

INDEX

Name of Work: - Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.

Serial No.	Contents	Page No.	Remarks
1	Index	1	
	<u>PART - A</u>		
2.	Press Tender Notice	3	
3.	Information and instructions for Contractors	4 to 6	
4.	Notice inviting tender (CPWD - 6)	7 to 12	
5.	Integrity Pact	13 to 20	
6.	Tender and contract	21 to 22	
	<u>PART - B</u>		
7.	Schedules “A” to “F” (Civil)	23 to 28	
8.	Particular Specification & Special Conditions	29 to 56	
9.	Annexure – A Bank (Guarantee Bond)	57	
	<u>PART - C</u>		
10.	Schedules “A” to “F” (Electrical)	58 to 61	
11.	Special conditions for electrical works for composite tender	62 to 67	
12.	General Condition applicable for E&M Components	68 to 73	
13.	List of Approved materials (Civil + Electrical)	74 to 75	
14.	Schedule of Quantities (Civil + Electrical)	76 to 84	
15.	Percentage SOQ	83	

Certified that this bid document contains pages 1 to 83 (One to Eighty Three excluding front and back cover page and of Part –A, Part –B and Part –C).

Assistant Engineer (P),
ABEU, AIIMS Bhopal

Executive Engineer
ABEU, AIIMS Bhopal

This N.I.T. is approved for **Rs. 7,99,463/-** (Rupees Seven Lakh Ninety Nine Thousand Four Hundred Sixty Three Only)

Superintending Engineer,
ABEU, AIIMS Bhopal

CORRECTION	<u>NIL</u>	INSERTION	<u>NIL</u>	
CUTTING	<u>NIL</u>	OVERWRITING	<u>NIL</u>	AE(P) EE(P)

BLANK

PART - A
AIIMS BHOPAL
NOTICE INVITING e-TENDER

PRESS NOTICE FOR NEWS PAPER

Executive Engineer(E) Project Cell, AIIMS Bhopal, on behalf of Director AIIMS, BHOPAL, invite online composite percentage rate bids from CPWD enlisted contractors of appropriate class in composite category and eligible firms / contractors of repute in Single bid system for the following work :

NIT No. **06/EE/ABEU/2017-18,**

Name of work: - Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.

Composite Estimated Cost: Rs. 7,99,463/- (Civil work – Rs. 4,94,670/- + Electrical work- Rs. 3,04,793/-)

Earnest Money: Rs. 15,960 /-

Period of completion: - 1 Month, Last time and date of submission of bid: Up to 03.00 PM on 27.12.2017.

The Bid forms and other details can be obtained from the website www.tenderwizard.com/AIIMSBHOPAL, www.aiimsbhopal.edu.in The Press Notice is also available on www.eprocure.gov.in

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING FORMING PART OF BID DOCUMENT AND TO BE POSTED ON WEBSITE (APPLICABLE FOR INVITING BIDS ON TWO BID SYSTEM)

The Executive Engineer (E) AIIMS Bhopal, on behalf of the Director AIIMS Bhopal invites online composite percentage rate bids from CPWD enlisted contractors of appropriate class in composite category and eligible firms / contractors of repute in **Single bid system** for the following work :

S.No.	NIT No.	Name of work & Location	Estimated Cost put to bid	Earnest Money	Period of Completion	Last date & time of submission of bid, original EMD, copy of receipt for deposition of original EMD and other documents as specified in the Press Notice	Time & Date of opening of Price Bid
1	2	3	4	5	6	7	8
1	06/EE/ABEU/2017-18	Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.	Composite Estimated Cost : Rs. 7,99,463/- (Civil work – Rs. 4,94,670+ Electrical work- 3,04,793/-)	Rs 15,990/-	1 Month	Up to 3:00 PM on 27.12.2017	Up to 3:30PM on 27.12.2017

1. Contractors who fulfill the following requirements shall be eligible to apply. Joint ventures are not accepted (**This is not applicable for CPWD enlisted contractors of appropriate class in composite category**).
 - (a) Should have satisfactorily completed the works as mentioned below during the last Seven years ending **previous day of last date of submission of bids**.
 - (b) Should have had average annual **financial turnover** of **Rs. 4.50 Lakh** on construction works during the immediate last three consecutive financial years. (Scanned copy of Certificate from CA to be uploaded).
 - (c) Should not have **incurred any loss** in more than two years during the last five years ending **31st March 2017**.
2. The intending bidder must read the terms and conditions of **CPWD-6** carefully. He should only submit his bid if he considers himself eligible and he is in possession of all the documents required.

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 and downloaded from **website www.tenderwizard.com or www.aiims.edu.in or www.eprocure.gov.in** free of cost.
5. But the bid can only be submitted after **deposition of original EMD in the office of E.E. AIIMS Bhopal inviting bids within the period of bid submission** and uploading the mandatory scanned documents such as Demand Draft or Pay order or Banker's Cheque or Deposit at call Receipt or Fixed Deposit Receipts and Bank Guarantee of any scheduled Bank towards EMD in favour of **Director AIIMS Bhopal , as mentioned in NIT.**
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 bidding 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, 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. **Certificate of Financial Turn over:** At the time of submission of bid contractor may upload Affidavit/ Certificate from **C.A.** mentioning Financial Turnover of last 3 years or for the period as specified in the bid document and further details if required may be asked from the contractor after opening of technical bids. There is no need to upload entire voluminous balance sheet.
11. 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" (ZERO). 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 / subhead in percentage rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.
12. The technical bid will be opened first on due date and time as mentioned above. **The time & date of opening of financial bid of contractors qualifying the eligibility bid will be communicated to them a later date.**
14. When bids are invited in three stage system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.
15. The department reserves the right to reject any prospective application without assigning any reason and to restrict the list of qualified contractors to any number deemed suitable by it, if too many bids are received satisfying the laid down criterion.

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

- I. Treasury Challan/Demand Draft/Pay order or banker's Cheque/Deposit at call receipt/Bank guarantee of any scheduled Bank against EMD.
- II. Certificates of work experience.
- III. Certificate of Financial Turnover from CA.
- IV. Any other Document as specified in the Press Notice.
- V. Certificate of registration for GST and acknowledgement of up to date filed returns (if applicable).
- VI. **Copy of PAN Card issued by Income Tax Department.**
- VII. **Postal Address, Mobile No. and e-mail ID of bidder.**
- VIII. Electrical license from competent authority in the name of Contractor or undertaking that **"I, hereby confirm that I will either obtain valid electrical license at the time of execution of electrical work or associate CPWD registered contractor having valid electrical license of eligible class."**

Note : The Sl. No. II to IV are not applicable for CPWD enlisted contractors of appropriate class in composite category, however they will have to upload scanned copy of enlistment order of appropriate class in composite category issued by the competent authority of CPWD.

**Executive Engineer
AIIMS, Bhopal**

AIIMS BHOPAL
Notice Inviting Tender

1. **The Executive Engineer AIIMS Bhopal** on behalf of the **Director AIIMS Bhopal** invites **online** composite percentage rate bids from CPWD enlisted contractors of appropriate class in composite category and eligible firms / contractors of repute in **Single bid system** for the work **“Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.”** of The enlistment of the contractors should be valid on the last date of submission of bids. In case the last date of submission of composite bid is extended, the enlistment of contractor should be valid on the original date of submission of bids.
The work is estimated to **Composite Cost of : Rs 7,99,463/- (Civil- Rs. 4,94,670/- + Electrical – Rs. 3,04,793 /-)**, This estimate, however, is given merely as a rough guide.
 - 1.1.1 The authority competent to approve NIT for the combined cost and belonging to the major discipline will consolidate NITs for calling the bids. He will also nominate Division which will deal with all matters relating to the invitation of bids.
For composite bid, besides indicating the combined estimated cost put to bid, should clearly indicate the estimated cost of each component separately. The eligibility of bidders will correspond to the combined estimated cost of different components put to bid.
 - 1.2.1 Intending bidder is eligible to submit the bid provided he has definite proof from the appropriate authority, which shall be to the satisfaction of the competent authority, of having satisfactorily completed similar works of magnitude specified below:-
2. Agreement shall be drawn with the successful bidders on prescribed Form No. CPWD 7 amended upto DG/CON/298 dated 29.09.2017 which is available as a Govt. of India Publication and also available on website www.aiimsbhopal.edu.in Bidder shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
3. The time allowed for carrying out the work will be **1(One)** Months from the date of start as defined in schedule ‘F’ or from the first date of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the bid documents.
4. **The site for the work is available:** Available and architectural and structural drawings shall be prepared by contractor.
5. The bid document consisting of plans, specifications, the schedule of quantities of various types of items to be executed and the set of terms and conditions of the contract to be complied with and other necessary documents except Standard General Conditions of Contract Form can be seen from website www.tenderwizard.com or www.aiims.edu.in or www.eprocure.gov.in free of cost.
6. After submission of the bid the contractor can re-submit revised bid any number of times but before last date and time of submission of bid as notified.
7. While submitting the revised bid, contractor can revise the quoted rates but before last date and time of submission of bid as notified.
8. When bids are invited in Single bid system and if it is desired to submit revised financial bid then it shall be mandatory to submit revised financial bid. If not submitted then the bid submitted earlier shall become invalid.

9. Earnest Money in the form of Treasury Challan or Demand Draft or Pay Order or Banker`s Cheque or Deposit at Call Receipt or Fixed Deposit Receipt of a Scheduled Bank (drawn in favour of **Director AIIMS , Bhopal**) shall be scanned and uploaded to the e-Tendering website within the period of bid submission.

This receipt shall also be uploaded to the e-tendering web site by the intending bidder upto the specified bid submission date and time.

A part of earnest money is acceptable in the form of Bank Guarantee also. In such case, minimum 50% of earnest money or Rs. 20 lakh, whichever is less, shall have to be deposited in shape prescribed above, and balance may be deposited in shape of Bank Guarantee of any Scheduled Bank having validity for **120 (One Hundred Twenty) days** or more from the last date of receipt of bids which is to be scanned and uploaded by the intending bidders.

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

Online bid documents submitted by intending bidders shall be opened only of those bidders, whose original EMD deposited with office of E.E.(E)AIIMS Bhopal and other documents scanned and uploaded are found in order.

The bid submitted shall be opened at **03.30 PM on 27.12.2017.**

The contractors registered on e-tendering portal of Tender wizard and shall have to deposit tender processing fee at existing rates.

10. The bid submitted shall become invalid and e-Tender processing fee shall not be refunded if:
- (i) The bidder is found ineligible.
 - (ii) The bidder does not deposit original EMD with Division office of Executive Engineer, AIIMS Bhopal.
 - (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 bidder in the office of bid 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 be considered as lowest tenderer.**

11. The contractor whose bid is accepted will be required to furnish performance guarantee of 5% (Five Percent) of the bid amount within the period specified in Schedule F. This guarantee shall be in the form of cash (in case guarantee amount is less than Rs. 10000/-) or Deposit at Call Receipt of any Scheduled Bank/Banker's Cheque of any Scheduled Bank/Demand Draft of any Scheduled Bank/Pay Order of any Scheduled Bank (in case guarantee amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the prescribed form. In case the contractor fails to deposit the said performance guarantee within the period as indicated in Schedule 'F' including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The Earnest Money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. **The contractor whose bid is accepted will also be required to furnish either copy of applicable licenses / registrations or proof of applying for obtaining labour licenses, registration with EPFO, ESIC and BOCW Welfare Board including Provident Fund Code No. if applicable and also ensure the compliance of aforesaid provisions by the sub-contractors, if any, engaged by the contractor for the said work and Programme Chart (Time and Progress) within the period specified in Schedule F.**

12. **The description of the work is as follows:- "Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal"**
 Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. A bidder shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed. The bidder shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work.

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

14. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable for rejection.

15. The competent authority on behalf of President of India reserves to himself the right of accepting the whole or any part of the bid and the bidder shall be bound to perform the same at the rate quoted.

16. The contractor shall not be permitted to bid for works in the AIIMS Bhopal responsible for award and execution of contracts, in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him

CORRECTION	NIL	INSERTION	NIL	
CUTTING	NIL	OVERWRITING	NIL	AE(P) EE(P)

in any capacity or are subsequently employed by him and who are near relatives to any Gazetted Officer in the AIIMS Bhopal. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.

17. No Engineer of Gazetted Rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a contractor for a period of one year after his retirement from Government service, without the prior permission of the Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the contractor's service.
18. The bid for the works shall remain open for acceptance for a period of **Sixty (60) days** from the date of opening of technical bid in case bids are invited on two / three bid envelop system (strike out as the case may be). If any bidder withdraws his bid before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the bid which are not acceptable to the department, **then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the bidder shall not be allowed to participate in the re-bidding process of the work.**
19. This Notice Inviting Bid shall form a part of the contract document. The successful bidder / contractor, on acceptance of his bid by the Accepting Authority shall within 15 days from the stipulated date of start of the work, sign the contract consisting of:-
- a) The Notice Inviting Bid, all the documents including additional conditions, specifications and drawings, if any, forming part of the bid as uploaded at the time of invitation of bid and the rates quoted online at the time of submission of bid and acceptance thereof together with any correspondence & negotiation leading thereto.
 - b) Standard C.P.W.D. Form 7 amended up to **DG/CON/298 dated 29.09.2017** or other Standard C.P.W.D. Form as applicable
20. **For Composite Bids**
- 20.1.1 The Executive Engineer in Charge of the major component will call bids for the composite work. The Earnest Money will be fixed with respect to the combined estimated cost put to tender for the composite bid.
 - 20.1.2 The bid document will include following three components:
 - Part A:- CPWD-6, CPWD-7 including Schedule A to F for the major component of the work, Standard General Conditions of Contract for CPWD, 2014 as amended / modified upto DG/CON/298 dated 29.09.2017.
 - Part B:- Particular Specifications and Special conditions, specifications and schedule of quantities as applicable to major component of the work.
 - Part C:- Schedule A to F for minor component (Electrical) of the work. E.E. (E) in charge of major component shall also be competent authority under clause 2 and clause 5 as mentioned in Schedule A to F for minor components). Special Conditions, additional terms & conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

- 20.1.3 The bidders must associate himself, with agencies of the appropriate class eligible to bid for each of the minor component individual.
For electrical works, the bidder should have **valid electrical license from competent authority in the name of the contractor. However, the contractors is allowed to participate in tender with an undertaking that they will either obtain valid electrical license at the time of execution of electrical work or associate contractors having valid electrical license of eligible class.**

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

- 20.1.5 After acceptance of the bid by competent authority, the EE in-charge of major component of the work shall issue letter of award on behalf of the Director AIIMS Bhopal. After the work is awarded, the main contractor will have to enter into one agreement with EE in charge of major component.

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

- 20.1.7 Security Deposit will be worked out separately for each component corresponding to the estimated cost of the respective component of work.

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

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

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

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

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

- 20.1.12(B) Final bill of whole work shall be finalized and paid by the EE of major component. Engineer(s) in charge of minor component(s) will prepare and pass the final bill for their component of work and pass on the same to the EE of major component for including in the final bill for composite contract.
- 21.0 In case any discrepancy, is noticed between the documents as uploaded at the time of submission of the bid online and hard copies as submitted physically in the office of Executive Engineer, then the bid submitted shall become invalid and the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money as aforesaid. Further the tenderer shall not be allowed to participate in the re-tendering process of the work.
- 22.0 A new provision of Integrity Pact(IP) was introduced in GCC-2014 vide DG/CON/281 dated 04/08/2014. In the OM it is mentioned that at the time of submission of bid, it shall be mandatory to sign the pact by the bidder failing which the bidder will stand disqualified from the tendering process and such bid would be summarily rejected. In case of e-tendering, Integrity Pact shall be treated in the same manner as other components of the bid document. In e-tendering, the intending bidder does not sign any document physically and entire bid document is submitted through digital signature. Since IP is a part of bid document no separate physical submission is required with other documents to be submitted in the office of tender opening authority. In addition to other component of bid document, the Integrity Pact along shall also be signed between Executive Engineer and successful bidder after acceptance of bid.

INTEGRITY PACT

To,

Sub: **Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.**

Dear Sir,

It is here by declared that AIIMS Bhopal 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 AIIMS Bhopal.

Yours faithfully,

Executive Engineer (E)
AIIMS Bhopal

To,

The Executive Engineer,

Sub: **Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.**

Dear Sir,

I / We acknowledge that AIIMS Bhopal 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, AIIMS Bhopal shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid in accordance with terms and conditions of the tender/bid.

Yours faithfully

(Duly authorized signatory of the Bidder)

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

INTEGRITY AGREEMENT

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

BETWEEN

President of India represented through Executive Engineer, ,
(Name of Division)

AIIMS Bhopal , , (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. 06/EE/ABEU/2017-18)**) (hereinafter referred to as **"Tender/Bid"**) and intends to award, under laid down organizational procedure, contract for **"Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal."** hereinafter referred to as the **"Contract"**.

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

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

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

Article 1: Commitment of the Principal / Owner

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

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

1. It is required that each Bidder / Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the Government / Department all suspected acts of **fraud or corruption or Coercion or Collusion** of which it has knowledge or becomes aware, during the tendering process and throughout the negotiation or award of a contract.
2. The Bidder(s) / Contractor(s) commit 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 (with each tender as per performa enclosed) any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract
3. The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
 4. The Bidder(s) / Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice **means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the Government interests.**
 5. The Bidder(s) / Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his / her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

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

1. If the Bidder (s) / Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate / determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal / Owner. **Such exclusion may be forever or for a limited period as decided by the Principal/Owner.**
2. **Forfeiture of EMD/Performance Guarantee/Security Deposit:**
If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder / Contractor.
3. **Criminal Liability:** If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of Indian Penal code (IPC)/Prevention of Corruption Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

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

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

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

Article 6- Duration of the Pact

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

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

Article 7- Other Provisions

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

Article 8- LEGAL AND PRIOR RIGHTS

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

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

(For and on behalf of Principal/Owner)

(For and on behalf of Bidder/Contractor)

WITNESSES:

- 1. (Signature, name and address)
- 2. (Signature, name and address)

Place: -

Dated: -

निविदा TENDER

मैंने/हमने कार्य के लिए निविदा आमंत्रण सूचना, अनुसूची क,ख,ग,घ, ड., और च, लागू विनिर्देश, नक्शे एवं डिजाइन, सामान्य नियम एवं निर्देश, ठेके के उपबंध, विशिष्ट शर्तों, दर अनुसूची एवं अन्य कागजात तथा ठेके की शर्तों में दिए गए नियम तथा निविदा कागजात में उल्लिखित अन्य बातों को पढ़ व जांच लिया है।

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

मैं/हम, एतत् द्वारा निदेशक, अखिल भारतीय आयुर्विज्ञान संस्थान, भोपाल के लिए अनुसूची 'च' में विनिर्दिष्ट समय के भीतर विनिर्दिष्ट कार्य, यथा-मात्राओं की अनुसूची तथा सभी संबंधित विनिर्देशों, डिजाइनों, नक्शों के अनुरूप तथा सामान्य नियमावली के नियम-1 और ठेके की शर्तों के खंड-11 में उल्लिखित लिखित अनुदेशों एवं ऐसी सामग्रियों, जो प्रदान की जाती है और उसके संबंध में, ऐसी शर्तें जो लागू हों, के अनुरूप निष्पादन हेतु निविदा देता हूँ/देते हैं ।

I/We hereby tender for the execution of the work specified for the Director AIIMS Bhopal 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.

I/We agree to keep the tender open for **Sixty (60) days** from the due date of opening of technical bid and not to make any modification in its terms and conditions.

₹ 15,990/- की धनराशि, धरोहर राशि के रूप में ट्रेजरी चालान रसीद/अनुसूचित बैंक की मांग जमा रसीद/ अनुसूचित बैंक की सावधी जमा रसीद /अनुसूचित बैंक का डिमांड ड्राफ्ट/ अनुसूचित बैंक द्वारा जारी बैंक गारंटी के रूप में इसके साथ भेजी जा रही है। यदि मैं / हम निर्धारित निष्पादन गारंटी को निर्धारित समय अवधि में प्रस्तुत करने में असफल रहते हैं तो मैं/ हम यह मंजूर करते हैं कि निदेशक, अखिल भारतीय आयुर्विज्ञान संस्थान, भोपाल या उनके कार्यालय के उच्चाधिकारी किसी अन्य अधिकार या उपचारी उपाय पर प्रतिकूल प्रभाव डाले बिना उक्त धरोहर राशि जब्त करने के लिए पूर्णतया स्वतंत्र होंगे। इसके अलावा, यदि मैं/हम विनिर्दिष्ट कार्य प्रारंभ करने में असफल रहते हैं तो मैं/ हम यह मंजूर करते हैं कि भारत के राष्ट्रपति या उनके कार्यालय के उच्चाधिकारी कानून में उपलब्ध किसी अन्य अधिकार या उपचारी उपाय पर प्रतिकूल प्रभाव डाले बिना उक्त धरोहर राशि, तथा निष्पादन गारंटी जब्त करने के लिए पूर्णतया स्वतंत्र होंगे अन्यथा उक्त धरोहर राशि निविदा कागजात के अनुसार उसमें निहित शर्तों व निबंधनों के अनुसार कार्यों के निष्पादन एवं आदिष्ट विचलनों को अनुसूची 'च' में वर्णित प्रतिशत से अनधिक व निविदा प्रपत्र के खण्डों 12.2 व 12.3 में निहित प्रावधानों के अनुसार निश्चित की जाने वाली दरों पर उस सीमा से अधिक के विचलनों के करने के लिए उनके द्वारा प्रतिभूति-निपेक्ष के रूप में रोक ली जाएगी। इसके अतिरिक्त मैं/हम सहमत हैं कि बयाना राशि या बयाना राशि तथा उपर्युक्त निष्पादन गारंटी जब्त हो जाने के मामले में मुझे/हमें कार्य की पुनः निविदा प्रक्रिया में भाग लेने से रोक दिया जाएगा।

A sum of ₹15,990/- is hereby forwarded in Cash/ Receipt Treasury Challan/ Deposit at Call Receipt of a Scheduled Bank/ Fixed Deposit Receipts of a Scheduled Bank/ Demand Draft of a Scheduled Bank/ Bank Guarantee issued by a Scheduled Bank as earnest money. A copy of the earnest money in Receipt Treasury Challan/ Deposit at Call Receipt of a Scheduled Bank/ Fixed Deposit Receipts of a Scheduled Bank/ Demand Draft of a Scheduled Bank/ Bank Guarantee issued by a Scheduled Bank is scanned and uploaded (**strike out as the case may be**). If I/We, fail to furnish the prescribed performance guarantee within prescribed period, I/we agree that the said Director AIIMS Bhopal or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be guarantee to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. **Further, I/we agree that in case of forfeiture of earnest money or performance guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.**

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 Deposited / Performance Guarantee.

CORRECTION	NIL	INSERTION	NIL	
CUTTING	NIL	OVERWRITING	NIL	AE(P)
				EE(P)

मैं/हम एतत् द्वारा घोषणा करते हैं कि मैं/हम निविदा कागजातों, नक्शों और कार्य से संबंधित अन्य अभिलेखों को गुप्त/गोपनीय कागजात के रूप में रखेंगे और उनसे प्राप्त/ली गई जानकारी किसी अन्य को, जिन्हें मैं/हम सूचित करने के लिए प्राधिकृत हो, से भिन्न किसी को, नहीं बताएंगे या जानकारी को किसी ऐसे रूप में प्रयोग नहीं करेंगे जो राज्य की सुरक्षा के लिए प्रतिकूल हो।

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 authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

तारीख Dated #.....

ठेकेदार के हस्ताक्षर Signature of Contractor#

डाक का पता Postal Address#

साक्षी Witness : #

पता Address: #

उपजीविका Occupation : #

To be filled in by the contractor/witness as applicable

स्वीकृति ACCEPTANCE

मैं निदेशक, अखिल भारतीय आयुर्विज्ञान संस्थान, भोपाल की ओर से तथा उनके लिए ₹ (रूपए '.....) की राशि के लिए उपर्युक्त निविदा (अधोलिखित पत्रों के अनुसार परिवर्तित) स्वीकार करता हूँ।

The above tender (as modified vide letters mentioned hereunder) is accepted by me for and on behalf of the Director AIIMS Bhopal for a sum of ₹. _____ (Rupees _____)

नीचे दिए गए पत्र इस ठेका करार का हिस्सा होंगे।

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

a)

b)

c)

निदेशक, अखिल भारतीय आयुर्विज्ञान संस्थान, भोपाल की ओर से तथा उनके लिए

For & on behalf of the Director AIIMS Bhopal

हस्ताक्षर Signature

तारीख Dated

पदनाम Designation

PART-B
अनुसूचियां SCHEDULES
[FOR MAJOR (CIVIL) COMPONENT]

अनुसूची 'क' SCHEDULE 'A'
मात्राओं की अनुसूची (संलग्न)

Schedule of quantities (As per PWD-3) (Enclosed)

Page No. **76 To 80 (Civil Work)**

अनुसूची 'ख' SCHEDULE 'B'

टेकेदार की निर्गत की जाने वाली सामग्रियों की अनुसूची

Schedule of materials to be issued to the contractor.

क्रम. सं. S.No.	मद विवरण Description of item	मात्रा Quantity	जिस दर पर सामग्रियां टेकेदार को प्रभारित होगी वह दर अंकों एवं शब्दों में Rates in figures & words at which the material will be charged to the contractor	निर्गत स्थान Place of Issue
1	2	3	4	5
NIL				

अनुसूची 'ग' SCHEDULE 'C'

टेकेदार को भाड़े पर दिए जाने वाले औजार एवं संयंत्र

Tools and plants to be hired to the contractor

क्रम सं. Sl. No.	विवरण Description	भाड़ा प्रभार प्रतिदिन Hire charges per day	निर्गत स्थान Place of Issue
1	2	3	4
NIL			

अनुसूची 'घ' SCHEDULE 'D'

कार्य के लिए विशेष अपेक्षाएं/दस्तावेज, यदि कोई हों, की अतिरिक्त अनुसूची

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

अनुसूची (ड) SCHEDULE 'E'

1. टेके की सामान्य शर्तों का संदर्भ
Reference to General Conditions of contract
General Conditions of Contract for CPWD Works, 2014 as amended up to DG/CON/298 dated 29.09.2017

कार्य का नाम Name of work :

“Modification/ additional work (Civil, Plumbing, electrical and ventilation) in OT located at First Floor, Block 23 at Hospital Building at AIIMS Bhopal.”

कार्य की अनुमानित लागत Estimated cost of work

**Civil : ₹ 4,94,670/-
Electrical : ₹ 3,04,793/-**

Composite Cost : ₹ 7,99,463/-

(i) धरोहर राशि Earnest money:

₹ 15,990/- (To be returned after receiving Performance Guarantee)

(ii) निष्पादन गारंटी Performance guarantee :

5% of tendered value. निविदित मूल्य का 5 प्रतिशत

(iii) प्रतिभूति निक्षेप: Security Deposit:

2.5% of tendered Value

अनुसूची 'च' SCHEDULE 'F'

सामान्य नियम एवं दिशानिर्देश:

General Rules & Directions:

निविदा आमंत्रण करने वाला प्राधिकारी

Officer inviting tender -

कार्य की मर्दों की मात्रा के लिए अधिकतम प्रतिशत जिससे अधिक निष्पादित मर्दों के लिए दरों का निर्धारण खण्ड 12.2 और 12.3 के अनुसार होगा

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.

EE(E), AIIMS Bhopal

निम्नानुसार

see below

2(v) Definitions:

भारसाधक इंजीनियर

Engineer-in-Charge

For Civil Component

Executive Engineer (E), AIIMS Bhopal

2(viii) स्वीकार कर्ता प्राधिकारी

Accepting Authority

S.E. AIIMS Bhopal

2(x) अतिरिक्त और लाभों को पूरा करने के लिए श्रम एवं सामग्रियों की लागत पर प्रतिशतता

Percentage on cost of materials and labour to cover all overheads and profits.

15% (Fifteen per cent)

2(xi) दरों की मानक अनुसूची

Standard schedule of Rates

For Civil:-

Delhi Schedule of Rate 2016(Civil) with correction slips issued up to date of receipt of tender.

2(xii) विभाग

Department

ABEU AIIMS BHOPAL

9(ii) मानक के.लो.नि.वि. टेका फार्म

Standard CPWD contract Form

CPWD Form 7 (Print edition -2014) as modified & corrected up to DG/CON/ 298 dated 29.09.2017

खण्ड Clause 1

- (i) स्वीकृति पत्र जारी होने की तारीख से निष्पादन गारंटी के प्रस्तुतीकरण के लिए अनुमत समय
Time allowed for submission of performance guarantee, programme chart (Time & 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 : 7 days
- (ii) (उपर्युक्त i) में दी गई अवधि के पश्चात् अधिकतम अनुमेय एक्सटेंशन
Maximum allowable extension with late fee @ 0.10% per day of performance guarantee amount beyond the period as provided in (i) above : 7 days

खण्ड Clause 2

खण्ड 2 के तहत प्रतिकार निश्चित करने वाला प्राधिकारी
Authority for fixing compensation under clause 2

Superintending Engineer, AIMS Bhopal

खण्ड Clause 2A

क्या खण्ड 2 क लागू होगा

Whether clause 2A shall be applicable

Yes

खण्ड Clause 5

कार्य आरंभ की तारीख की गणना के लिए स्वीकृति पत्र के जारी होने की तारीख से दिनों की संख्या

No. of days from the date of issue of letter of Acceptance for reckoning date of start

14 days.

Schedule of handing over the site

Available

खण्ड Clause 5.2

Nature of Hindrance Register (either Physical or Electronic)

Physical.

लक्ष्य

नीचे दी गई सारणी के अनुसार

Milestone(s) : - As per Table given below

लक्ष्य (मील-पत्थर) सारणी

Table of milestone(s)

Table of Mile stones:

Sl. No.	Description of Mile stone (Financial)	Time allowed in Months (From date of start) for achieving milestone	Amount to be withheld in case of Non-achievement of each mile stone
1.	FULL	1 Month	5% of composite tender value

NOTE:

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

Time allowed for execution of work : 1 Month

Authority to decide

- (i) Extension of Time : Executive Engineer (E), AIIMS Bhopal
- (ii) Rescheduling of mile stones : Superintending Engineer, AIIMS Bhopal
- (iii) Shifting of date of start in case of delay in handing over of site : Superintending Engineer, Bhopal Central Circle CPWD, Bhopal or his successor

खण्ड Clause 6, 6A

खंड लागू--(6 या 6 क) Clause applicable **6 A**

खण्ड Clause 7

अंतरिम भुगतान के लिए पात्र होने के लिए अंतिम ऐसे भुगतान के बाद कुल भुगतान एकत्रित सामग्रियों के अग्रिमों के समायोजन सहित किया जाने वाला कुल कार्य
 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. 4.00 Lakhs**

खण्ड 7 क Clause7A

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

खण्ड 10 क Clause10A

कार्यस्थल प्रयोगशाला में टेकेदार द्वारा उपलब्ध कराये जाने परीक्षण उपकरण की सूची
 List of testing equipment to be provided by the contractor at site lab. **As required**

खण्ड Clause10B(ii)

क्या खण्ड 10 ख (ii) लागू होगा
 Whether clause 10B (ii) shall be applicable **Yes**

खण्ड Clause10C

Component of labour expressed as Percent of value of work : **25%**

खण्ड Clause10CA

: **NA**

खण्ड Clause10CC

: **NA**

खण्ड Clause 11

कार्य निष्पादन के लिए अनुपालन
 Specifications to be followed for execution of work **For Civil : CPWD Specification 2009, Volume-I & II with correction slips upto date of receipt of tender.**

खण्ड Clause 12 Type of Work
 12.2 & 12.3

Composite Work

विचलन सीमा जिसके परे खण्ड 12.2 तथा 12.3 भवन निर्माण कार्य के लिए लागू होंगे
 Deviation limit beyond which clauses 12.2 & 12.3 shall apply for building work (Other than foundation)

30%

12.5 (i) Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work (except earth work)

30%

12.6 (ii) Deviation limit for items in earth work subhead of DSR or related items

100%

खण्ड Clause 16

घटी हुई दरे निर्धारित करने की लिए सक्षम प्राधिकारी
Competent Authority for deciding
reduced rates

For CIVIL WORK

Superintending Engineer AIIMS Bhopal

खण्ड Clause 18

कार्यस्थल पर ठेकेदार द्वारा लगाये जाने वाली अनिवार्य
मशीनरी औजार एवं सयंत्रों की सूची :-
List of mandatory machines, tools and
plants to be deployed by the contractor at site.

As Required

खण्ड Clause 25

Place of arbitration

To be decided by competent authority at the
time of appointment of Arbitrator.

For Total Claim upto Rs. 25 Lakhs

Designation	Constitution of Dispute Redressal Committee (DRC)
Chairman	Dpty. Director AIIMS Bhopal
Member	F.A. AIIMS Bhopal
Member Secretary	Superintending Engineer AIIMS Bhopal
Presenting Officer	Executive Engineer(E), AIIMS Bhopal Bhopal

For Total Claim above Rs. 25 Lakhs

Designation	Constitution of Dispute Redressal Committee (DRC)
Chairman	Director AIIMS Bhopal
Member Secretary	Dpty. Director AIIMS Bhopal
Member	F.A. AIIMS Bhopal
Presenting Officer	Superintending Engineer,

खण्ड Clause 31

Whether clause 31 shall be applicable

Yes

खण्ड Clause 36(i)

S.NO	Requirement of Technical staff	Nos.	Minimum experience (Years)	Designation of Technical staff	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of Clause 36(i)	
1	Graduate Or Diploma	1+1 (Civil +Elect.)	2 Or 5 respectively	Site Supervisor (Civil/Electrical)	Rs. 15,000/- per month per person	Rs. Fifteen Thousand per month per person

Note:

- 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 company can be treated at par with Graduate Engineers for the purpose of such deployment subject to those diploma holders should not exceed 50% of requirement of degree engineers.

खण्ड Clause 42

I) क)	सीमेन्ट और बिटुमन की अनुमानमूल मात्रा निर्धारित करने के लिए अनुसूची / विवरण	केलोनवि द्वारा मुद्रित दिल्ली दर अनुसूची 2016 के आधार पर
I) (a)	Schedule/statement for determining theoretical quantity of cement & bitumen	On the basis of Delhi Schedule of Rates 2016 printed by C.P.W.D. with correction slips issued up to date of receipt of tender.
II)	अनुमानमूलक मात्राओं में अनुमत्य विचलन Variations permissible on theoretical quantities.	
क)	सीमेन्ट जिन कार्यों के लिए निविदा में अनुमानित मूल्य रु. 5 लाख से अधिक न हो	
a)	Cement for works with estimated cost put to tender not more than Rs. 5 lakhs	Not Applicable
	जिन कार्यों के लिए निविदा में अनुमानित मूल्य रु. 5 लाख से अधिक हो for works with estimated cost put to tender more than Rs. 5 lakhs	2 प्रतिशत जमा / घटा 2 % plus/minus.
ख)	बिटुमन सभी कार्यों के लिए	2.5 प्रतिशत केवल जमा और घटा के पक्ष में शून्य
b)	Bitumen for all works	2.5% plus only & Nil on minus side.
ग)	इस्पात प्रत्येक व्यास, कोट और श्रेणी के लिए पूर्णवर्लन और संरचनात्मक इस्पात काट	2 प्रतिशत जमा / घटा
c)	Steel Reinforcement and structural steel sections for each diameter, section and category.	2% plus/minus
घ)	सभी अन्य सामग्रियां	शून्य
d)	All other materials	Nil.

अनुमत्य विचलन से अधिक की मात्राओं के लिए वसूली दरें
RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

क्रम सं. Sr No.	मद विवरण Description of item	अंको और शब्दों में वह दर जिस पर ठेकेदार से वसूली की जाएगी Rates in figures and words at which recovery shall be made from the Contractor	
		अनुमत्य विचलन से अधिक आधिक्य Excess beyond permissible variation	अनुमत्य विचलन से अधिक उपयोग घटाया Less use beyond the permissible variation
1.	सीमेन्ट Cement	N.A.	Not Permitted
2.	ईस्पात Steel Reinforcement	N.A.	Not Permitted

PARTICULAR SPECIFICATIONS
&
SPECIAL CONDITIONS

1. GENERAL

1.1 Wherever any reference to any Indian Standard Specifications of BIS or other International standards of ASTM / BS/EN occurs in the documents relating to this contract, the same shall be inclusive of all amendments issued there-to or revisions thereof, if any, up to the date of receipt of tenders.

1.2 The contractor shall work according to the programme of work as approved by the Engineer-in-charge, for which purpose, the contractor shall submit a programme of the work within 15 days from the stipulated date of start of the work based on computer software such as MS Project etc. and shall update the same every fortnight.

The contractor shall submit monthly progress report of the work in a computerized form. The progress report shall contain the following, apart from whatever else may be required as specified :

- (i) Project information, giving the broad features of the contract of the work under the contract, and the broad structural or other details.
- (ii) Introduction, giving a brief scope of the work under the contract, and the broad structural or other details.
- (iii) Construction schedule of the various components of the work through a bar chart for the next three quarters (or as may be specified), showing the milestones, targeted tasks and upto date progress.
- (iv) Progress chart of the various components of the work that are planned and achieved, for the month as well as cumulative upto the month, with reasons for deviations, if any, in a tabular format.
- (v) Plant and machinery statement, indicating those deployed in the work, and their working status.
- (vi) Man-power statement, indicating individually the names of all the staff deployed in the work, along with their designations.
- (vii) Financial statement, indicating the broad details of all the running account payments received upto date, such as gross value of work done, advances taken, recoveries effected, amounts withheld, net payments, details of cheque payments received, etc.
- (viii) A statement showing the extra and substituted items submitted by the contractor, and the payments received against them, items pending for sanction/decision by the Department, broad details of the Bank Guarantees, indicating clearly their validity periods, broad details of the insurance policies taken by the contractor, if any, the advances received and adjusted.
- (ix) Progress photographs, in colour, of the various items/components of the work done upto date, to indicate visually the actual progress of the work.
- (x) Quality assurance and quality control tests conducted during the month, with the results thereof.
- (xi) Videography at various stages of construction right from the day of start of work to date of completion/occupation, covering all major events, inspections, visits by dignitaries etc.

1.3 The contractor shall take instructions from the Engineer-in-charge for stacking of materials at site. No excavated earth or building materials shall be stacked on areas where the buildings, roads, services or compound walls are to be constructed.

- 1.4 Unless otherwise provided in the Schedule of quantities, the rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing shall be payable to him on this account.
- 1.5 The working drawings appearing at para 8.1(iii) of conditions of contract in the form CPWD-7/8, shall mean to include both architectural and structural drawings respectively. The structural and architectural drawings shall be properly correlated before executing the work. In case of any difference noticed between architectural and structural drawings, final decision, in writing of the Engineer-in-charge shall be obtained by the contractor before proceeding further.
- 1.6 Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restriction / instructions including issue of identity cards to all persons authorized by him to do work / visit the work site and nothing shall be payable on this account.
- 1.7 The contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the department concerned.
- 1.8 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 contractors, 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 Engineer-in-Charge. The contractor shall be responsible for any damage due to hindrance caused by him.
- 1.9 Cast iron pipes and fittings without ear shall be used. However, pipes and fittings with ears may be accepted without any extra payment. In such cases, clamps are not required and no extra payment shall be made for fixing the pipes in a different manner.
- 1.10 Any cement slurry added over base surface for bond or for continuation of concreting, for protecting reinforcement bars, its cost shall be deemed to have been included in the respective items, unless specified otherwise and nothing extra shall be payable nor extra cement shall be considered in the cement consumption on this account.
- 1.11 Stacking of materials and excavated earth including its disposal shall be done as per the directions of the Engineer-in-Charge. Double handling of materials or excavated earth if required at any stage shall have to be done by the contractor at his own cost.
- 1.12 No claim for idle establishment & labour, machinery & equipments, tools & plants and the like, for any reason whatsoever, shall be admissible during the execution of work as well as after its completion.
- 1.13 Only Star headed Stainless Steel screws shall be used unless otherwise specified.
- 1.14 **Work shall be carried out in professional manner with finished product serving the intended purpose with specified strength, durability and aesthetics.**
- 1.15 Work activities shall be executed in well thought out sequences such that consequent activities not adversely affecting previously done work. Nothing extra shall be payable to protect the works already done.
- 1.16 The contractor shall prepare all the needed shop drawings well in advance and get them approved before placing the order and execution of the item.
- 1.17 The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer - in -Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications.

- 1.18 The contractor shall not store /dump construction material or debris on metalled road.
- 1.19 The contractor shall get prior approval from Engineer-in-charge for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic / inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
- 1.20. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot / area using CGI sheets or plastic and / or other similar material to ensure that no construction material dust fly outside the plot area.
- 1.21 The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes / or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicles are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air / contaminate air.
- 1.22 The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
- 1.23 The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relatable to dust emission.
- 1.24 The contractor shall ensure that C&D waste is transported to the C & D waste site only and due record shall be maintained by the contractor.
- 1.25 The contractor shall compulsory use of wet jet in grinding and stone cutting.
- 1.26 The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
- 1.27 The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
- 1.28 The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
- 1.29 The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
- 1.30 The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
- 1.31 The paving of the path for plying of vehicles carrying construction material is more permanent solution to dust control and suitable for longer duration projects.
- 1.32 The agency is permitted for erect the site office, store yard and ground water extraction facility temporarily near the place of construction free of cost. Contractor shall remove such structures on completion of work.

2.0 FLOORING, SKIRTING, VENEERING, DADO, TREADS & RISERS OF STEPS, JAMBS, SILLS & SOFFITS

- 2.1 Nothing extra shall be payable for using combination of marble, granite and kota in the required pattern at various locations unless otherwise specified.
- 2.2 Flooring in toilets, verandah, kitchen, courtyard and at other places if required shall be laid to the required slope/gradient as per the directions of the Engineer-in-Charge and nothing extra shall be paid on account of the same.
- 2.3 The pattern, spacing and locations of joints shall be as per drawings and direction of the Engineer-in-Charge and nothing extra shall be paid on account of the same.

3.0 SPECIALISED ITEMS

3.1 LIST OF SPECIALISED ITEMS:

1. Water proofing treatment work
2. Laying of granite stone flooring
3. Special foundations including all types of piles.
4. Fibrous plaster ceiling.
5. Acoustic treatment and other decorative items such as glass ceiling.
6. Aluminum doors and windows, aluminum partition.
7. Underground & overhead RCC tank.
8. Guniting, Ready mix concrete.
9. Aluminum composite panel.
10. Swimming pool.
11. Fabrication and erection of space frame including covering with lightweight poly carbonate roofing.
12. Diaphragm walls.
13. Anti-termite chemical treatment.
14. Stainless steel cladding and stainless steel railing.
15. Structural glazing work,
16. Fiber glass doors.
17. Stone works such as:
 - (a) Ashlar stone masonry work.
 - (b) Stone jali work.
 - (c) Italian marble work.
18. Superior water supply fittings such as Jacuzzi steam cabins, cascades, etc.
19. Sensor operated system for flushing.
20. Plumbing with copper/polypropylene pipes using advanced technology for jointing.
21. Textured finishing work.
22. Signage's
23. Wooden flooring
24. Polycarbonate sheet roofing

3.2 Procedure for Execution of the Specialized Items:

Such items should be got executed only through associated agencies specialized in these fields. The contractor shall indicate the name(s) of his associated specialized agencies those fulfilling the conditions described in para 16.5 of CPWD Works Manual-2014 as early as possible and within one month of award of work to Engineer-in-Charge for approval of competent authority.

~~3.3 Specialized Agencies~~

~~3.3.1 **Specialized agencies for ACP & Polycarbonate sheet roofing is one who have satisfactorily completed three works of 40% or two works of 60% or one work of 80% of the cost of corresponding work in last seven years, duly certified by not less than rank of Executive Engineer is to be approved by the competent authority. The contractors shall quote the rates after careful study of contract conditions, specifications, drawings & schedule of quantities.**~~

- ~~3.3.2 It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the Department. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. No extension of time shall be granted and no claim what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.~~
- ~~3.3.3 For specialized items, the main contractor cannot work as a specialized agency unless his name is already included in the list of approved specialized agencies for these items. The contractor shall get these items executed through the specialized agencies as approved by competent authority.~~

3.4 RATES

- 3.4.1 The rates quoted by the Contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers as per drawing supplied by Engineer in charge, working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. Nothing extra shall be payable on this account and no extension of time for completion of work shall be granted on these accounts.
- 3.4.2 The rates quoted by the tenderer, shall be firm and inclusive of all taxes and levies (including works contract tax but excluding service tax).
- 3.4.3 No foreign exchange shall be made available by the Department for importing (purchase) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. No delay and no claim of any kind shall be entertained from the Contractor, on account of variation in the foreign exchange rate.
- 3.4.4 All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (for execution of work and as directed by Engineer-in-Charge), shall be deemed to be included in rates quoted by the Contractor, for various items in the schedule of quantities. Nothing extra shall be payable on these accounts. Before start of the work, the Contractor shall submit to the Engineer-in-Charge, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement & other storage, fabrication yard, site laboratory, water tank etc.

- 3.4.5 For completing the work in time, the Contractor might be required to work in two or more shifts (including night shifts). No claim whatsoever shall be entertained on this account, notwithstanding the fact that the Contractor may have to pay extra amounts for any reason, to the laborers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.
- 3.4.6 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.

3.5 CLEANLINESS OF SITE

The Contractor shall not stack building material / malba / muck/ rubbish on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer-in-Charge, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the Contractor. Nothing extra shall be payable on this account. In case, the Contractor is found stacking the building material / malba as stated above, the Contractor shall be liable to pay the stacking charges / penalty as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. The Engineer –in-Charge shall be at liberty to recover, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the Contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.

3.6 INSPECTION OF WORK

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the senior officers of CPWD in addition of the Engineer-in-Charge and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer-in-Charge or other officers as stated above to visit the works shall have been given to the Contractor, either himself be present to receive the orders and instructions or have a responsible Site Engineer duly accredited in writing, to be present for that purpose Senior Officers of CPWD Authorities shall be inspecting the on-going work at site at any time with or without prior intimation.

3.7 GUARANTEE FOR WATER PROOFING TREATMENT:

The contractor shall give Ten years performance guarantee in the prescribed proforma for the water proofing treatment. In addition 10% (Ten percent) of the cost of water proofing items shall be retained as security, to watch the performance of the work executed. However, half of this amount (withheld) shall be released after five years, after the completion of the work, if no defect comes to notice. If any defect is noticed during the guarantee period, it shall be rectified by the contractor within Seven days after serving the notice by Department and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor. In any case the guaranteeing firms during the guarantee period shall inspect and examine the treatment once every year and make good any defect observed and Certificate to that effect shall be submitted to Department every year. However, the 10 % security deposit referred above can be replaced with bank guarantee of equivalent amount for relevant period.

4.0 ~~Stainless Steel Railing/Handrails:~~

4.1 ~~GENERAL~~

~~The contractor shall apply all materials, labour, tools, ladders, scaffolding and other equipments necessary for the completion and protection of all stainless steel work.~~

4.2 ~~MATERIAL~~

~~All stainless steel pipes and plates shall conform to AISI 304 in 18/8 composition. 18 will be chromium and 8 will be Nickel and carbon content will be 0.03 maximum and the relevant clauses associated with this grade of steel to be followed.~~

4.3 ~~SURFACE FINISH~~

~~Surface finish of all the stainless steel materials will be in 240 grit satin finish / matt finish.~~

4.4 ~~ACCESSORIES~~

~~Fixing will be done by stainless steel expansion bolts of approved size and make as per Engineer in charge and welding to be done by using organ welding rods and the surface being duly finished and cleaned by K2 passivation, which is nitric acid plus florice acid solution treatment by which the chances of corrosion will be eliminated and any burn out makes on the metal will also be eliminated.~~

4.5 ~~COATING MASS~~

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

4.6 ~~MEASUREMENT~~

~~All the stainless steel finished parts shall be weighed correct to a gram and paid on weight basis.~~

4.7 ~~RATE~~

~~The rate shall include the cost of all the materials, machinery and labour involved in all the operations described above including cartage, lifts and all taxes like Sales Tax / VAT, Exeise duty, Octroi etc. as applicable.~~

~~Any incidental additional requirements for execution of this item to the satisfaction of Engineer-in-Charge shall also be treated as included in the item and shown in attached drawing and nothing extra will be paid for such extra work.~~

~~installation drawings for approval of the Engineer in charge in Charge and no work shall be performed until the approval of these drawings is obtained.~~

4.8 CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES / SUB- CONTRACTORS

4.8.1 The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general .The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the Contractor at his own cost and to the entire satisfaction of the Engineer-in-Charge. The Contractor shall use such methodology and equipments for execution of the work, so as to cause minimum environmental pollution of any kind during construction. Further, the Contractor shall take all precautions to abide by the environmental related restrictions imposed by Madhya Pradesh Pollution control board, Govt. of Madhya Pradesh.

Almost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. Therefore, the Tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. Nothing extra shall be payable on this account.

- 4.8.2 The Contractor shall cooperate with and provide the facilities to the sub-Contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the client / user department against any claim(s) arising out of such disputes.
- 4.8.3. The Contractor shall:
- (i) Allow use of scaffolding, toilets, sheds etc.
 - (ii) Properly co-ordinate their work with the work of other Contractors.
 - (iii) Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.
 - (iv) Provide electricity and water at mutually agreed rates.
 - (v) Provide hoist and crane facilities for lifting material at mutually agreed rates.
 - (vi) Co-ordinate with other Contractors for leaving inserts, making chases, alignment of services etc. at site.
 - (vii) Adjust work schedule and site activities in consultation with the Engineer-in-Charge and other Contractors to suit the overall schedule completion.
 - (viii) Resolve the disputes with other Contractors/ sub-contractors amicably and the Engineer-in-Charge shall not be made intermediary or arbitrator.
- 4.8.4 The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines viz. sanitary & water supply, drainage, rain water harvesting, electrical, fire fighting, information technology, communication & electronics and any other services.
- 4.8.5 Other agencies will also simultaneously execute and install the works of sub-station / generating sets, air-conditioning, lifts, etc. for the work and the contractor shall afford necessary facilities for the same. The contractor shall leave such recesses, holes, openings trenches etc. as may be required for such related works (for which inserts, sleeves, brackets, conduits, base plates, clamps etc. shall be supplied free of cost by the department unless otherwise specifically mentioned) and the contractor shall fix the same at time of casting of concrete, stone work and brick work, if required, and nothing extra shall be payable on this account.
- 4.8.6 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 in a proper co -ordination manner and shall perform it in proper sequence to the complete satisfaction of others.

5.0 CONDITION FOR CEMENT:-

~~5.1 The Contractor shall procure 43 grade Ordinary Portland cement (conforming to IS : 8112) or Portland slag cement (conforming to IS : 455) or Portland Pozzolana Cement (PPC) (Fly ash based) conforming to IS : 1489 (Part I) as required in the work, from reputed manufactures of cement such as ACC, Ultratech, Vikram, Shree Cement, Birla Gold, Ambuja & J.K. Cement or from any other reputed cement Manufacturer having a production capacity not less than one million tonnes per annum as approved by ADG for that sub region.~~

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

~~Supply of cement shall be taken in 50 Kg bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer in-charge and got issue in accordance with provisions of relevant BIS codes. 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.~~

~~If Portland Pozzolana cement or Portland slag cement is used, suitable modification in de-shuttering time etc. shall be done if need be as per specifications and standards and as directed by Engineer in charge and nothing extra shall be payable on this account.~~

~~No extra payment / deduction shall be made from the payment to the contractor for using any of the above type of cement.~~

~~5.2 The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer in charge.~~

~~5.3 For each grade / type, cement bags shall be stored in two separate godowns, one for tested cement and the other for fresh cement (under testing) constructed by the contractor at site of work as per sketch shown in General conditions of contract for CPWD works 2014 with weather proof roofs and walls, for which no extra payment shall be made. The size of the cement godown is indicated in the sketch for guidance only. The actual size of godown shall be as per site requirements and as per the direction of the Engineer in charge and nothing extra shall be paid for the same. The decision of the Engineer in charge regarding the capacity required/needed will be final. However, the capacity of each godown shall not be less than 100 tonnes. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with CPWD Engineer in charge or his authorized representative and that of other lock with 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 the parties. The account of daily receipt and issue of cement shall be maintained in a register in the prescribed Performa and signed daily by the contractor or his authorized agent in token of its correctness.~~

~~5.4 The cement shall be got tested by Engineer in Charge and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation cost to testing laboratories. The cost of tests shall be borne by the contractor / **Department in the manner indicated below:**~~

~~(a) **By the contractor, if the results show that the cement does not conform to relevant BIS codes.**~~

~~(b) **By the Department, if the results show that the cement conforms to relevant BIS codes.**~~

~~5.4.1 All other charges of sampling, packing and transportation of sample shall also be borne by the Contractor.~~

~~5.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained separately for each type of cement, as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 42 of the contract and shall be governed by conditions laid therein. However, for consumption lesser beyond permissible theoretical variation recovery shall be made in accordance with conditions of contract at Schedule A to F (CPWD 7), without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be. In case of excess consumption no adjustment shall be made.~~

~~5.6 **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.**~~

6.0 CONDITIONS FOR REINFORCEMENT STEEL :-

6.1 ~~The contractor shall procure TMT bars of Fe 415 / Fe 415D / Fe 500D / Fe 550 / Fe 550D grade from primary producers such as SAIL, Tata Steel Ltd., RINL, Jindal Steel & Power Ltd. and JSW Steel Ltd. or any other producer as approved by CPWD who are using iron ore as the basic raw material / input and having crude steel capacity of 2.0 Million tonne per annum and above.~~

~~In case of non-availability of steel from primary producers, use of TMT reinforcement bars procured from steel producers having integrated steel plants (ISPs) or secondary producers using iron ore as the basic raw material for production of crude steel which is further rolled into finish shapes in house having crude steel capacity of 0.5 million tonne per annum or more will be allowed subject to fulfillment of following conditions:~~

- ~~a. The grade of the steel such as Fe 415 / Fe 415D / Fe 500D / Fe 550 / Fe 550D or other grade to be procured is to be specified as per BIS : 1786 – 2008.~~
- ~~b. The secondary producers must have valid BIS licence to produce HSD bars conforming to IS 1786 : 2008. In addition to BIS licence, the secondary producer must have valid licence from either of the firms Temcore, Thermex, Evcon Turbo & Turbo Quench to produce TMT Bars.~~
- ~~c. The TMT bars procured from primary producers and ISPs shall conform to manufacturer's specifications.~~
- ~~d. The TMT bars procured from secondary producers shall conform to the specifications as laid down by Temcore, Thermex, Evcon, Turbo and Turboquench as the case may be.~~
- ~~e. TMT bars procured either from primary producers, ISPs or secondary producers, the specifications shall meet the provisions of IS 1786 : 2008 pertaining to Fe 415 / Fe 415D / Fe 500D / Fe 550 / Fe 550D or other grade of steel as specified in the tender.~~

6.2 ~~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 (d) & (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 of written orders from the Engineer in Charge to do so.~~

~~**In case contractor is permitted to use 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. 6700/- MT. However, for operation of provisions of clause 10CA in such case, the indices for TMT reinforcement bars of secondary producers will be considered same as for primary producers.**~~
- ~~(ii) **The rate of providing & laying TMT reinforcement bars as quoted by the contractor in the tender shall also be reduced by Rs. 8.00 per kg.**~~

6.3 ~~The steel reinforcement bars shall be brought at site in bulk supply of 25 tones or more as decided by the Engineer in charge.~~

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

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

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

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

6.7. All other charges of sampling, packing and transportation of sample shall also be borne by the Contractor.

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

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

6.9 (i) Reinforcement including authorized spacer bars and lappings shall be measured in length for 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.

(ii) The standard sectional weights referred to shall be as in Table 5.4 in para 5.3.4 in revised CPWD specifications 2009 Vol. I will be considered for conversion of length of various sizes of TMT bars in to standard weight.

(iii) Record 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.

(a) If the derived weight as in sub-para (iii) above is less than the standard weight as in sub-para (ii) above, then the Derived Actual Weight shall be taken for payment.

(b) If the derived actual weight is found more than the standard weight, than standard weight as worked out in sub-para (ii) above shall be taken for payment. Nothing shall be paid extra for the difference in Derived/ Actual Weight and standard weight.

6.10 Every care should be taken to avoid mixing different types of grades of bars in the same structural members as main reinforcement to satisfy relevant clause of IS: 456. In case of buildings, wherever the situation necessitates, the change over shall be permitted only from any one level onwards. In case of foundations, all foundation elements (footings and grade beams) shall have the same kind of steel. In the case of columns, all structural elements up to the level of change, where the change over is taking place should have the same kind of steel as those in columns.

6.11 The reinforcing steel brought to site of work shall be stored on brick / timber platform of 30/40-cm height, nothing extra shall be paid on this account.

7.0 REINFORCED CEMENT CONCRETE WORK

7.1 DESIGN MIX CONCRETE

7.1.1 The RCC work shall be done with Design Mix Concrete unless otherwise specified. In the nomenclature of items wherever letter M has been indicated, the same shall imply for the Design Mix Concrete. For the nominal mix in RCC, CPWD Specifications shall be followed. The Design Mix Concrete will be designed based on the principles given in IS: 456-2000. The contractor shall design mixes for each grade of concrete indicating that the concrete ingredients and proportions will result in concrete mix meeting requirements specified. In case of use of admixture and or white cement, the mix shall be designed with these ingredients as well.

9.1.2 The concrete mix design will be carried out by the contractor through one of the following laboratories / Test houses and ready mix concrete shall conform to accepted design mix. a) MANIT, Bhopal. b) Govt. Engineering College, Vidisha Or C) As per approved RMC plant

9.1.3 In the event of all the above laboratories being unable to carry out the requisite design / testing the contractor shall have to get the same done from any other laboratory with prior approval of the Engineer in Charge.

9.1.4 The contractor shall submit the mix design report from any of above approved laboratories for approval of Engineer in Charge within **time given by Engineer in Charge** from the date of issue of letter of acceptance of the tender.

9.1.5 In case of white Portland cement and the likely use of admixtures where CC/RCC is done with concrete pumps 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.

9.1.6 Each time when there is change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised mix design shall be done and approval obtained from the approved Laboratory or as per the direction of the Engineer in Charge. Preferably only single source of cement shall be kept for the work. In case contractor decides to use more than one source of approved cement brand then for each brand separate design mix shall be done and got approved by Engineer in charge.

9.1.7 The Mix shall be designed to produce the grade of concrete having required workability and characteristic strength not less than as specified.

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

Where,

F_{ck} = Characteristic compressive strength at 28 days.

S= Standard deviation

The standard deviation for each grade of concrete shall be calculated separately.

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

Grade of Concrete	For “Good” quality of control
M 20	4.0
M 25	4.0
M 30	5.0
M 35	5.0

- 9.1.9 ~~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 likely to be attained at 28 days. All cost of mix designing and testing connected therewith including charges payable to laboratory shall be borne by the Contractor.~~
- 9.1.10 ~~The samples of cement, aggregate (fine & coarse) to be sent to the laboratories shall be sealed in the presence of the Engineer in Charge and shall have his signature and cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for Mix design in all cases shall be borne by the contractor.~~
- 9.1.11 ~~Not with standing the approval granted by Engineer in Charge in aforesaid manner, the contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.~~
- 9.1.12 ~~The Engineer in Charge reserves the right to exercise control over the ingredients, water and admixtures, purchased, stored and to be used in the concrete including conducting of tests for checking quality of materials fit or unfit for use in production of mix.~~
- 9.1.13 ~~The Contractor shall submit the test data of the material used for concrete mix design in the laboratories, so the material being used at site can be compared with those data / size etc.~~
- 9.1.14 ~~In case of change of parameters of ingredients (fine aggregate, cement, coarse aggregate) fresh concrete mix design to be done as mentioned in paras 9.1.1, 9.1.2 & 9.1.6 to 9.1.10 above and got approved from the Engineer in Charge before execution.~~
- 9.1.15 ~~The contractor shall make arrangement to install a mini laboratory at site for accelerated testing of design mix concrete as per IS : 9013. The department reserves right to take samples of design mix concrete from the mass production of the concrete for testing and compare with the laboratory's results.~~
- 9.1.16 ~~nothing shall be paid extra for installation and cost of batching plant and other arrangement for making necessary test of design mix concrete.~~
- 9.1.17 ~~The item of design mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, machinery T & P etc. (except shuttering which will be measured & paid for separately) required for a design mix concrete of required strength and workability. **The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like aggregates and admixtures as per the approved mix design.**~~
- 9.1.18 ~~Concrete shall be handled from the place of mixing to the place of final deposit / placement by methods, which prevent segregation, or loss of any ingredients and contamination.~~
- 9.1.19 ~~Where concrete is conveyed by chutes, the chute shall be made of metal or fitted with metal lining. The approval of the Engineer in-charge shall be obtained for the use of chutes in excess of 3 metres length and in such cases the concrete shall be remixed if so required by the Engineer-in-Charge or closed bottom buckets shall be used. If concrete is placed by pumping, the conduit shall be primed properly. Once pumping is started, it shall not be interrupted as far as possible. Concrete shall not be dropped into place from a height more than 1.5m.~~
- 9.1.20 ~~Concreting of any portion of the work shall be done in presence of the representative of the Engineer in Charge and shall be done only after approval of the Engineer in Charge.~~
- 9.1.21 ~~Concreting shall be carried out continuously between constructions joints shown on the drawings or as agreed by the Engineer-in-Charge. The contractor shall closely follow the sequence of concreting where it is specified in the drawings. If concreting is interrupted before reaching the predetermined joint an approved construction joint shall be provided. Construction joints shall be minimized as far as possible. These shall be set at right angles to the general direction of the member. The surface film of the first placed concrete should preferably be removed while the concrete is still green to expose the aggregate and leave a sound irregular surface. However care shall be taken not to disturb the concrete already laid.~~

CORRECTION	NIL	INSERTION	NIL
CUTTING	NIL	OVERWRITING	NIL

- ~~9.1.22 **Admixtures:** Wherever required, admixtures of approved quality only shall be mixed with concrete as specified. The admixtures shall conform to IS: 9103. The chloride content in the admixture shall satisfy the requirements of BS: 5075. The total amount of chlorides in the admixture mixed concrete shall also satisfy the requirements of IS 456 2000.~~
- ~~9.1.23 Use of ready mixed concrete (RMC) may also be permitted, with prior approval of Engineer in Charge, without any extra payment. Separate account of design mix concrete and RMC shall however be kept. The ready mixed concrete shall conform to the requirement of durability, workability and strength as laid down for design mix concrete.~~
- ~~**9.2 Use of Fly Ash and Fly Ash Blended Cements in RCC Structures :-**~~
- ~~**9.2.1. General**~~
- ~~**9.2.1.1 IS : 456 2000 Code of Practice for plain and Reinforced Concrete (as amended up to date) shall be followed in regard to Concrete mix Proportion and its production as under :-**~~
- ~~**9.2.1.1.1** The concrete mix design shall be done as “Design Mix Concrete” as prescribed in clause 9 of IS 456 mentioned above.~~
- ~~**9.2.1.1.2** Concrete shall be manufactured in accordance with clause 10 of above mentioned IS:456 covering quality assurance measures both technical and organizational, which shall also necessarily require a qualified Concrete Technologist to be available during manufacture of concrete for certification of quality of concrete.~~
- ~~**9.2.1.2** Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure.~~
- ~~**9.2.1.3** The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) should not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC. Fly ash when used in the production of concrete shall be strictly in conformity with IS : 3812 (Para 1 & 10).~~
- ~~**9.2.1.4** To control higher rate of carbonation in early ages of concrete both in flyash admixed as well as PPC based concrete, water / binder ratio shall be kept as low as possible, which shall be closely monitored during concrete manufacture. If necessitated due to low water / binder ratio, required workability shall be achieved by use of chloride free chemical admixtures conforming to IS : 9103. The compatibility of chemical admixtures and super plasticizers with each set OPC, flyash and / or PPC received from different sources shall be ensured by trials.~~
- ~~**9.2.1.5** In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In cases, where structural concrete is exposed to excessive magnesium sulphate, flyash substitution / content shall be limited to 18% by weight. Special type of cement with low C3A content may also be alternatively used. Durability criteria like minimum binder content and maximum water / binder ratio also need to be given due consideration in such environment.~~
- ~~**9.2.1.6** Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot and arid regions, the minimum curing period shall be 14 days or its equivalent.~~
- ~~**9.2.2. Use of Flyash Admixed Cement Concrete (FACC) in RCC Structures :-** There shall be no bar on use of FACC in RCC structures subject to following additional conditions :-~~
- ~~**9.2.2.1** Flyash shall have its chemical characteristics and physical requirements etc. conforming to IS : 3812 (Part 10) and shall be duly certified.~~
- ~~**9.2.2.2** To ensure uniform blending of flyash with cement in conformity with IS : 456, a specific facility needs to be created at site with complete computerized automated process control to achieve design quality or with similar facility from Ready Mix concrete (RMC) plants.~~
- ~~**9.2.2.3** As per IS : 1489 (Part I), Maximum 35% of OPC by mass is permitted to be substituted with flyash conforming to IS : 3812 (Part I) and same is reiterated.~~

- ~~9.2.2.4~~ — Separate storage for dry flyash shall be provided. Storage bins or silos shall be weather proof and permit a free flow and efficient discharge of flysh. The filter or dust control system provided in the bins or silos shall be of sufficient size to allow delivery of flyash maintained at specified pressure to prevent undue emission of flyash dust, which may interfere weighing accuracy.
- ~~9.2.3.~~ — **Use of Fly Ash Blended Cements in Cement Concrete (PPCC) in RCC structures**
- ~~9.2.3.1~~ — Subject to General Guidelines detailed out as above, PPC manufactured conforming to IS:1489 (Part I) shall be treated at par with OPC for manufacture of Design Mix Concrete for structural use in RCC.
- ~~9.2.3.2~~ — Till the time, BIS makes it mandatory to print the %age of flyash on each bag of cement, the certificate from the PPC manufacturer indicating the same shall be insisted upon before allowing use of such cements in works.
- ~~9.2.3.3~~ — While using PPC for structural concrete work, no further admixing of fly ash shall be permitted.

10.0 PARTICULAR SPECIFICATIONS FOR AAC BLOCK MASONRY:

- ~~10.1~~ — The AAC Blocks shall be procured from approved manufacturers.
- ~~10.2~~ — The blocks shall be stored at site in stacks on a level dry surface.
- ~~10.3~~ — Deleted.
- ~~10.4~~ — The thickness of joints in the masonry shall not exceed 10 mm and shall be of uniform thickness.
- ~~10.5~~ — Maximum height of wall built on any day shall not be more than 1.2 metres (i.e. 6 layers).
- ~~10.6~~ — The joints in the masonry shall be recessed and no flush pointing shall be done.
- ~~10.7~~ — A slip membrane with PVC sheet shall be introduced as per the recommendation of blocks manufacturer before laying the first course on the plinth beam.
- ~~10.8~~ — The blocks shall not be soaked in water and instead they shall be dipped in water and taken out immediately to have only moist surface.
- ~~10.9~~ — The vertical joints of the masonry shall be broken to have a minimum overlap of 100 mm.
- ~~10.10~~ — Bed joint 2 Nos 6mm dia reinforcement bars may be placed in the joints after every 3rd course in two successive layers as per the recommendation of the manufacturers to have good lateral stability.
- ~~10.11~~ — It shall be ensured that the lintels are rest at either end of window opening only on full block and not on half or part blocks reinforcement shall be placed in the sill course of window openings in two successive horizontal joints and extend the same at least to 600 mm on either side of the jamb surface.
- ~~10.12~~ — At a RCC column interface an MS anchor ("L" shape) may be placed and fixed with screws at every 4th course so as to anchor the wall with RCC column for better lateral stability. The anchor shall be got approved from Engineer in Charge.
- ~~10.13~~ — Curing of the masonry shall be done only by spraying water and no flooding shall be done by water jets / buckets.
- ~~10.14~~ — The chases in the wall surface for electrical conduits shall be done only by means of electrically operated saw to cut two parallel lines and the portion between the cuts shall be chiseled carefully. The depth of vertical chases should be limited to 1/3 rd of wall thickness and horizontal chases should not be more than 1/6th of wall thickness. The chases have to be properly packed with cement mortar 1:4 (1 cement: 4 sand) between pipes and chases.
- ~~10.15~~ — The blocks shall be cut using a carpenter saw to have half blocks or any other suitable size block to close the masonry course or to break the vertical joint from the bottom course. Hammer or a masons trowel shall not be used to cut the blocks.
- ~~10.16~~ — GI wire mesh shall be fixed on all column wall and beams wall junctions before taking up the plaster work.
- ~~10.17~~ — The rates of the item include all the elements described above except para No. 10.10 and 10.16 (These shall be paid separately if executed).

~~11.0 EQUIPMENTS AND PLANTS (Refer Clause 18 of Schedule ‘F’)As Per Site requirement~~

~~11.1 The contractor has to deploy necessary tools & plants as per site requirement to ensure smooth & timely execution of work, at his own cost & risk as per the requirement of work at different stages. The decision of Engineer in Charge shall be final regarding use of particular T&P(s) at a particular time(s) & the contractor has to adhere to the same strictly. The following description & quantum of T&P is given for general guidance which is not mandatory. However, the successful contractor shall give a list of tools and plants which he proposes to deploy to ensure smooth and timely execution as per different milestone fixed and timely completion of work while submitting the programmed and progress chart.~~

~~11.2 To achieve the program of work as per programme the contractor must bring at site the required shuttering materials required for cement concrete and RCC work etc. within 30 days from the date of start of work. All other equipments shall be brought, installed and commissioned at site of work at least one week before their actual planned use at site. Work shop facilities for fabrication/addition and alterations, and other allied works shall be arranged by the contractor at his own cost.~~

~~11.3 The list of equipment/T&P/machinery as per para 11.1 is for general guidance. In addition to these, machinery / equipment as required shall be arranged by the contractor in case the requirement at any stage exceeds as per the programme finalized at his own cost and nothing extra whatsoever on this account shall be paid. This include equipment for arrangement of concrete from RMC producing plants also.~~

~~11.4 All the equipment, T&P and machinery shall be kept in good condition.~~

12.0 SAFETY MEASURES AT CONSTRUCTION SITE

In order to ensure safe construction, following shall be adhered for strict compliance at the site:-

- (i) The work site shall be properly barricaded.
- (ii) Adequate singnages indicating ‘Work in Progress – Inconvenience caused is regretted’ or Diversion Signs shall be put on the sites conspicuously visible to the public even during night hours. These are extremely essential where works are carried out at public places in use by the public.
- (iii) The construction malba at site shall be regularly removed on daily basis.
- (iv) All field officials and the workers must be provided with safety helmets, safety shoes and safety belts.
- (v) Proper MS pipe scaffoldings with work – platforms and easy-access ladders shall be provided at site to avoid accidents.

Necessary First-Aid kit shall be available at the site.

The above provisions shall be followed in addition to the provisions of General Condition of Contract.

13.0 LIST OF EQUIPMENT FOR SITE TO BE MADE AVAILABLE BY THE CONTRACTOR AT HIS OWN COST (Refer Clause 10 A of Schedule ‘F’)

- A. **Field testing instruments.**(Following instruments in sufficient quantity as directed by the Engineer- in- Charge shall be made available by the contractor. It shall be ensured that the instruments always remain in serviceable condition else the same will be replaced.
- (1) Steel tapes – 3 m.
 - (2) Vernier Calipers.
 - (3) Micrometer screw 25 mm gauge.
 - (4) A good quality plumb bob.
 - (5) Spirit level, minimum 30 cms long with 3 bubbles for horizontal vertical.
 - (6) Wire gauge (circular type) disc.
 - (7) Foot rule.
 - (8) Long nylon thread.
 - (9) Rebound hammer for testing concrete
 - (10) Dynamic penetro-meter.
 - (11) Magnifying glass
 - (12) Screw driver 30 cms long
 - (13) Ball pin hammer, 100 gms.
 - (14) Plastic bags for taking samples
 - (15) Moisture meter for timber
 - (16) Earth resistance tests (for Electrical Divisions)
 - (17) Meggar (for Electrical Divisions)
 - (18) Total station

14.0 SPECIFICATIONS FOR FLY ASH BRICKS - All fly ash bricks as brought to the site shall conform to the strength & durability parameters as prescribed in the tender and CPWD specifications.

15.0 The contractor shall submit ‘Method Statement’ for the approval soon after the award of work. ‘Method Statement’ is a statement by which the construction procedures for important activities of construction are stated, checked and approved. Method Statement shall have description of the item with elaborate procedures in steps to implement the same. The specification of the materials involved their testing and acceptance criteria, equipments to be used, precautions to be taken, mode of measurements etc.

16.0 TESTING OF MATERIALS.

16.1 The contractor shall arrange carrying out of all tests required under the agreement through the laboratory as approved by the Engineer-in-Charge and shall bear all charges in connection therewith including fee for testing unless specified otherwise. In all cases cost of samples and to & fro carriage shall be borne by the contractor. Contractor shall establish a laboratory at site of work at his own cost. The laboratory shall be equipped with all necessary equipment as per requirement of specification or as per direction of Engineer-in-Charge. A list of laboratory equipments to be maintained by the contractor is enclosed at para 13 page 49 & 50. Establishing the laboratory at site shall not absolve the contractor from fulfilling the criteria of getting the test done in independent approved laboratories as per DG/MAN/308. The decision of the Engineer-in-Charge of allowing any test in the site laboratory shall be final.

- 16.2 Even ISI marked materials may be subjected to quality test at the discretion of the Engineer-in-charge besides testing of other materials as per the specifications described for the item/material. Whenever ISI marked materials are brought to the site of work the contractor shall, if required by the Engineer-in-charge, furnish manufacturer test certificate or test certificate from approved testing laboratory to establish that the material procured by the contractor for incorporation in the work satisfy the provisions if IS codes relevant to the material and/or the work done.
- 16.3 Sub-standard Material/Work : In case any material/work is found substandard the same shall be rejected by the Engineer-in-Charge and the same shall be removed from the site of work within 48 hour, failing which the same shall be got removed by the Engineer-in-Charge at the risk and cost of the contractor without giving any further notice and time.

17.0 CONDITIONS OF CONTRACT SPECIFIC TO GREEN BUILDING PRACTICES

The contractor shall strictly adhere to the following conditions as part of his contractual obligations:

17.1 SITE

- 17.1.1 The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction .The contractor shall prepare and implement the Erosion and Sedimentation Control Plan (ESCP) provided to him after approval by the Engineer- in- Charge as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan (ESCP) Guidelines if required from the Engineer in Charge and then prepare “working plan” for the following month’s activities as a CAD drawing showing the construction management, staging & ESCP. At no time soil should be allowed to erode away from the site and sediments should be trapped where necessary.
The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractor shall take the clearance of the Engineer in Charge before any excavation. Top soil should be stripped to a depth of 20 cm (centimeters) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention and shall be reapplied to site during plantation of the proposed vegetation or as directed by the engineer in charge. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (millimetre) diameter. The stored top soil may be used as finished grade for planting areas.
- 17.1.2 The Contractor should follow the construction plan as proposed by the Architect / Engineer in Charge to minimize the site disturbance such as soil pollution due to spilling. If required use of staging and spill prevention and control plan to restrict the Spilling of the contaminating material on site needs to be resorted. Protection of top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc., may also be directed by the engineer in charge.
- 17.1.3 No excavated earth shall be removed from the campus unless suggested otherwise by Engineer in Charge. All subsoil shall be reused in backfilling/landscape, etc as per the instructions of the Engineer in Charge. The surplus excavated earth shall be disposed of by the contractor as per the direction of the engineer in charge at his own cost for reuse. A certificate of reuse as required by the Engineer-in-Charge shall be submitted by the contractor.
- 17.1.4 The contractor shall not change the natural gradient of the ground unless specifically instructed by the Engineer in Charge. This shall cover all natural features like water bodies, drainage gullies, slopes, mounds, depressions, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Engineer-in-Charge.
- 17.1.5 The contractor shall not carry out any work which results in the blockage of natural drainage.
- 17.1.6 The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the Engineer-in-Charge.

- 17.1.7 Contractor shall reduce pollution and land development impacts from automobiles use during construction.
- 17.1.8 Overloading of trucks is unlawful and creates the erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering shall be used by the contractor. Also, no overloading shall be permitted.
- 17.2 CONSTRUCTION PHASE AND WORKER FACILITIE
- 17.2.1 The contractor shall specify and limit construction activity in pre-planned/designated areas and shall start construction work after securing the approval for the same from the Engineer in Charge. This shall include areas of construction, storage of materials, and material and personnel movement.
- 17.2.2 Preserve and Protect Landscape during Construction
 - a. The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots. These shall be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash and protected from oil, paint, and other materials detrimental to plant health. These activities shall be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not at all permitted.
 - b. The contractor shall take steps to protect trees or saplings if any identified for preservation within the construction site using tree guards of approved specification.
 - c. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) approved by Engineer in Charge.
 - d. The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (the spread limit of a canopy projected on the ground) of all the trees or group of trees. The zones of movement of heavy equipment, parking, or excessive foot traffic shall be separated from the fenced plant protection zones.
 - e. The contractor shall ensure that maintenance activities during construction period shall be performed as needed to ensure that the vegetation remains healthy.
- 17.2.3 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators, if required, and adopt a construction waste management plan to achieve these goals. A project wide policy of “Nothing leaves the Site” shall be followed. The Contractor’s ingenuity is especially called towards meeting this prerequisite/ credit (as per IGBC LEED India, New Construction v1.0 & GRIHA , MNRE) and may consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation, designating a specific area(s) on the construction site for segregated or commingled collection of recyclable material, and track recycling efforts throughout the construction process, identifying construction haulers and recyclers to handle the designated materials at his cost. The diversion may include donation of materials to charitable organizations and salvage of materials on-site.
- 17.2.4 Contractor shall collect all construction waste generated on site. He may consider at segregating astes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.
- 17.2.5 The contractor shall provide potable water and other amenities for all workers as per the contract.
- 17.2.6 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site as described in CPWD General Conditions of contract. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable provisions. Adequate toilet facilities shall be provided for the workmen within easy access of their place of work. The total no. to be provided shall not be less than 1per 30 employees in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided and natural or artificial illumination shall also be provided.

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

- Clear vegetation only from areas where work will start right away
- Vegetate / mulch areas where vehicles do not ply.
- Apply gravel / landscaping rock to the areas where mulching / paving is impractical
- Identify roads on-site if applicable that would be used for vehicular traffic. Upgrade vehicular roads (if these are unpaved) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base and add surface gravel to reduce source of dust emission to limit amount of fine particles (smaller than 0.075mm) to 10 – 20%
- Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged.
- Water spraying shall be done on:

17.2.7.1 Any dusty materials before transferring, loading and unloading

17.2.7.2 Area where demolition work is being carried out

17.2.7.3 Any un-paved main haul road

17.2.7.4 Areas where excavation or earth moving activities are to be carried out

- The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
- All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
- Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas
- Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area at his cost.
- Provide dust screens, sheeting or netting to scaffold along the perimeter of the building at his cost.
- Cover stockpiles of dusty material with impervious sheeting at his cost.
- Cover dusty load on vehicles by impervious sheeting before they leave the site at his cost.

17.2.8 Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (at a minimum) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program.

17.2.9 The contractor shall ensure that no construction leachate (e.g. cement slurry etc.), is allowed to percolate into the ground. Adequate precautions will be taken to safeguard against this including reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (municipal sewer line).

- 17.2.10 staging (dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time) should be done to separate undisturbed land from land disturbed by construction activity and material storage.
- 17.2.11 The contractor shall comply with the safety procedures, norms and guidelines (as applicable) as outlined in the document Part 7 Constructional practices and safety, 2005, National Building code of India, Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to casualties. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.
- 17.2.12 the contractor shall ensure the following activities for construction workers safety, among other measures at his cost.
 - Guarding all parts of dangerous machinery.
 - Precautionary signs for working on machinery
 - Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
 - Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
 - Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
 - Provide protective equipment; helmets etc.
 - Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
 - Provide sufficient and suitable light for working during night time.
- 17.2.13 The storage of material shall be as per standard good practices as specified in Part 7, Section 2 - Storage, Stacking and Handling practices, NBC 2005 and shall be to the satisfaction of the Engineer in Charge to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipments with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipments at different stages of construction shall be considered.
- 17.2.14 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labeled in both Hindi and English with suitable symbols.
- 17.2.15 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.
- 17.2.15.1 Contractor shall collect & submit the relevant material certificates for materials if directed by the Engineer in charge with high recycled (both post-industrial and post-consumer) content, including materials like RMC mix with fly-ash, glass with recycled content, calcium silicate boards etc.
- 17.2.16 Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork etc.
- 17.2.17 Where possible, the contractor shall select materials / vendors, harvested and manufactured regionally, within a 800-km radius of the project site.
- 17.2.18 Contractor shall adopt an IAQ (Indoor Air Quality) management plan to protect the HVAC system during construction, control pollutant sources, and interrupt pathways for contamination. He shall sequence installation of materials to avoid contamination of absorptive materials such as insulation, carpeting, ceiling tile, and gypsum wallboard. He shall also protect stored on-site or installed absorptive materials from moisture damage.

- 17.2.19 The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. his shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.
- 17.2.20 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (Volatile Organic Compounds) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below in case items of such paints are/is available in schedule of quantities.

Paints

Non-flat - 150 g/L Flat (Mat) - 50, g/L Anti corrosive/ anti rust - 250 g/L

Coatings / Clear wood finishes

Varnish - 350 g/L Lacquer - 550 g/L Floor coatings - 100 g/L Stains - 250 g/L

Sealers

Waterproofing sealer - 250 g/L Sanding sealer - 275 g/L Other sealers - 200 g/L

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

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

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

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

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

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

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

MATERIALS & FIXTURES FOR THE PROJECT

- a) Contractor will produce wherever feasible certificate regarding distance of the source of the relevant material.
- b) Unless otherwise stated cement used at site for reinforced concrete, precast members, mortar, plaster, building blocks, etc shall be PPC (Portland Puzzolana Cement). The PPC must meet the requirements of IS 1489 (Part I) as regards to fly ash content in cement The contractor shall obtain from the PPC manufacturer the certificate regarding fly ash content in the PPC in each batch of consignment.
- c) The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization. Every construction agency engaged in the construction of buildings within a radius of 50 km radius of a Thermal Power Plant, have to use of 100% fly ash based bricks/blocks in their construction.

- d) The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Engineer in Charge before the application of any such material.
- e) All plumbing and sanitary fixtures installed shall be as per the prescription of the Engineer in Charge and shall adhere to the minimum LPM (litres per minute) and LPF (litres per flush) mentioned. The contractor shall employ 100% zero ODP (ozone depletion potential) insulation; HCFC (hydro-chlorofluorocarbon)/ and CFC (chlorofluorocarbon) free HVAC and refrigeration equipments and / halon-free fire suppression and fire extinguishing systems.
- f) The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc do not contain any added urea formaldehyde resin.

17.2.28 RESOURCES CONSUMED DURING CONSTRUCTION

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

17.2.29 CONSTRUCTION WASTE

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

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

17.2.30 Documentation

- a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a monthly basis:
 - i) Water consumption in litres
 - ii) Electricity consumption in ‘kwh’ units
 - iii) Diesel consumption in litres
 - iv) Quantum of waste (volumetric/weight basis) generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.
 - v) Digital photo documentation to demonstrate compliance of safety guidelines as specified here and in the Appendix on Safety Conditions.

- b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer in Charge on a fortnightly basis:
 - i) Quantities of material brought into the site, including the material issued to the contractor by the Engineer in charge.

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

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

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

- d) The contractor shall submit to the Engineer in Charge after construction of the buildings, a detailed as built quantification of the following:
 - i. Total materials used,
 - ii. Total top soil stacked and total reused
 - iii. Total earth excavated
 - iv. Total waste generated,
 - v. Total waste reused,
 - vi. Total water used,
 - vii. Total electricity, and
 - viii. Total diesel consumed.

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

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

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

- h) Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.

- i) The contractor shall, at the end of construction of the buildings, submit to the Engineer in Charge, submit following information, for all material brought to site for construction purposes, including manufacturer’s

certifications, verifying information, and test data, where Specifications sections require data relating to environmental issues including but not limited to:

- i) Source of products: Supplier details and location of the supplier.
 - ii) Project Recyclability: Submit information to assist Owner and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
 - iii) Recycled Content: Submit information regarding product post industrial recycled and post consumer recycled content. Use the “Recycled Content Certification Form”, to be provided by the Commissioning Authority appointed for the Project.
 - v) Product Recyclability: Submit information regarding product and product’s component’s recyclability including potential sources accepting recyclable materials where ever applicable.
- j) Provide final certification of well-managed forest of origin to provide final documentation of certified sustainably harvested status: Acceptable wood “certified sustainably harvested” certifications shall include:
- a) Wood suppliers’ certificate issued by one of the Forest Stewardship Council-accredited certifying agencies;
 - b) Suppliers’ invoice detailing the quantities of certified wood products for project;
 - c) Letter from one of a certifying agency corroborating that the products on the wood supplier’s invoice originate from certified well-managed forests.
- i) Clean tech: Provide pollution clearance certificates from all manufacturers of materials
 - ii) Indoor Air quality and Environmental Issues: Submit emission test data, sourced from the manufacturers, produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific Specification section.
 - a) Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
 - b) Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
 - c) Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.

Provide total support to Engineer in Charge and Green Building Consultants appointed by the Engineer- in-Charge in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor’s letterhead whenever required.

17.2.31 EQUIPMENT

- a) To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the Engineer in Charge.
- b) All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

The contractor is expected to go through all other conditions of the LEED & GRIHA rating stipulations. Failure to adhere to any of the above mentioned items, without approval of the Engineer in Charge, shall be deemed as a violation of contract and the contractor shall be held liable for penalty as per terms of the agreement.

18.1 Formwork for exposed concrete surfaces:-

~~18.1.1 Where it is specifically shown on the drawings to have original fair face finish of concrete surface without any rendering of plastering, formwork shall be carried put by using plywood on steel plates of approved quality.~~

~~18.1.2 The forms shall be constructed so as to produce a uniform and consistent texture and pattern on the face of the concrete. The formwork shall be placed so that all horizontals are constructed of lumber and are not paneled and the formwork joints shall be staggered.~~

~~18.1.3 To achieve a finish which shall be free of board marks, the formwork shall be faced with plywood or equivalent material in large sheets. The sheets shall be arranged in an approved pattern. Whenever possible, joints between sheets shall be arranged to coincide with architectural feature, sills, window heads or change in direction of surface. All joints between panels shall be vertical or horizontal unless otherwise directed. Suitable joints shall be approved between sheets. The joints shall be arranged and fitted so that no blemish or mark is imparted to the finished surfaces.~~

~~18.1.4 Forms for exposed concrete surfaces shall be constructed with grade strips (the underside of which indicate top of pour) at horizontal constructions joints, unless the use of groove strips is specified on the drawings. The reset forms shall be tightened against the concrete so that the forms will not be spread and permit abrupt irregularities or loss of mortar. Supplementary form ties shall be used as necessary to hold the reset forms tight against the concrete.~~

~~18.1.5 For fair faced concrete, the position of through bolts will be restricted and generally as indicated on the drawings.~~

~~18.1.6 Plywood and steel plates used in the formwork for obtaining exposed surfaces shall be got approved from Engineer in Charge on each use. However no forms will be allowed for reuse if it is doubtful to produce desired texture of exposed concrete.~~

~~18.1.7 Cement of only approved shade shall be used preferably of single lot to achieve integrity of texture.~~

18.2 Class of Surface Finish:-

~~18.2.1 for Beams & Slabs:~~

~~———— The finish shall be uniform, dense and smooth. no grout, no grain pattern, no crazing and no major blemishes shall be permitted. Abrupt irregularities not exceeding 3mm and gradual irregularities less than 5mm in 2m length only shall be permitted.~~

~~18.2.2 For Columns/Wall/Fins :~~

~~———— The finish shall be uniform and smooth leveling the surface of the compacted concrete shall be done with a screed board with power floating the surface and over that steel toweling the surface under firm pressure characteristics of finish shall be brush marks < 3mm gradual irregularities less than 10mm in 2m.~~

18.3 Tolerance in Finished Concrete:-

~~The formwork shall be so made as to produce a finished concrete true to shape, lines, level, plumb and dimensions as shown in the drawings subject to the following tolerance unless otherwise specified in this specification or drawings.~~

18.4 WALL/COLUMN/FINS:

~~17.4.1 Variation from the plumb $\pm 6\text{mm}$ Upto 3m height~~

~~18.4.2 Variation from the plumb of $\pm 6\text{mm}$ Upto 6m height
Conspicuous liner~~

~~18.4.3 Variation in the size of $(+)$ 15mm
wall openings $(-)$ 6mm~~

~~18.4.4 Variation in parapet wall thickness
(a) Upto 30cm thickness $\pm 6\text{mm}$~~

18.5 SLAB, BEAM & GIRDER FORMS:

~~18.5.1 Variation from the level or from the specified grid for beam soffit before removal of shores;~~

~~(a) In any 3m $\pm 6\text{mm}$~~

~~(b) In any 6m $\pm 10\text{mm}$~~

~~All the tolerances mentioned above shall apply to concrete dimensions only, and not to positioning of vertical steel or dowels. The tolerances given above are specified for local aberration in the finished concrete surface and should not be taken as tolerance for the entire structure taken as whole for the setting and alignment of formwork. Any error, within the above tolerance limits, or any other if noticed in any of the structure after part or portion stripping of forms, shall be corrected in the subsequent work to bring back the structure to its true line, level and alignment.~~

~~19.0 Ultrasonic pulse velocity method test for RCC as per technical circular No. 18 issued vide CE(CSQ) letter No. G-2/SE(QA)/CSQ/69 dated 12.02.2013 shall be carried out as a routine test to assess the homogeneity and uniformity of concrete. The fulfilling criteria and other conditions shall be as detailed, as per the method stated in the aforesaid circular.~~

(SPECIMEN)**(Ref. para 3.7 of Particular Specifications and Special conditions)****GUARANTEE TO BE EXECUTED BY CONTRACTORS FOR REMOVAL OF DEFECT AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

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

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

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

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

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

- (a) Misuse of roof shall mean any operation which will damage water proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof;
- (b) Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts;
- (c) The decision of the Engineer-in-charge with regard to cause of leakage shall be final.

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

That if **GUARANTOR** fails to execute the water proofing or commits breach thereunder then the **GUARANTOR** will indemnify the Principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the **GUARANTOR** in performance and observance of this supplementary agreement. As to the amount of loss and / or damage and / or cost incurred by the Government the decision of the Engineer – in – Charge will be final and binding on the parties.

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

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

- 1.
- 2.

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

- 1.
- 2.

FORM OF EARNEST MONEY DEPOSIT (BANK GUARANTEE BOND)

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

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

SEALED with the Common Seal of the said Bank this day of20...

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required; OR
 - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor.

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

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

DATE

SIGNATURE OF THE BANK

WITNESS

SEAL

(SIGNATURE, NAME AND ADDRESS)

*Date to be worked out on the basis of validity period of 120 days for two bid system from last date of receipt of tender.

PART - C
अनुसूचियां SCHEDULES
[FOR MINOR (ELECTRICAL) COMPONENT]

अनुसूची 'क' SCHEDULE 'A'
 मात्राओं की अनुसूची (संलग्न)

Schedule of quantities (Enclosed)

Page No. **81 to 82 (Electrical Work)**

अनुसूची 'ख' SCHEDULE 'B'

ठेकेदार की निर्गत की जाने वाली सामग्रियों की अनुसूची

Schedule of materials to be issued to the contractor.

क्रम. सं. S.No.	मद विवरण Description of item	मात्रा Quantity	जिस दर पर सामग्रियां ठेकेदार को प्रभारित होगी वह दर अंकों एवं शब्दों में Rates in figures & words at which the material will be charged to the contractor	निर्गत स्थान Place of Issue
1	2	3	4	5
----- NIL -----				

अनुसूची 'ग' SCHEDULE 'C'

ठेकेदार को भाड़े पर दिए जाने वाले औजार एवं संयंत्र

Tools and plants to be hired to the contractor

क्रम सं. Sl. No.	विवरण Description	भाड़ा प्रभार प्रतिदिन Hire charges per day	निर्गत स्थान Place of Issue
1	2	3	4
NIL			

अनुसूची 'घ' SCHEDULE 'D'

कार्य के लिए विशेष अपेक्षाएं/दस्तावेज, यदि कोई हों, की अतिरिक्त अनुसूची

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

अनुसूची (ड) SCHEDULE 'E'

1.	1. Reference to General Conditions of contract	General Conditions of Contract for CPWD Works, 2014 as amended upto DG/CON/298 dated 29.09.2017
	कार्य की अनुमानित लागत Estimated cost of work	Civil : ₹ 4,94,670/- Electrical : ₹ 3,04,793/-
	(i) धरोहर राशि Earnest money:	Composite Cost : ₹ 7,99,463/- ₹ 15,990/- (To be returned after receiving Performance Guarantee)
	(ii) निष्पादन गारंटी Performance guarantee :	5% of tendered value. निविदित मूल्य का 5 प्रतिशत
	(iii) प्रतिभूति निक्षेप: Security Deposit:	2.5% of tendered Value

अनुसूची 'च' SCHEDULE 'F'

	सामान्य नियम एवं दिशानिर्देश: General Rules & Directions: निविदा आमंत्रण करने वाला प्राधिकारी Officer inviting tender - कार्य की मर्दों की मात्रा के लिए अधिकतम प्रतिशत जिससे अधिक निष्पादित मर्दों के लिए दरों का निर्धारण खण्ड 12.2 और 12.3 के अनुसार होगा 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.	E.E.(E) AIIMS Bhopal निम्नानुसार see below
2(v)	Definitions: भारसाधक इंजीनियर Engineer-in-Charge	E.E.(E) AIIMS Bhopal
2(viii)	स्वीकार कर्ता प्राधिकारी Accepting Authority	S.E. AIIMS Bhopal
2(x)	अतिरिक्त और लाभों को पूरा करने के लिए श्रम एवं सामग्रियों की लागत पर प्रतिशतता Percentage on cost of materials and labour to cover all overheads and profits.	15% (Fifteen per cent)
2(xi)	दरों की मानक अनुसूची Standard schedule of Rates	Delhi Schedule of rate 2016 for internal electrical works and schedule of rate 2016 for External electrical works with correction slips issued upto date of receipt of tender.
2(xii)	विभाग Department	ABEU AIIMS Bhopal
9(ii)	मानक के.लो.नि.वि. ठेका फार्म	As per part A

खण्ड Clause 1

- (i) स्वीकृति पत्र जारी होने की तारीख से निष्पादन गारंटी के प्रस्तुतीकरण के लिए अनुमत समय
Time allowed for submission of performance guarantee from the date of issue of letter of acceptance : Same as Part B
अनुमेष एक्सटेंशन
- Maximum allowable extension with late fee @ 0.10% per day of performance guarantee amount beyond the period as provided in (i) above : Same as Part B

खण्ड Clause 2

खण्ड 2 के तहत प्रतिकार निश्चित करने वाला प्राधिकारी
Authority for fixing : Same as Part B
compensation under clause 2 with recommendation of E.E.(E)

खण्ड Clause 2A

क्या खण्ड 2 क लागू होगा
Whether clause 2A shall be applicable : Same as Part B

खण्ड Clause 5

कार्य आरंभ की तारीख की गणना के लिए स्वीकृति पत्र के जारी होने की तारीख से दिनों की संख्या
No. of days from the date of issue of letter of acceptance for reckoning date of start : Same as Part B

लक्ष्य नीचे दी गई सारणी के अनुसार
Milestone(s) : - as per Table given below

लक्ष्य (मील-पत्थर) सारणी Table of milestone(s) : Same as Part B

कार्य निष्पादित करने के लिए अनुमत समय Time allowed for execution of work	1 (One) Month
Authority to decide	
(i) Extension of Time	Executive Engineer (E), AIIMS Bhopal
(ii) Rescheduling of mile stones	Superintending Engineer, AIIMS Bhopal
(iii) Shifting of date of start in case of delay in handing over of site	Superintending Engineer, AIIMS Bhopal

खण्ड Clause 6, 6A

खंड लागू--(6 या 6 क) Clause applicable **6 A**

खण्ड Clause 7

अंतरिम भुगतान के लिए पात्र होने के लिए अंतिम ऐसे भुगतान के बाद कुल भुगतान एकत्रित सामग्रियों के अग्रियों के समायोजन सहित किया जाने वाला कुल कार्य
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 4.00 Lakhs (Same As Part B)**

खण्ड Clause 7 A

Yes, As part B

खण्ड 10 क Clause10A

कार्यस्थल प्रयोगशाला में टेकेदार द्वारा उपलब्ध कराये जाने
परीक्षण उपकरण की सूची
List of testing equipment to be provided by the
contractor at site lab.

if required

खण्ड Clause10B(ii)

क्या खण्ड 10 ख (ii) लागू होगा
Whether clause 10B (ii) shall be applicable : **Yes**

खण्डClause10C

Component of labour expressed as : **As Per Part B**
Percent of value of work

खण्डClause10CA

: **NA**

खण्डClause10CC

खण्ड 10 गग उन संविदाओं पर लागू होगा जिसमें कार्य
समापन की अवधि, अगले कालम में दर्शाई गई अवधि से
अधिक अनुबंधित है।
Clause 10CC to be applicable in contracts
with stipulated period of compensation
exceeding the period shown in next column : **Not Applicable**

खण्ड Clause 11

कार्य निष्पादन के लिए अनुपालन
Specifications to be followed for execution of work : **For Electrical: CPWD specification for
electrical works Part-I (Internal) 2016, Part-II
(external) 2006 , Part V Wet riser and Sprinkler
2006 and Fire alarm – amended up to date of
receipt of tender.**

खण्ड Clause 12

12.2 & 12.3

विचलन सीमा जिसके परे खण्ड 12.2 तथा 12.3 भवन निर्माण
कार्य के लिए लागू होंगे
Deviation limit beyond which clauses 12.2 & 12.3
shall apply for building work (Other than foundation) : **Same as Part B**

12.5

वह विचलन सीमा जिसके परे खण्ड 12.2 तथा 12.3 नींव
कार्य के लिए लागू होंगे
Deviation limit beyond which clauses 12.2 & 12.3
shall apply for foundation work : **Same as Part B**

खण्ड Clause 16

घटी हुई दरे निर्धारित करने की लिए सक्षम प्राधिकारी
Competent Authority for deciding
reduced rates. **Superintending Engineer AIMS
Bhopal**

खण्ड Clause 18

कार्यस्थल पर टेकेदार द्वारा लगाये जाने वाली अनिवार्य
मशीनरी औजार एवं सयंत्रों की सूची :-
List of mandatory machines, tools and
plants to be deployed by the contractor at site. **As required by Engineer in Charge**

खण्ड Clause 25

As per Part B

खण्ड Clause 31

Whether clause 31 shall be applicable **As per Part B**

खण्ड Clause 36(i)

As per Part B

खण्ड Clause 42

(Not applicable for Electrical works)

SPECIAL CONDITIONS FOR ELECTRICAL WORKS i.e. ELECTRICAL INSTALLATION FOR COMPOSITE TENDERS

1. In case the main contractor is himself eligible for sale of tender for the specific electrical component (Electrical Installation) and intends doing the job himself, he may not associate agency for the specific electrical component
2. Main agency shall have to submit credential of the proposed associated agencies for verification and approval of the department in Performa at Annexure I. Consent letter of such selected agencies for association shall also be enclosed in the prescribed format (Annexure-II). Main agency may propose up to three names of eligible associates.
3. After obtaining concurrence of department for such association, the main agency shall finalize one associate for execution of the electrical installation /down comer component of the work. The main contractor has to enter into agreement with the contractor associated by him for execution of minor component. Copy of such agreement shall be submitted to EE (E) in charge of electrical component for approval by competent authority as well as to EE(E) in charge of major component. (As per Annexure - III)
4. All technical discussions shall be attended by the associate agency and the main agency. Commercial / Technical submissions for the electrical works shall be signed and submitted by the associate agency along with the main agency.
5. Price-bid for electrical component shall be submitted by the main agency.
6. Award of work shall be made by the Engineer-in-charge of the major component to the main agency for complete work.
7. The main contractor shall be entirely responsible and answerable for all the works done by his associated electrical contractor regarding their quality, adherence to the laid down specification, terms and conditions, warranty/guarantee etc and he shall be liable to bear any compensation that may be levied by the department under any of the clauses of the agreement.
8. The manufacturer's guarantee/warranty for all the electrical accessories shall be for minimum period for 12 months from the date of taking over of the installation by the department. Necessary documents of handing / taking over of the installation will be duly signed by the three parties namely EE (E) the main contractor and the associate contractor. The main contractor will ensure that the maintenance during the guarantee period shall also be carried out by the associate electrical contractor. one year guarantee is to be provided free of cost as per item in the schedule of quantity.
9. The main contractor shall also give necessary general power of attorney under the contract to the associated electrical contractor to enable him to receive instructions from electrical engineers of the department at site, sign the site order book, bills MBs for acceptance of measurement and receive stipulated materials etc.
10. The main contractor shall be responsible for coordinating the activities of all the works and will ensure progress of all works as per the laid down program. The main contractor shall also arrange for proper storage of the electrical accessories at site and will be responsible for their watch and ward.
11. Associate electrical agency shall submit the fortnightly labour report. Material for use at work shall be procured by the electrical agency. For this purpose invoice / delivery challan shall be submitted to the department by the associate agency.
12. Sample of materials like conduits wires, of each size to be tested in the laboratory approved by Engineer - in charge, nothing shall be paid on this account; testing fees etc. shall be paid by the contractor.
13. Materials like switch sockets boards MCB DB wire conduits MCB box raceway shall be approved by Engineer-In-Charge before use at site.

14. Fish wire shall be provided in each conduit where wiring is not carried out.
15. Extra item substitute item deviation etc. shall be carried out only with written permission of competent authority.
16. For power wiring/computer point wiring GI box of 6/8 module shall be in horizontal pattern only.

17 For Composite Tenders

17.1.1 The Executive Engineer in charge of the major work will call tenders for the composite work. The cost of tender document and Earnest money will be fixed with respect to the combined estimated cost put to tender for the composite tender.

17.1.2 The tender document will include following three components:

Part -A : CPWD - 6, CPWD-7/8 including schedule A to F for the major component of the work, Standard General conditions of Contract for CPWD 2014 amended / modified upto last date of receipt of tender or latest edition as applicable with all amendments / modifications up to last date of receipt of tender.

Part -B : General / specific conditions, specifications and schedule of quantities applicable to major component of the work.

Part-C : Schedule Package B for minor component of the work (SE/EE in charge of Work shall also be competent authority under clause 2 and clause 5 as mentioned in schedule A to F for major components) General / specific conditions, specifications and schedule of quantities applicable to minor component(s) of the work.

17.1.3 The tenderer must associate with himself, agencies of the appropriate class or experience eligible to tender for each of the minor component individually.

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

17.1.5 After acceptance of the tender by competent authority, the EE in charge of the work shall issue letter of award on behalf of the President of India.

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

17.1.7 The main contractor has to associate agency(s) for minor component(s) conforming to eligibility criteria as defined below and has to submit detail of such agency(s) to Engineer-in-charge within 15 days of award of work. Name of the agency(s) to be associated shall be approved by Executive Engineer(E) of minor component(s) .

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

17.1.9 The main contractor has to enter into agreement with contractor(s) associated by him for execution of minor component(s). Copy of such agreement shall be submitted to EE. In case of change of associate contractor, the main contractor has to enter into agreement with the new contractor associated by him.

17.1.10 It will be obligatory on the part of the firm/ agency to sign the tender documents for all components before the first payment is released.

Annexure I**PROPOSAL FOR ASSOCIATING ELECTRICAL AGENCIES for ELECTEICAL INSTALLATION,
AND DOWN COMER**

We hereby propose the following electrical agencies as per details mentioned against each. Their consent letters are also attached as per Annexure II

S No.	Name of electrical contractor/ Firm	Category and class of registration in CPWD/ Work experience	Registration No.	Monetary limit of work	Validity of registration	Consent letter attached (yes/No)
1.						
2.						
3.						

Note :- A copy of registration order/ Work experience shall be attached for each agency.

Contractor's signature

Annexure II**CONSENT LETTER**

I/We hereby give my/ our consent to work as electrical contractor till the completion of work and I/we will be responsible for necessary action to hand over the work and for rectification of defects and repair during the maintenance period. I/we will execute the work as per CPWD specification and addition conditions of the works.

I/we will also engage suitable Engineer for the work as per condition of work. I further certify that the above particulars pertaining to me are correct.

Signature of Electrical contractor

Memorandum of understanding

Rs. 100/- Non-judicial stamp

This Memorandum of Understanding (MOU) is made on the _____ at _____

Between

M/s _____ (Main Contractor) having his registered office at _____ which expression shall unless repugnant to the subject or context include its administrators, successors and assigns.

And

M/s _____ (Associate contractor) registered in AIIMS as class : _____ Electrical contractor and having his registered office at _____ which expression shall unless repugnant to the subject or context include its administrators, successors and assign.

Whereas, the ABEU , have issued tender papers to quote for the following work to M/s _____(Main Contractor).

Name of work :

Whereas, This Memorandum of Understanding has been entered into to execute the above work by the Main Contractor and Associate Contractor.

Whereas, both the parties have gone through and understood the various conditions and clauses of the tender and willingly agree to abide by them.

This MOU shall be valid till the duration of completion of above work and shall be extended if so required by the AIIMS.

Now, therefore it is agreed between the parties here to as follows :-

- 1 :- The associated electrical contractor shall completely execute, perform and do all the works mentioned and described in the main agreement for its electrical components according to the specifications, terms and conditions etc. of the main agreement.
- 2 :- The associated electrical contractor shall execute and complete the works in all respect up to full satisfaction of the CPWD officers and attend to them during their inspection at site, meetings etc., whenever required by the CPWD officers.
- 3 :- The cost of electrical works executed by the associated electrical contractor will include the cost of all the materials, accessories, equipments, tools & plants, laborers technical persons required etc. in all respect.
- 4 :- The associated electrical contractor is responsible for getting recorded measurements and preparation, submissions & pursuance of payment of the bills of the work done for electrical portion of the main agreement.
- 5 :- **The rate will be as per the schedule enclosed.**
- 6 :- The Quantity will be as per actual measurement as received from AIIMS to main contractor and the rate will be as per the mutually agreed.
- 7 :- The payment to associate contractor will be released after the payment to main contractor is made by the AIIMS.
- 8 :- The technical staff required for the associate discipline shall be of associate contractor.

- 9 :- The guarantee of the installation after the completion of the work shall be responsibility of the associate electrical contractor as required by the AIIMS.
- 10 :- There is no service tax liability; work being related to the construction of the Central Govt. Deptt. However, if any liability of the service tax is imposed on the associated electrical contractor then it will be paid by main contractor.
- 11 :- Either party shall not repudiate the contract in mid way without the consent of each other. Otherwise it will be treated as breach of agreement for any reason whatsoever.
- 12 :- The main agency shall be solely responsible for deferment & rescheduling of each milestone fixed as per contract documents and in such eventuality, the consequences arising out of the same rests on main agency.
- 13 :- The main contractor only shall be responsible for getting extension of delay regularized and liability what so ever flowing out shall lies with them. There shall be no direct or indirect impact on associate contractor.
- 14 :- TDS shall be deducted by the main contractor as per Income Tax law from associated agency. In case liability of tax other than Income Tax(Such as vat, service tax, or any other mechanism formed) is levied on associated contractor then the main agency will reimburse it in full to associated agency.
- 15 :- The associated contractor shall be bound to execute work upto a deviation limit of 30% in quantities of items of work at the agreement rate. Beyond deviation limit the rates will be decided by main & Associated contractor on mutually agreed basis.
- 16 :- For the items such as extra items, substitute items and new items other than the items of main agreement, if any incorporated in the work, then the main contractor shall pay the full amount so approved to the associate contractor.
- 17 :- The validity of rates shall be _____ months after finalization & acceptance of MOU by the competent authority.
- 18 :- In case main contractor delays the payment to associated contractor after the payment is released by department to the main contractor then on receipt of delay in payment from associate contractor the CPWD shall directly make the payment to associated contractor.
- 19 :- The main contractor shall at their cost provide necessary requisite arrangement for storage of material.
- 20 :- Sand & cement used in the electrical work shall be provide by main contractor.
- 21 :- Security Deposit as deducted by the AIIMS will be reimbursed by main contractor to associate contractor. However associated electrical contractor will deposit 2 ½ % of Agreement amount of Rs. _____ in shape of FDR towards S/D to be retained by main contractor which will refunded to electrical contractor after completion of electrical work.
- 22 :- The Income tax, Commercial tax and labour cess tax deducted by the AIIMS from the bills of electrical work shall be reimbursed by the main contractor in favour of the associated electrical contractor accordingly.

In witness whereof we have put our hand seal on date _____.

Enclose :- Schedule of rates.

Signature
(Associate Contractor)
Address : _____

Signature
(Major Contractor)
Address : _____

GENERAL TERMS AND CONDITIONS
APPLICABLE FOR ALL E&M COMPONENTS

1. GENERAL

The work shall be generally carried out in accordance with tender/bid specifications and the following specifications / rules.

- a) CPWD General Specifications for Electrical work Part I Internal – 2013, as amended upto date
- b) CPWD General Specifications for Electrical work Part II External - 1995, as amended upto date
- c) Commercial and Additional conditions for this work.
- d) The Indian Electricity Act, 2003, as amended upto date
- e) Indian Electricity Rules 1956 amended upto date

Order of Preference:

Should there be any difference or discrepancy between the description of items as given in the Schedule of Quantities, technical specifications for individual items of work (including additional and commercial conditions) and IS Codes etc., the following order of preference shall be followed:

- a) Schedule of quantities
- b) Commercial and Additional conditions for this work
- c) General Conditions of Contract for CPWD Works
- d) CPWD General Specifications
- e) Relevant IS or any other International code in case IS code is not available.

These Commercial and Additional conditions are to be read in conjunction with above and in case of variations, specifications given in these additional conditions shall apply. However, nothing extra shall be paid on account of these additional specifications and conditions, as the same are to be read along with schedule of quantities for the work.

This specification covers manufacture, testing as may be necessary before dispatch, delivery at site, all preparatory work, assembly and installation, commissioning putting into operation of equipment of all E&M components of the tender

The tenderer should in his own interest visit the site and get familiarize with the site conditions before tendering.

No T &P shall be issued by the Department and nothing extra shall be paid on account of this.

2. COMMERCIAL CONDITIONS

Type of Contract: The work to be awarded by this tender shall be treated as indivisible works contract.

- 3. Income tax, work contract tax, labour cess & other statutory deductions etc. shall be made at source as per the prevalent laws. The deductions of Security Deposit, Income-Tax, Works Contract Tax etc. shall be done after calculation of the due payments and net payment shall be reduced accordingly.

4. RATES

4.1 The rates quoted by the tenderer, shall be firm and inclusive of all taxes (including works contract tax, labour cess), duties levies, octroi etc. and all charges for packing forwarding, insurance, freight and delivery, installation, testing, commissioning etc. at site including temporary construction of storage, risks, over head charges, general liabilities/obligations and excluding Service Tax. However EPF and ESIC shall be initially paid by the contractor and shall be reimbursed to him by the department after verification of payment receipts etc.

4.2 The department will not issue Octroi exemption certificate.

4.3 The contractor has to carry out preventive maintenance and service as per manufacturer's standards for a period of 12 months from the date of handing over. Nothing extra shall be paid on this account.

4.4 In case the same item appears more than once in the schedule of work under the same sub head or among the different subhead of works, the lowest rate quoted for that item elsewhere shall be considered for other items also during evaluation of tender.

5. COMPLETENESS OF TENDER

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

6. STORAGE AND CUSTODY OF MATERIALS

The space, if available, may be used for storage of sundry materials and erection equipments or else the agency has to make his own arrangements. No separate storage accommodation shall be provided by the department. Watch and ward of the stores and their safe custody shall be the responsibility of the contractor till the final taking over of the installation by the department.

7. CARE OF THE BUILDING:

Care shall be taken by the contractor while handling and installing the various equipments and components of the work to avoid damage to the building. 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 cost all unwanted and waste materials arising out of the installation from the site of work. 8

8. COMPLETION PERIOD

The completion period indicated in the tender documents is for the entire work of planning, designing, approval of drawings etc., arrangement of materials & equipments, delivery at site including transportation, installation, testing, commissioning and handing over of the entire system to the satisfaction of the Engineer-in-charge.

9. GUARANTEE

9.1 All equipments shall be guaranteed for a period of 12 months, from the date of taking over the installation by the department, against unsatisfactory performance and/or breakdown due to defective design, workmanship or material. The equipments or components, or any part thereof, so found defective during guarantee period shall be forthwith 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 & binding on the contractor.

9.2 The tender shall guarantee among other things, the following:

- a. Quality, strength and performance of the materials used as per manufacturers standards.

CORRECTION	NIL	INSERTION	NIL	
CUTTING	NIL	OVERWRITING	NIL	AE(P) EE(P)

- b. Safe mechanical and electrical stress on all parts under all specified conditions of operation.
- c. Satisfactory operation during the maintenance period.

9.3 Testing of quality of Treated Water from STP. The quality of filtered water from the sewage treatment plant shall be got checked for characteristics like P.H, BOD, COD, TSS Oil and grease, Hardness, NH4-N, N- total and Feccal Coliform etc., Water quality analysis shall be got done at the time of commissioning of the STP and subsequently at least once in three months by the contractor or as decided by the Engineer-in-charge from State/ Central Government owned Public Health Care Departments or boards/ Pollution Control boards/ or Government testing laboratories during the defect liability period and Comprehensive maintenance contract period. The contractor shall make all arrangements for the testing which include collection of samples, sending samples and collection of reports etc., The expenditure incurred for such tests during initial commissioning and during the defect liability period are not reimbursable. However, the fee paid for testing during Comprehensive maintenance contract period shall be reimbursed to the contractor on submission of the receipt of lab. The reports and the record of such tests shall be maintained and shall be handed over to the department.

10. POWER SUPPLY:

The contractor has to make his own arrangement for power supply required for execution of the work.

11. WATER SUPPLY:

The contractor has to make his own arrangement for water supply required for execution of the work.

12. PREFERRED MAKES OF VARIOUS EQUIPMENTS:

The preferred makes of various equipments/components/accessories have been indicated in "Preferred Makes" in appendix attached with the tender documents. The tenderer shall work out the cost of the offer on this basis. Any other makes are not acceptable.

13. DATA MANUAL AND DRAWINGS TO BE FURNISHED BY THE TENDERER:

13.1 After award of work

The successful tenderer would be required to submit the following drawings after award of work for approval before commencement of installation.

- a) General arrangement drawing of all equipments of E&M components as per individual E&M component
- b) Details of foundations for the equipments and the weights of assembled equipments.
- c) Dimensions and position of all tanks viz. Equalisation tank, MBBR/ FAB/ FMR tank, Tube settler, Sludge tank, Treated water tank etc., for construction by civil contractor.
- d) Any other drawings necessary for the job.

14. The successful tenderer should furnish well in advance three copies of detailed instructions and manuals of manufacturers for all items of equipments regarding installation, adjustments operation and maintenance including preventive maintenance & trouble shooting together with all the relevant data sheets, spare parts catalogue etc. all in triplicate.

15. EXTENT OF WORK

15.1 The work shall comprise of entire labour including supervision and all materials necessary to make a complete installation and such tests and adjustments and commissioning, as may be required by the department. The term complete installation shall not only mean major items of the plant and equipments covered by specifications but all incidental sundry components necessary for complete execution and satisfactory performance of installation with all layout charts whether or not those have been mentioned in details in the tender document in connection with this contract .

CORRECTION	<u> NIL </u>	INSERTION	<u> NIL </u>	
CUTTING	<u> NIL </u>	OVERWRITING	<u> NIL </u>	AE(P) EE(P)

15.2 The cables and other items shall be brought at site after taking correct measurements

15.3 In addition to supply, installation, testing and commissioning, of all E&M equipment, following works shall be deemed to be included within the scope of work to be executed by the tenderer of this job.

- a) Minor building works necessary for installation of equipments, foundation, making of opening in walls or in floors and restoring them to their original condition finish and necessary grouting etc. as required.
- b) All necessary supports may be arranged.
- c) Testing of PTs/CTs for metering & protection purpose & relay calibration & setting.

16. Exclusion and work to be done by other agencies:

The following shall be excluded from the scope of the work:

- a) Major dismantling of any existing building work.
- b) Electricity supply in sub-station building.

17. COMPLIANCE WITH REGULATIONS AND INDIAN STANDARDS:

17.1 All works shall be carried out in accordance with relevant regulation, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular, the equipment and installation will comply with the following:

- i) Factories Act.
- ii) Indian Electricity Rules.
- iii) B.I.S. & other standards as applicable.
- iv) Workmen's compensation Act.
- v) Statutory norms prescribed by local bodies like ,MPPCB,CEA, Power Supply Co., etc.

17.2 Before execution contractor submit the design & drawing before design contractor take the influent 4 to 5 sample in alternate day and send the laboratory and as per report be take input design data.

17.3 Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

18. INDEMNITY:

The successful tenderer shall at all times indemnify the department, consequent on this works contract. The successful tenderer shall be liable, in accordance with the Indian Law and Regulations for any accident occurring due to any cause and the contractor shall be responsible for any accident or damage incurred or claims arising there from during the period of erection, construction and putting into operation the equipments and ancillary equipment under the supervision of the successful tenderer in so far as the latter is responsible. The successful tenderer shall also provide all insurance including third party insurance as may be necessary to cover the risk. No extra payment would be made to the successful tenderer on account of the above.

19. ERECTION TOOLS:

No tools and tackles either for unloading or for shifting the equipments for erection purposes would be made available by the department. The successful tenderer shall make his own arrangement for all these facilities.

20. COOPERATION WITH OTHER AGENCIES:

The successful tenderer shall co-ordinate with other contractors and agencies engaged in the construction of buildings, if any, and exchange freely all technical information so as to make the execution of this work/contract smooth. No remuneration should be claimed from the department for such technical cooperation. If any unreasonable hindrance is caused to other agencies and any completed portion of the work has to be dismantled and re-done for want of cooperation and coordination by the tenderer during the course of work, such expenditure incurred will be recovered from the successful tenderer if the restoration work to the original condition or specification of the dismantled portion of the work was not undertaken by the tenderer himself.

CORRECTION	NIL	INSERTION	NIL	
CUTTING	NIL	OVERWRITING	NIL	AE(P) EE(P)

21. The work will be carried out with least disturbance during shifting & shut down taken in consultation with the client department.

22. INSURANCE AND STORAGE:

All consignments are to be duly insured upto the destination from warehouse at the cost of the contractor. The insurance covers shall be valid till the equipment is handed over duly installed, tested and commissioned.

23. VERIFICATION OF CORRECTNESS OF EQUIPMENT AT DESTINATION:

The contractor shall have to produce all the relevant records to certify that the genuine equipments from the manufacturers has been supplied and erected.

24. PAINTING:

This shall include cost of painting of the entire installation. The major equipments like HT panel, transformers, L T panel, bus duct, cable trays etc. shall be factory final finish painted. The agency shall be required to do only touching to the damages caused to the painting during transportation, handling & installation at site, if there is no major damage to the painting. However hangers, supports etc. of bus trunking & cable tray etc. shall be painted with required shade including painting with two coats of anticorrosive primer paint at site.

25. TRAINING:

The scope of works includes the on job technical training of four to six persons of client Department at site. Nothing extra shall be payable on this account.

26. MAINTENANCE:

Sufficient trained and experienced staff shall be made available to meet any exigency of work during the guarantee period of one year from the handing over of the installation. The maintenance, routine as well as preventive, for one year from the date of taking over the installation as per manufacturer’s recommendations shall be carried out as per OEM standards.

27. Approval of drawings, makes and models of equipment/materials for all E&M components :

27.1 The agency shall submit drawings and details such as makes and models of the equipments/materials offered by him along with specifications for all E&M components to the Engineer-in-charge of the work, before ordering the equipment/materials for approval of the department.

27.2 The Engineer-in-charge shall scrutinize the proposal and approve the makes and models which are acceptable as per the schedule, specifications, conditions of the agreement and inform the agency for procurement.

27.3 After approval of the equipment/materials by the department, the agency shall procure the equipment/materials from the OEM/authorized distributor/dealer as the case may be:

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

- i. Material will be ordered & delivered at site only with the prior approval of the department to ensure timely delivery.
- ii. As and when the order is placed for the fittings/ fixtures, cables, switchgears, poles, other main items etc, its copy shall be endorsed to the CPWD Engineer-in-charge.
- iii. Inspection at factory or at godown, if required, shall be arranged by the firm for a mutually agreed date.
- 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.
- vi. All the materials to be supplied by the contractor shall be procured & brought to site as per requirement at site of work in consultation with department so that these materials are not damaged & their manufacturer’s warrantee is not lost.

CORRECTION	NIL	INSERTION	NIL	
CUTTING	NIL	OVERWRITING	NIL	AE(P) EE(P)

29. Safety Codes & Statutory Regulations:

a. Nothing in this specification shall be construed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulations and safety codes.

b. Successful tenderer shall arrange for compliance with statutory provisions of safety regulations and departmental requirements of safety codes in respect of labour employed on the work by the tenderer. Failure to provide such safety requirement would make the tenderer liable for penalty of Rs.1000/- for each default. In addition, the department will be at liberty to make arrangement for the safety requirements at the cost of tenderer and recover the cost thereof from him.

LIST OF APPROVED MATERIALS (CIVIL)

Note:

1. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials attached in the tender, shall be used in the work.
2. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.
3. Whenever the specified brand of material is not available than, the Engineer-in-charge may approve any material equivalent to that specified subject to proof being offered by the Contractor for its equivalence and its non-availability to his satisfaction.

CIVIL WORK		
1	Cement	ACC. (Associated cement co.)/ L&T/ Gujrat Ambuja Cement/ Birla Corp. Ltd. (Cement Divn)/ J.K. Cement/ Jaypee Rewa Cement/ Grasim Cement/ Shree Cement/ Lakshmi Cement/ Century/ Laffarge/ Prism/ India Cement/ Bangur
2	Ready Mix Concrete	Lafarge/ Birla/ ACC/ Godrej/ Unitech (RMC) Ltd./ L&T/ Coromandal/ Computerized BMC plant by contractor.
3	Reinforcement steel	SAIL/ Rashtriya Ispat Nigam Ltd./ TISCO/ IISCO
4	Concrete Additive	Sika/ STP/ CICO/ Pidlite/ Fosroc/ Fairmate/ MC Bouchmie/ Choksey
5	Adhesive for door work	Fevicol/ Vamicol/ Dunlop
6	Door Lock	Godrej/ Harrison/ Link/ Dorma
7	Flush Door Shutters	Duro/ Greenply/ Century
8	Hardware	Arkay/ Godrej/ D-Line/ Carl-F/ RK/ Everlite/ Earl Bihari
9	Laminates	Duro/ Century/ Greenlam/ Formica/ Decolam/
10	Plywood/ Blockboard/veneered Particle Board	Duro/ Greenply/ Century/ Kiply/ Greenlam/Novapan/ Marrino/ Greenply/ Euro/ National/ Anchor
11	Stainless Steel D-Handles	D-Line/ Giesse/ Dorma
12	Ceramic Tiles	Johnson/ Somany/ Kajaria/ Spartek/ Nitco/ Orient/ Bell Ceramics
13	Ceramic Tiles Adhesive	Cico/ Bell/ Pidilite/ Bal Endura/ BASF/ SIKA
14	Compressed Chequered tiles	Johnson/ Somany/ Kajaria/ Spartek/ Nitco/ Orient/ Bell Ceramics
15	Glazed Tiles	Bell/ Somany/Johnson/Kajaria/Cera/Spartek/Orient
16	Vitrified Tiles	Nitco/ Naveen/ Bell/ HR Johnson/ Kajaria/ Somany/ Euro Faus/ Scheit/ kaind/ Nitco/ Euro/ Pargo
17	Water Proofing	Shalimar Tar Products/ M/s IWL (india) Ltd. / M/s Lloyd Insulation India Ltd. / M/s Chemisol Adhesive Pvt. Ltd./ Mumbai (Chemistik) Texas Ltd./ Fosroc/ Sika/ Cico/ MC Boucheme
18	Clear Glass/ Clear Float Glass/ Toughened Glass	Modi/ Saint Gobain (SG)/ Asahi India Safety/ GSC/ Tata/ Atul
19	Gypsum Board	Gypsum false ceiling Gypsum india Ltd./ Beral Gypsum/ India Gypsum/ Laffarge/ USG/ St. Gobain (Gyproc)
20	Gypsum False Ceiling	Gypsum false ceiling Gypsum india Ltd./ Beral Gypsum/ India Gypsum/ Laffarge/ USG/ St. Gobain (Gyproc)
21	Mineral Fibre Ceiling	Armstrong/ Nittobo/ Daikin
22	Powder coating Material Pure Polyester	Jotun/ Berger/Goodlass /Nerolac
23	Polycarbonate Sheet	Danpalon, Bayer, Skyarch, Macrolux
24	Paver Blocks	Nitco, Kajaria, Johnson, Super
25	Welding Rods	Advani/ L&T/Esab
26	Acrylic Distemper, Emulsion, Synthetic Enamel Paint and Primer.	Asian Paints, ICI Dulux, Berger, Nerolac
27	Epoxy Adhesive	FOSROC, Aquomix , Choksey, BAL-ENDURA
28	Aluminum Composite Panel	Alpolic, Aluco Bond, Reynobond, Euro bond, Alstrong
29	Aluminum Extrusions	Hindalco, Indalco, Jindal
30	Aluminum Sections	Jindal, Hindalco, Indalco
31	Annealed Float Glass	Saint Gobain, Modi Guard, Asahi
32	Bitumen	Indian Oil, Hindustan Petroleum, Bharat Petroleum
33	Calcium Silicate Board / Tiles	Aerolite, Hilux, Starpan
34	Dash fastener, Expansion Bolt	Hilti, Bosch Fischer

CORRECTION NIL INSERTION NIL

CUTTING NIL OVERWRITING NIL AE(P)

EE(P)

35	Epoxy Grouting Compound	Pidilite, Ferrous Crete(Ferro-102), MYK, LATICRETE
36	Epoxy Primer & Paints	Berger, Pidilite, CICO, BASF, SIKA
37	Galvanized/Stainless Steel Anchor Fasteners	Shakti/ Arrow/ Hilti/ Fischer/ Bosch
38	GI Sheet	Sail, TATA or equivalent
39	Hardener	Hardcrete of Snowcem India, Pidilite, CICO.
40	Polysulphide / Silicon Sealent	Pidilite, Fosroc, Tuffseal, Chouksey Chemicals
41	Structural steel section	TATA, SAIL, RINL, Jindal
42	Stainless Steel clamps	Hilti/ Intellotech/ Koncept
43	Stainless Steel Sheet	TATA, SAIL, RINL, Jindal
44	Stainless Steel Nut Bolts, washers and screws	Kundan/ Puja/ Atul
45	Super plasticizer / admixture	Sika, Fosroc, Chouksey Chemicals, BASF
46	Wall Putty	JK, BIRLA, SARAPUTTY
47	Water Proofing Compound (Liquid)	Pidilite, Cico, Impermo
48	White Cement	JK White, Birla White, Grasim
49	Acrylic Sheet	Quinplast/ Perspex
50	Brick	Fly Ash Brick
51	Hydraulic Door closer, Floor springs	Dorma, Hardwyn, Hettich, Hafele
52	Flush Doors (ISI Mark only)	Century, Kitlam, Archid, A-1 Teak Products – Indore, Greenply
53	Friction Stay	Earl-Bihari, Ebco, Hettich

LIST OF APPROVED MATERIALS (ELECTRICALS)

Note :

1. Unless otherwise specified, the brand/make of the material as specified in the item nomenclature or in the particular specifications or in the list of approved materials attached in the tender, shall be used in the work.
2. The Contractor shall obtain prior approval from the Engineer-in-charge before placing order for any specific material/ Brand/ Make.
3. Whenever the specified brand of material is not available than, the Engineer-in-charge may approve any material equivalent to that specified subject to proof being offered by the Contractor for its equivalence and its non-availability to his satisfaction.

S.No .	Item	Make
1	PVC insulated copper conductor Wire/ Cable	Polycab/Finolex/ RR Kabel
2	HDPE DWC Pipe	Duraline/ Rex/ Gemini
3	Modular 6/16 Amp/ switch, Socket, Blanking Plate, Metal Switch box (the guage of switch box shall not less than 18 SWG & of the same make that of switch) Front plates, Telephone, TV outlets sockets, Fan Regulator & other Modular accessories	Legrand (Areteor)/ Schneider (Zencelo)/ M.K.(Element)
4	MCCBs/ MCBs	L&T/Seimens/Schneider/Legrand
5	GI Pipe (ISI Marked)	TATA/ Prakash Surya/ Jindal
6	Wall Mounting Fan	Usha/ CG/ Bajaj/ Orient
	All other materials	Make and sample to be approved by Engineer-in-charge before use in work.

PRICE BID

Name of Work- Modification/additional work (Civil, Plumbing and electrical) in modular OT located at First floor, block 23 at Hospital building at AIIMS Bhopal.

PART-B (CIVIL WORKS)

Sr. No	Description	Unit	QTY	Net Rate	Amount
WOOD AND P. V. C. WORK					
1	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	8.82	2952.57	26042.00
2	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured).	sqm	8.82	434.00	3828.00
3	Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete :				
a)	250x10 mm	each	10.00	371.54	3715.00
4	Providing and fixing bright finished brass door latch with necessary screws etc. complete :				
a)	300x16x5 mm	each	4.00	269.34	1077.00
5	Providing and fixing bright finished brass handles with screws etc.complete:				
a)	125 mm	each	10.00	203.09	2031.00
6	Providing and fixing partition upto ceiling height consisting of G.I. frame and required board, including providing and fixing of frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 gms/sqm (both side inclusive), consisting of floor and ceiling channel 50mm wide having equal flanges of 32 mm and 0.50 mm thick, fixed to the floor and ceiling at the spacing of 610 mm centre to centre with dash fastener of 12.5 mm dia meter 50 mm length or suitable anchor fastener or metal screws with nylon plugs and the studs 48 mm wide having one flange of 34 mm and other flange 36 mm and 0.50 mm thick fixed vertically within flanges of floor and ceiling channel and placed at a spacing of 610 mm centre to centre by 6 mm dia bolts and nuts,including fixing of studs along both ends of partition fixed flush to wall with suitable anchor fastener or metal screws with nylon plugs at spacing of 450 mm centre to centre, and fixing of boards to both side of frame work by 25 mm long dry wall screws on studs, floor and ceiling channels at the spacing of 300 mm centre to centre. The boards are to be fixed to the frame work with joints staggered to avoid through cracks, M.S. fixing channel of 99 mm width (0.9 mm thick having two flanges of 9.5 mm each) to be provided at the horizontal joints of two boards, fixed to finishing to a flush finish with recommended jointing compound, jointing tape, angle beads at corners (25 mm x 25 mm x 0.5 mm), joint finisher and two coats of primer suitable for board as per manufacture's specification and direction of engineer in charge all complete.				
a)	75mm overall thickness partition with 12.5 mm thick double skin tapered edged plain Gypsum board conforming to IS: 2095: part I	sqm	113.15	1401.99	158636.00

CORRECTION NIL INSERTION NIL

CUTTING NIL OVERWRITING NIL

AE(P)

EE(P)

	STEEL WORK				
7	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.				
a)	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	kg	908.87	101.96	92669.00
	SUB HEAD - 11 FLOORING				
8	Providing and laying polished vitrified tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20 mm thick cement mortar 1: 4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete.				
a)	Size of tile 60x60 cm	Sqm	10.00	1327.91	13279.00
	ROOFING				
9	Replacing of damaged mineral fiber false ceiling tile in existing false ceiling all complete as per drawings, specification and direction of the Engineer in charge.	Sqm	3.60	719.00	2588.00
	FINISHING				
10	15 mm cement plaster on the rough side of single or half brick wall of mix :				
a)	1:6 (1 cement: 6 fine sand)	sqm	7.34	219.70	1613.00
11	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade				
a)	Two or more coats on new work	sqm	346.57	100.18	34719.00
12	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.	sqm	346.57	103.62	35912.00
13	Providing and applying two or more coats of SKK Sanitect-W or Equivalent Antibacterial coating system of approved shade to walls and ceiling applied evenly to give uniform mattfinish strictly as manufacturer specification.	sqm	11.40	525.00	5985.00
14	Providing and applying 12mm thick (average) premixed formulated one coat calcium silicate plaster having additives light weight aggregates as vermiculite/perlite respectively conforming to IS 2547 (part 1 & 2) 1976, applied on hacked/uneven background such as bare brick/block/rcc work on walls & ceiling at all floor and locations, finished in smooth line and level etc. completed.	sqm	11.40	225.00	2565.00

REPAIRS TO BUILDING					
15	Providing & fixing false ceiling at all height including providing & fixing of framework made of special section, power pressed from M.S. sheets and galvanised with zinc coating of 120 gms/ sqm (both side inclusive) as per IS : 277 and consisting of angle cleat of size 25mm wide x 1.6mm thick with flanges of 27mm and 37mm, at 1200mm c/c, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25 x10 x0.50mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I channels 45 x15 x 0.90mm running at the spacing of 1200 mm c/c, to which the ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26 mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to G.I intermediate channel with connecting clip made out of 2.64mm dia x 230mm long G.I wire at every junction, including fixing perimeter channels 0.50mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall/partitions with the help of Rawl plugs at 450mm centre, with 25mm long drywall screws @ 230mm interval, including fixing of Calcium Silicate Board to ceiling section and perimeter channels with the help of drywall screws of size 3.5 x25mm at 230mm c/c, including jointing & finishing to a flush finish of tapered and square edges of the board with recommended jointing compounds, jointing tapes, finishing with jointing compounds in three layers covering up to 150mm on both sides of joints and two coats of primer suitable for boards, all as per manufacture's specification and also including the cost of making opening for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in charge but excluding the cost of painting with:				
a)	8mm thick Calcium Silicate Board made with Calcareous & Siliceous materials reinforced with cellulose fiber manufactured through autoclaving process.	sqm	10.00	1087.51	10875.00
16	Providing & making opening for cut outs/Trap doors etc of size (0.6mx0.6m) made with frame channels suitably fixed, in exiting false ceiling made up of 8mm thick Calcium Silicate Board all complete as per drawings, specification and direction of the Engineer in charge.	Each	8.00	388.00	3104.00
17	Repairing of exiting false ceiling made up of 8mm thick Calcium Silicate Board all complete where ever required at any floor including removing, fixing, joint filling cleaning of area etc complete as per specification and direction of the Engineer in charge	Sqm	17.82	851.00	15165.00
DISMANTLING AND DEMOLISHING					
18	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.				
a)	In cement mortar	cum	0.66	999.73	662.00

SANITARY INSTALLATIONS					
19	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :				
a)	W.C. pan with ISI marked white solid plastic seat and lid	each	1.00	5449.43	5449.00
20	Providing and fixing soil, waste and vent pipes :				
a)	75 mm dia.				
	Centrifugally cast (spun) iron socketed pipe as per IS: 3989.	metre	9.00	942.55	8483.00
21	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
a)	75 mm dia				
	Sand cast iron S&S as per IS - 3989	each	2.00	377.06	754.00
22	Providing and fixing plain bend of required degree.				
a)	75 mm dia				
	Sand cast iron S&S as per IS - 3989	each	2.00	294.43	589.00
23	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter:				
a)	75 mm	each	6.00	312.70	1876.00
WATER SUPPLY					
24	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
a)	Internal work - Exposed on wall				
	20 mm nominal outer dia .Pipes.	metre	9.60	213.47	2049.00
25	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931				
a)	15 mm nominal bore.	each	2.00	440.94	882.00
26	Providing and fixing C.P. brass long body bib cock twin one approved quality conforming to IS standards and weighing not less than 690 gms.				
a)	15 mm nominal bore	each	2.00	584.30	1169.00
27	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 a) 15 mm nominal bore.				
a)	15mm nominal bore	each	2.00	564.31	1129.00

	ALUMINIUM WORK				
28	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) :				
a)	For fixed portion				
	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	Kg	58.56	464.78	27218.00
29	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately				
a)	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	Kg	26.21	536.67	14065.00
30	Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
a)	Pre-laminated particle board with decorative lamination on both sides.	sqm	2.40	1028.02	2467.00
31	With float glass panes of 5.50 mm thickness	sqm	6.00	1190.96	7146.00
32	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS : 6315 marked, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.				
a)	With stainless steel cover plate	each	2.00	2437.07	4874.00
33	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	each	4.00	425.87	1703.00
34	Providing fixing aluminium round shape handle of outer dia 100mm with SS screws etc. complete as per direction of Engineer-in-charge				
a)	Polyester powder coated minimum thickness 50 micron aluminium	each	4.00	87.90	352.00
	TOTAL OF PART B CIVIL WORKS				494670.00

PART-C (ELECTRICAL WORKS)

Sr. No	Description	Unit	QTY	DSR 2016	Net Rate	Amount
1	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/recessed steel/ PVC conduit/Dip trunking as required.					
	6 x 4 sq. mm	Mtr.	120.00	214.00	253.09	30370.97
2	Wiring for circuit/ sub main wiring along with earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.					
	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Mtr.	75	536.00	633.91	47543.33
3	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections butM excluding modular plate etc. as required.					
	15/16 A switch	Each	36	114.00	134.82	4853.68
	6 pin 15/16 A socket outlet	Each	36	153.00	180.95	6514.15
4	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.					
	150 A, 16 kA,TPMCCB	Each	2	4096.00	4844.22	9688.43
5	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required.					
	12 way Double door	Each	1	21227.00	21227.00	21227.00
6	Supply and fixing of Four pole metal enclosure box with 63 A FP MCB surface /recess mounting sheet steel, dust protected ,duly powder painted complete as required	Each	3	3599.00	3599.00	10797.00
7	Supplying and fixing 3 ploe 63 A rating, 240/415 V,"C" curve, miniature circuit breaker suitable for inductive load flxisting MCB DB complete with connections, testing and commissioning etc. as required.	Each	3	2305.00	2305.00	6915.00
8	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
	Single pole	Nos	36	173	204.60	7365.67

9	Supply and fixing of DLP PVC Trunking 80mmx50mm with 65 mm flexible cover Body joint,plate angle ,end cap etc complete as required. Make -Legrand/M.K	Mtr.	100	1087.00		108700.00
10	Supply and Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on wall surface as required.					
	3.5C X70Sq.mm Aluminum ARMOURED CABLES	Mtr.	80	496.00		39680.00
11	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	Mtr.	160	23.00	27.20	4352.23
12	Supply and fixing of 6 Module arteor supports for 65mm DLP PVC Trunking cover	Each	18	377.00		6786.00
	TOTAL OF PART C ELECTRICAL WORKS					304793.00
	TOTAL OF PART B+C (CIVIL+ELECTRICAL)					799463.00

ALL INDIA INSTITUTE OF MEDICAL SCIENCES BHOPAL

N.I.T. No: 06/EE/ABEU/2017-18

Name of work:- Modification/additional work (Civil, Plumbing and electrical) in modular OT located at First floor, block 23 at Hospital building at AIIMS Bhopal.

PERCENTAGE SOQ

Name of the Contractor					
Sl.No.	Name of component	Estimated cost	Percentage above or below the estimated cost	% in Figures	Total Cost
1	Civil Work	494670.00			-
2	Electrical Work	304793.00			-
	Total Cost	799643.00			-
	Total Percentage				