00	Per Set	11853.00	**27.14.5**
12	150 mm dia	1	Set	18884.00	Per Set	18884.00	**27.14.7**
12	200 mm dia	1	Set	30896.00	Per Set	30896.00	**27.14.8**
13	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.						**27.15**
13	150 mm dia	1	Set	11682.00	Per Set	11682.00	**27.15.3**
13	200 mm dia	1	Set	23571.00	Per Set	23571.00	**27.15.4**
14	Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with Gl wire, rivets etc. conforming to IS 636 (type-A) as required:						**27.16**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

14	Stainless Steel (Grade 304)	1	Set	4667.00	Set	4667.00	**27.16.2**
15	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipmets on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.						**27.17**
15	30 m	2	Sets	9440.00	Set	18880.00	**27.17.1**
16	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required:						**27.18**
16	Stainless Steel (Grade 304)	2	Nos	3402.00	Each	6804.00	**27.18.2**
17	Supplying and fixing of fire brigade connection of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required:						**27.19**
17	4 way - 150 mm dia M.S. Pipe	1	Set	14820.00	Set	14820.00	**27.19.2**
17	3 way - 150 mm dia M.S. Pipe	1	Set	10097.00	Set	10097.00	**27.19.3**
18	Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and painting with synthetic enamel paint of approved shade as required.	2	Sets	19402.00	Set	38804.00	**27.20**
19	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type sprinklers of rating 68 degree centigrade with required accessories :						**27.21**
19	Pendent Sprinkler	25	Nos	599.00	Each	14975.00	**27.21.1**
19	Upright Sprinkler	25	Nos	599.00	Each	14975.00	**27.21.2**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

20	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	1	No	1670.00	Each	1670.00	**27.22**
21	Providing & fixing flow switch in following sizes M.S. pipe including connection etc as required.						**27.23**
21	100mm dia	2	Nos	8069.00	Each	16138.00	**27.23.1**
21	150mm dia	4	Nos	9644.00	Each	38576.00	**27.23.2**
22	Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of follwing sizes as required						**27.24**
22	150mm dia	1	Set	50805.00	Set	50805.00	**27.24.3**
23	Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required.						**27.25**
23	700mm	25	Sets	1495.00	Set	37375.00	**27.25.1**
24	Supplying, installation, testing & commissioning of deluge valve (to be used for water curtains) UL listed with wet pilot basic trim assembly for DVA with test and alarm, drip and drain valve with water motor gong complete as required.						**27.26**
24	150mm dia	1	Set	121301.00	Set	121301.00	**27.26.4**
25	Providing, installation, testing & commissioning of electric release trim assembly for deluge wall with two way solelnoid valve, weather proof operation on 24 volts DC supply complete as required.	1	Set	7755.00	Set	7755.00	**27.28**

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

26	Providing, installation, testing & commissioning of adjustable rosette plate for 15mm dia in white finish UL Listed or FM approved complete as required.	30	Nos	264.00	Each	7920.00	**27.29**
	Total					**3177249.00**	

EE(E),KED,CPWD,
KARNAL

Correction—Nil Deletion—Nil Insertion—Nil Overwriting—Nil

GOVERNMENT OF INDIA
CENTRAL PUBLIC WORKS DEPARTMENT
Executive Engineer,
Sonipat Division,
CPWD Sonipat,

NIT No. 30/EE/SD/2026-27					
Name of Work:Construction of Domestic, Fire U.G. Tank and Pump Room at 3 Doctors Dispensary at Barhi, Sonepat, Haryana (Civil + Electrical)					
Estimated cost put to Tender					**Total :- Rs. 90,99,656/- (Civil + Electrical)**
PERFORMA FOR QUOTING THE RATES					
Name of Contractor					
Sr. No.	**Estimated cost (Rs.)**		**Percentage above/ below the estimated cost**	**% in figures**	**Total Cost (Rs.)**
1	**Civil**	**Rs. 59,22,407/-**			
2	**Electrical**	**Rs. 31,77,249/-**			
3	**Total (Civil + Electrical)**	**Rs. 90,99,656 /-**			

Assistant Engineer-(P)
CPWD, Sonipat

Executive Engineer-Sonipat
CPWD, Sonipat