



आरोग्यम् सुखं सम्पदा

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR

OFFICE OF THE
EXECUTIVE ENGINEER
PROJECT CELL AIIMS, RAIPUR

NOTICE INVITING e-TENDER

N.I.T. NO. 13/EE/AIIMS/RPR/2023-24

NAME OF WORK : **“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”**

ESTIMATED COST : Rs. 27,14,697.00

EARNEST MONEY : Rs. 55,000.00

CONTRACT PERIOD: 11 Months

Type of work : Maintenance

**e-sign by Prashant Kumar Ravi
Executive Engineer
AIIMS, Raipur**

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INSTRUCTIONS FOR ONLINE BID SUBMISSION

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: **<https://eprocure.gov.in/eprocure/app>**.

REGISTRATION:

- 1) Bidders are required to enrol on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “Online bidder Enrolment” on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify/nCode /eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS:

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS:

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.
- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the Number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents may be directly submitted from the “My Space” area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS:

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as “offline” to pay the tender fee / EMD as applicable and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

- 7) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 8) The documents being submitted by the bidders would be encrypted using PKI encryption all techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128-bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key.
- 9) Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 10) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 11) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 12) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS:

- 1) Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority for a tender or the relevant contact person indicated in the tender.
- 2) Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk number 0120-4200462, 0120-4001002.
- 3) For any further assistance, please contact to the office of Executive Engineer, AIIMS Raipur.

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, RAIPUR

NOTICE INVITING e-TENDER

(a)	Name of Work	“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”
(b)	Tender No.	13/EE/AIIMS/RPR/2023-24
(c)	Contract Period	11 Months
(d)	Estimated Cost	Rs. 27,14,697.00
(e)	Earnest Money Deposit (Mandatory to submit original EMD for participating in Bid and no need to submit hard copy of whole tender document)	Rs. 55,000.00 (to be submitted in the form of an account payee demand draft, fixed deposit receipt from a commercial bank, bank guarantee issued/ confirmed from any of the commercial bank in India in favour of AIIMS, Raipur in the office of Project cell, AIIMS, Raipur before the last date of opening of technical Bid.
(f)	Performance Guarantee	3% of Tendered value.
(g)	Security Deposit	2.5% of the Tendered Value.
(h)	Tender documents may be seen on	AIIMS web site www.aiimsraipur.edu.in and CPPP site https://eprocure.gov.in/eprocure/app
(j)	Last Date & Time of Submission	07-06-2023 Hours through online.
(k)	Date & Time for opening of Technical Bid	08-06-2023 after 15:30 Hours.

1. The intending Bidder must read the Terms & conditions carefully. He/ She should only submit bid if consider himself/herself eligible and bidder in possession of all the documents required.
2. Information and Instructions for bidders posted on website shall form part of bid document.
3. The Bid documents consisting of specifications, the schedule of quantities of various types of items to be executed and the set of terms & conditions of the contract to be complied with and other necessary documents can be seen and downloaded from website www.aiimsraipur.edu.in Or <https://eprocure.gov.in/eprocure/app>.

**Executive Engineer
AIIMS, Raipur**

INFORMATION AND INSTRUCTIONS FOR BIDDERS FOR e-TENDERING

The Executive Engineer, AIIMS, Raipur on behalf of Director, AIIMS, Raipur invites online **Percentage-Rate/ Item Rate bids in Two bid system (Technical cum Eligibility & Financial)** from **approved and eligible enlisted contractor of CPWD (Building and Roads) / M.E.S. / BSNL (Construction) / Railway / C.G.P.W.D. (Class D and above) in appropriate class** for the **“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur”**

1. The intending bidder must read the terms and conditions of Tender document carefully. Bidder may submit bid having all required documents.

Sl. No.	Description	Details
(a)	NIT No.	13/EE/AIIMS/RPR/2023-24
(b)	Name of Work:	“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”
(c)	Estimated Cost	Rs. 27,14,697.00
(d)	Earnest Money Deposit (Mandatory to submit original EMD for participating in Bid and no need to submit hard copy of whole tender document)	Rs. 55,000.00 (to be submitted in the form of an account payee demand draft/ fixed deposit receipt from a commercial bank/ bank guarantee issued/confirmed from any of the commercial bank in India in favour of AIIMS, Raipur in the office of Project cell, AIIMS, Raipur before the last date of opening of technical Bid.)
(e)	Period of Completion	11 Months
(f)	Last Date & Time of Submission	07-06-2023 Hours through online.
(g)	Date & Time for opening of Technical Bid	08-06-2023 after 15:30 Hours.

2. Intending bidders shall have to register at CPPP portal to participate in the tendering process. For details kindly visit website [http:// eprocure.gov.in/eprocure/app](http://eprocure.gov.in/eprocure/app) or In case the bidder requires any elucidation regarding the tender documents, may contact to the office of Project Cell, AIIMS Raipur before the opening of tender date.
3. For e-tendering of this tender, downloaded from AIIMS Raipur website and Central Public Procurement Portal (CPPP) e-Procurement website.
4. The intending bidders must have valid class-III digital signature to submit the bid. **Manual bid shall not be accepted in any circumstance**. The complete bidding process is online bidding; Bidder should have valid digital Signature Certificate (DSC) for online submission of bids.

5. The bid document consisting of 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 <http://eprocure.gov.in/eprocure/app> free of cost.
6. The bid can be submitted only after uploading the mandatory scanned documents up to 100 dpi. Copies of eligibility documents and EMD as specified on the e-tendering website within the period of tender submission. Bidders can upload documents in the form of JPG format, PDF format and any other format as permissible by the e-tendering portal.
7. *Bidders must ensure to quote rate of each item. If any cell is left blank the same shall be treated as "0". Therefore, If any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). After submission of the bid online the contractor can re-submit revised bid any number of times but before last time and date of submission of bid as notified.*
8. After submission of bid online, it can be revised any number of times before specified time on last date of submission of bid. *While submitting the revised bid, bidder can revise the rate of one or more item(s) any number of times (need not re-enter rate of all the items) but before last time and date of submission of bid as notified.*
9. Financial bids shall be opened online only for bidders for whom EMD and other uploaded documents are found in order and who are found to be eligible to bid for work. On opening date, the bidder can log in and see the bid opening process. After opening of bid he/she will receive the competitor bid sheets.
10. If the bidder is found ineligible after opening of technical cum eligibility, bid shall become invalid.
11. **The Bidders shall have to submit original instrument for EMD (EMD released of any work will not be accepted again if earlier submitted in any case) before the last date of opening of TECHNICAL cum Eligibility Bid to the office of Tender Opening Authority. Bid security will be refunded to the successful bidder on receipt of a performance security. Bid securities of the unsuccessful bidders should be returned at the earliest after L1 decided by Committee of AIIMS Raipur.**
12. The Technical cum Eligibility bid shall be opened first on due date and time as mentioned above. Opening of financial bids of contractors qualifying the eligibility shall be opened at a later date.
13. 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 criteria.
14. **Performance Guarantee:** The successful contractor will be required to furnish a Performance guarantee of **3% (Three Percent)** of Tendered Value after receiving notification of award in the form of **an account payee demand draft, fixed deposit receipt from a commercial bank, bank guarantee issued/ confirmed from any of the commercial bank in India** in the name of the "All India Institute of Medical Sciences, Raipur" which shall be kept valid for a period of 6 months beyond completion of all the contractual obligations. The Performance Guarantee can be forfeited in the event of any breach or negligence or non-observance of any condition of contract or for unsatisfactory performance or non-observance of any condition of the contract. Performance Security will be released after successful completion of work under the contract. *In case the contractor fails to deposit the said performance guarantee within the period 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 tender shall be returned after receiving the aforesaid performance guarantee.*
15. **Sources and Verification of Bank Guarantees**

Bank Guarantee for Bid Security (EMD), Performance Guarantee, Security Deposit should be irrevocable and operative Bank Guarantee (BG) as per format enclosed in the Bid Document and should be issued by a Scheduled Commercial (i.e. Indian or Foreign Banks included in the Second Schedule of Reserve Bank of India Act, 1934 excluding Co-operative banks or Regional Rural Banks). ~~In case of foreign bidders or in case of GTE, if Bank Guarantee is from a foreign bank branch situated outside India, the Bank Guarantee must be issued through any of the Scheduled Commercial Bank. In case BG is issued directly by a bank outside India, it should be executed on letter Head of the Bank and should be advised and made payable through their Indian Branch/Corresponding Bank in India.~~ The Issuing Bank should also state the name and designation of the next Higher Authority of the Officials who have issued the Bank Guarantee. Bank guarantees submitted by the tenderers/ contractors as EMD/ performance securities need to be immediately verified from the issuing bank **before acceptance**. There may not be any need to get the Bank Guarantee vetted from legal/ finance authority if it is in the specified format. Guidelines for verification of BGs submitted by the bidders/ contractors against EMD/ performance security/ advance payments and for various other purposes are as follows:

- i) BG shall be as per the prescribed formats;
- ii) The BG contains the name, designation and code number of the Bank officer(s) signing the guarantee(s);
- iii) The address and other details (including telephone no.) of the controlling officer of the bank are obtained from the branch of the bank issuing the BG (this should be included in all BGs). The confirmation from the issuing branch of the bank is obtained in writing through registered post/ speed post/ courier. The bank should be advised to confirm the issuance of the BGs specifically quoting the letter of Procurement Entity on the printed official letterhead of the bank indicating address and other details (including telephone nos.) of the bank and the name, designation and code number of the officer(s) confirming the issuance of the BG; Pending receipt of confirmation as above, confirmation can also be obtained with the help of responsible officer at the field office, which is close to the issuing branch of the bank, who should personally obtain the confirmation from issuing branch of the bank and forward the confirmation report to the concerned procurement entity.

16. Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids, 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 bidders shall be responsible for arranging and maintaining at his own cost, all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions.
17. *The Tender paper/documents can be seen / downloaded from Official website & submitted through Online or Site.*
18. The competent authority on behalf of the Director, AIIMS, Raipur does not bind itself to accept the lowest or any other bid and reserves to itself the authority to reject any or all the bids received without the assignment of any reason. All bids in which any of the prescribed condition is not fulfilled or any condition including that of conditional rebate is put forth by the bidder shall be summarily rejected.

19. Canvassing whether directly or indirectly, in connection with bidders is strictly prohibited and the bids submitted by the contractors who resort to canvassing will be liable to rejection.
20. The Competent Authority, the **Engineer-In-Charge**, 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.
21. The contractor shall not be permitted to bid for works in the AIIMS, Raipur responsible for award and execution of contracts, in which his near relative is posted as an officer in any capacity between the grades of Executive Engineer and Junior Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any gazette officer in the AIIMS, Raipur. Any breach of this condition by the contractor would render him liable to be removed from the approved list of contractors of this Department.
22. The bid for the works shall remain **open for acceptance for a period of 90 days from the date of opening of bids.**
23. 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 "The Notice Inviting bid, all the documents including additional conditions, specifications and drawings, GCC, if any, forming part of the bid as uploaded at the time of invitation of bid and rate quoted online at the time of submission of bid and acceptance thereof together with any correspondence leading thereto.
24. Purchase preference shall be given to Class-I local supplier(s) based on their declaration of the percentage (%) of minimum local content used in the manufacturing of quoted product as per Public Procurement (Preference to make in India), Order 2017 notification issued by GoI, Ministry of Commerce and Industry, Department of Industrial Policy and Promotion (DIPP) vide order no. P-45021/2/2017-PP (BE-II) dated 15/06/2017 and order no. 31026/65/2020-MD dated 30/12/2020 issued by Ministry of Chemicals & Fertilizers, Department of Pharmaceuticals

"Local Content" means the amount of value added in India which shall be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

25. It is expected that, all the participating BIDDER companies have understanding and prior knowledge about the "Make in India" Initiative and Price Preference Policy of Govt. of India. However, it is once again emphasized that before participating this e-tender please carefully read the "Make in India" Initiative and directives of Govt. of India, since in case if any "Make in India" Registered Company will participate against this e-tender, the Price preference as per the same will be given to such participating Bidder company for ensuring necessary compliances of "Make in India" Policy of the Govt. of India.

26. **Eligibility of Bidder**

(a) **Minimum Eligibility Criteria :**

- (i) The Applicant should be approved and eligible enlisted contractor of CPWD (Building and Roads) / M.E.S. / BSNL (Construction) / Railway / C.G.P.W.D. (Class D and above) in appropriate class.

- (ii) Average annual financial turnover on construction works should be at least 30% of the estimated cost put to tender during the immediate last three consecutive financial years. The value of annual turnover figures shall be brought to current value by enhancing the actual turnover figures at simple rate of 7% per annum
- (iii) Experience of having successfully completed similar work in Govt./ Semi Govt./ PSU/ Autonomous Bodies of Govt. during last 7 years ending on previous day of last day of submission of tender

Three similar* works each of value not less than 40% of the estimated cost put to tender

OR

Two similar* works each of value not less than 60% of the estimated cost put to Tender

OR

One similar* work of value not less than 80% of the estimated cost put to tender

* "Similar Works" means **Operation and Maintenance of Sewage treatment plant / Operation and Maintenance of Effluent treatment plant.**

- **If the main agency (Enlisted contractor in departments mentioned above) have not experience of similar works, they will associate specialized agency having requisite experience as above as per conditions of the contract.**

(b) Bid Capacity and Technical Eligibility Criteria:

- (i) The bidder who comply with the above Minimum Eligibility Criteria will be eligible further for consideration of bid(s) only if their available bid capacity is more than the Estimated Cost Put To Tender for the work mentioned in this Notice Inviting Tender.

The available bid capacity shall be calculated as under:

Assessed available Bid Capacity = $(A \times N \times 1.5 - B)$

Where

'N' = Number of years prescribed for completion of work for which bid has been invited.

'A' = Maximum turnover in construction works executed in any one year during the last seven years taking into account the completed as well as works in progress. The value of completed works shall be brought to current costing level by enhancing at a simple rate of 7% per annum

'B' = Value of existing commitment and ongoing works to be completed

The values for

A= Computed for the Bidder from **Performa-III**

N= No. of years for "Period of Completion" for work for which NIT is invited.

B= Computed for the Bidder from **Performa-VI**

Bidder shall submit details of ongoing works as per **Performa-III and Performa-VI**

- (i) For the Contractors to whom any work(s) in AIIMS Raipur is awarded and in progress, prior to Opening of Financial Bid, a Monthly Performance Report for contractors will be prepared by the Engineer-in Charge to ascertain their performance to complete any additional work in AIIMS Raipur within Stipulated Time of completion of work or Extended Time of completion of work (if any). Any adverse remark in the Monthly Performance Report for contractor shall result in rejection of Technical Bid of such contractor for this NIT. This criteria for Technical Eligibility of Bidder may be relaxed in the case of contractor whose performance has been found to be very high order with the approval of Director, AIIMS Raipur.

(c) **Contractual Performance in Other Departments**

Letter of past contractual performance to be submitted by bidder as per **Performa -VII**

Signing of bid document:

- a. If the bidder is an individual, the bid shall be signed by him above his full type written name and current address.
- b. If the bidder is a proprietary firm, the bid shall be signed by the proprietor above his full type written name and the full name of his firm with its current address.
- c. If the bidder is a firm in partnership, the bid shall be signed by all the partners of the firm above their full type written names and current addresses, or, alternatively, by a partner holding power of attorney for the firm. In the later case a certified copy of the power of attorney should accompany the application. In both cases a certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.
- d. If the bidder is a limited company or a corporation, the bid shall be signed by a duly authorized person holding power of attorney for signing the application accompanied by a copy of the power of attorney. The bidder should also furnish a copy of the Memorandum of Articles of Association duly attested by a Public Notary.

27. In the bid documents the word / sentence shall be read as under :-

- a. **President of India – Director, AIIMS, Raipur**
- b. **The terms Director General includes CPM/ADG region/ SDG PR Special Director General / Additional Director General and CPM/ Chief Engineer of the Zone - Director/Executive Engineer/Executive Engineer, AIIMS, Raipur.**
- c. **CPWD – AIIMS Raipur.**

28. Any dispute or difference arising out of this contract or in connection therewith which cannot be amicably settled between the parties shall be finally settled under the rules of council of Arbitration of India by one or more arbitrator appointed in accordance with the said rules. The arbitration shall take place at Raipur (Chhattisgarh) and the resulting award shall be final and binding upon the parties and shall be in lieu of any other remedy.

PROFORMA OF SCHEDULES

SCHEDULE 'A'

Schedule of quantities enclosed on separate sheets from page : **(Attached in e-procurement site)**

SCHEDULE 'B'

Schedule of materials to be issued to the contractor:

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

SCHEDULE 'C'

Tools and plants to be hired to the contractor

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

SCHEDULE 'D'

Extra schedule for specific requirements/
Document for the work, if any. : **Nil**

SCHEDULE 'E'

Reference to General Condition of Contract : CPWD GCC-2020 (Maintenance Works) modified and amendment up to the last date of submission of tender.

Name of work : **“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”**

Estimated Cost of work	: Rs. 27,14,697.00
(i) Earnest money	: Rs. 55,000.00 (To be returned after receiving of Performance Guarantee)
(ii) Performance Guarantee	: 3% of tendered value.
(iii) Security Deposit	: 2.5% of tendered value.

SCHEDULE 'F'

GENERAL RULES & DIRECTIONS:

Officer inviting tender	: Executive Engineer, AIIMS Raipur on behalf of Director AIIMS Raipur.
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Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3.	: See below
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Definitions:

2(v) Engineer-in-Charge	: Executive Engineer, AIIMS Raipur
2(viii) Accepting Authority	: Executive Engineer, AIIMS Raipur (C.G)
2(x) Percentage on cost of materials and labour to cover all overheads and profits	: 15%
2(xi) Standard Schedule of Rates	: As per Market Rates
2(xii) Department	: Project Cell, AIIMS Raipur.
9(ii) Standard CPWD contract Form	: <u>GCC (Maintenance Works) 2020</u> & CPWD Form 7/8 as modified & corrected up to last date of receipt of Bid/tender.

CLAUSE 1

(i) Time allowed for submission of Performance Guarantee, programme chart (Time and progress) and applicable labour Licenses, registration with EPFO, ESIC and BOCW welfare board or proof of applying Thereof from the date of issue of letter of acceptance	: 07 Days
(ii) Maximum allowable extension with late fee @ 0.1% per day of Performance Guarantee amount beyond the period Provided in (i) above	: 03 Days

CLAUSE 2

Authority for fixing compensation under clause 2	: Superintending Engineer/ Director, AIIMS
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CLAUSE 2A

Applicable clause 2/ Clause 2A

: **CLAUSE 2**

CLAUSE 5

Number of days from the date of issue of letter of acceptance for reckoning date of start : **10 Days**

Mile stone(s) as per table given below:-

Sl No	Description of Milestone (Physical)	Time allowed in days (from date of start)	Amount to be withheld in case of non-achievement of
1			
2	NIL		
3			
4			

Time allowed for execution of work – **11 Months.**

Authority to decide:

- (i) Extension of time : Executive Engineer, AIIMS Raipur (C.G.)
(ii) ~~Rescheduling of mile stones~~ : ~~Executive Engineer/Director, AIIMS Raipur~~
(iii) Shifting of date of start in case of delay in handing over of site : Executive Engineer/Director, AIIMS Raipur

PROFORMA OF SCHEDULES CLAUSE 5

Schedule of handing over of site

Part	Portion of Site	Description	Time Period for handing over reckoned from date of issue of letter of Intent.
Part A	Portion without any hindrance	All works	10 days
Part B	Portions with encumbrances	NA	NA
Part C	Portions dependent on work of other agencies	NA	NA

Clause 5

Applicable clause 5/ Clause 5A

: **Clause 5**

CLAUSE 7

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

Running Account Bills to be
submitted by Contractor and
payment to be made after 30 days
from payment of Previous RA Bills

CLAUSE 7 A

Whether clause 7A shall be applicable : **YES**

CLAUSE 10A

: **As required by Engineer-in-Charge**

CLAUSE 10B (II)

Whether Clause 10 B (ii) shall be applicable : **Not Applicable**

CLAUSE 10C

Component of labour expressed as percent of
value of work : **Not Applicable**

CLAUSE 10CC

: **Not Applicable**

CLAUSE 11

Specifications to be followed for execution of work : **CPWD Specifications 2019 Vol-I
Vol-II (Civil) and CPWD
Specifications 2018 (Electrical Works
Part-VI) with modification up to last
date of tender submission, CPHEEO and
CECB guidelines.**

CLAUSE 12

Authority to decide deviation upto 1.5 times : **Executive Engineer/Director, AIIMS
Raipur**
of tendered amount

The Completion cost of any agreement for maintenance works including works of up-gradation, aesthetic, special repair, addition/alteration should not exceed two times the contract amount. Deviation up to 1.25 times of Contract amount shall be approved by Engineer-in-Charge with recorded reasons. Deviation beyond 1.25 times up to 1.50 times of contract amount shall be approved by SE with recorded reasons. In exceptional case, Director, AIIMS, Raipur shall have power to approve the deviation beyond 1.50 times up to 2.0 times of Contract amount with recorded reason and take suitable corrective action.

12.2&12.3

Deviation Limit beyond which clauses
12.2 & 12.3 shall apply for building work : **No limit**

12.5

(i) Deviation Limit beyond which clauses
12.2 & 12.3 shall apply for foundation work
(except items mentioned in earth work subhead : **No limit**

in DSR and related items)

- (ii) Deviation Limit for items mentioned in earth work subhead of DSR and related items : No limit

CLAUSE 16

Competent Authority for deciding reduced rates. : Superintending Engineer/ Director, AIIMS Raipur

CLAUSE 18

List of mandatory machinery, tools & plants to be deployed by the contractor at site : As required by Engineer -in- Charge

CLAUSE 19 C..... Engineer- in charge (Executive Engineer)

CLAUSE 19 D..... Engineer- in charge (Executive Engineer)

CLAUSE 19 G Engineer- in charge (Executive Engineer)

CLAUSE 19 K Engineer- in charge (Executive Engineer)

CLAUSE 19 L Applicable

CLAUSE 25

Constitution of Dispute Redressal Committee (DRC): AIIMS, Raipur

CLAUSE 32 : **As per direction of Engineer-in-Charge**

CLAUSE 38

- (i) Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of

: Not Applicable

- (ii) Variations permissible on theoretical quantities

- (a) Cement

For works with estimated cost put to tender not more than Rs. 25 lakh : 3% Plus/minus

For works with estimated cost put to tender more than Rs. 25 lakh : 2% Plus/minus

- (b) Bitumen all works : 2.5% Plus & only & nil on minus side

- (c) Steel Reinforcement and Structural steel section for each diameter, section and category : 2% Plus/minus

- (d) All other materials : Nil

List of Mandatory Documents to be filled in by the bidders in various forms to be scanned and uploaded within the period of bid submission

1	Enlistment Order for the Contractor
2	Scanned Copy of EMD (Original to be submitted as mentioned in Information and Instructions for Bidders for e-Tendering)
3	Letter of transmittal (Annexure-A)
4	Vendor Details as per (Annexure-B)
5	Structure & Organization (Annexure-C)
6	Declaration by Bidder (Annexure-D)
7	Consent Letter (Annexure-E)
8	Self Certification under Preference to “MAKE IN INDIA” Policy (Annexure –F)
9	GST Registration Certificate
10	Proof of Average Annual Financial Turnover should be at least 30% of the estimated cost put to tender during the immediate last three consecutive financial years (Proforma III)
11	Details of The Similar Works Completed In Last Seven Years (Performa-IV)
12	Details of ongoing/existing works (Proforma-VI)
13	Affidavit on non-judicial paper of Rs. 50/- duly attested by Notary/ Magistrate for PAST CONTRACTUAL PERFORMANCE (Proforma-VII)

e-sign by Prashant Kumar Ravi
Executive Engineer
AIIMS, Raipur

LETTER OF TRANSMITTAL

From:

To

The Executive Engineer,
Project Cell, AIIMS, Raipur (C.G.)

Subject: Submission of bids for the work of “**Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.**”

Sir,

Having examined the details given in the bid document for the above work, I/we hereby submit the relevant information.

1. I/we hereby certify that all the statement made and information supplied in the enclosed forms A to F and accompanying statement are true and correct.
2. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
3. I/we authorize Engineer-In-Charge or his representative to approach individuals, employers, firms and corporation to verify our competence and general reputation.

Certificate: It is certified that the information given in the enclosed eligibility bid are correct. It is also certified that I / We shall be liable to be debarred, disqualified / cancellation of enlistment in case any information furnished by me / us is found to be incorrect.

Enclosures:

Date of submission:

Signature(s) of Bidder(s)
Seal of bidder

FORM FOR DETAILED INFORMATION BY BIDDER (Vendor Details)

1.	Name of the Bidder	
2.	Permanent Account No (PAN)	
3.	Particulars of Bank Account	
	a) Name of the Bank	
	b) Account Number	
	c) Name of the Branch	
	d) Branch Code	
	e) Address	
	f) City Name	
	g) Telephone No	
4.	Legal status of the bidder (attach copies of original document defining the legal status)	
	a) An Individual	
	b) A proprietary firm	
	c) A firm in partnership	
	d) A limited company or Corporation	
5.	GST Registration Certificate No	
6.	Valid Email ID of the Bidder	
7.	Complete Postal Address of the bidder	

(Authorized Signature of the Bidder with Seal)

STRUCTURE & ORGANISATION

1. (a) Name

(b) Address of the bidder
2. (a) Telephone no.

(b) Telex no.

(c) Fax no.

(d) E-mail
3. Legal status of the bidder (attach copies of original document defining the legal status)
 - (a) An Individual
 - (b) A proprietary firm
 - (c) A firm in partnership
 - (d) A limited company or Corporation
4. Particulars of registration with various Government Bodies if any (attach attested photocopy)

Organization/Place of registration	Registration No.
1.	
2.	
3.	
5. Names and titles of Directors & Officers with designation to be concerned with this work.

Signature of Bidder(s) with Seal

DECLARATION

It is to certify that:

- 1) I/We agree with the terms and conditions of it and understood that it will form part of the agreement.
- 2) I hereby certify that none of my Relative(s) are employed in AIIMS Raipur, Chhattisgarh. In case at any stage, it is found that the information given by me is false/incorrect, AIIMS shall have the absolute right to take any action as deemed fit without any prior intimation to me”.
- 3) I/We undertake and confirm that eligible Work(s) has/have not been got executed through another contractor on back to back basis. Further, it is stated that, if such a violation comes to the notice of Department, than I/We shall be debarred for bidding in AIIMS in future forever. Also, if such a violation comes to the notice of AIIMS, Raipur before date of start of work, the Engineer-In-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.
- 4) I / We have signed (with stamp) uploaded documents of the tender before submitting the same.
- 5) All the information and documents given/ uploaded for bids are true.
- 6) I / We have provided our e-Mail id for any communication in this regard.
- 7) I have read carefully & understood the important instructions to the all bidders.

Date.....

Contractor

E-Mail: _____

(Sign with Seal)

CONSENT LETTER

“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”

I/We hereby give my/ our consent to work as contractor till the completion of work and I/we will be responsible for execution of work only by skilled persons in the field of **related work** as per satisfaction of Engineer-In-Charge.

I/We have experience to technically execute, take measurements and will produce computerized measurement sheets of work before covering hidden work / job and other exposed works in time as per clause 6 otherwise measurement will be recorded by the representative of Engineer-In-Charge which will be bound to me. Final measurement with bill will be produced by me/us within one month after completion date otherwise representative of Engineer-In-Charge will prepare the same which will be acceptable and bound to me/us and no any claim in this regard will be made by me/us.

I/We will provide all invoices and related test certificates of materials as required by E-In-C. All Analysis of rates for Extra, Deviation items etc. will be produced by me/us in consultation with representative of Engineer-In- Charge on time for getting approval from Competent Authority of AIIMS before execution of work or otherwise the same will be prepared by the department and will be bound to me/us.

I/we will also engage suitable and skill Engineer(s) for the work as per Clause 32 of General Condition of Contract.

I further certify that the above particulars pertaining to me are correct.

I/We will produce all uploaded documents in original for physical verification before issue of Letter of Acceptance or / and as demanded by Engineer-In Charge before the payment.

I/We will submit “No Claim Certificate” in the approved format in company letter head after receiving final bill payment.

Signature of contractor with se

Self Certification under Preference to “MAKE IN INDIA” Policy

CERTIFICATE

In line with Government Public Procurement Order No. P-45021/2/2017-BE-II dt. 15/06/2017, its revision dated 04/06/2020 and any subsequent modifications/Amendments from time to time and as applicable on the date of submission of tender, we hereby certify that we _____ (Name of Contractor/Firm/ Agency) are local Contractors and will meet the requirement of minimum Local content (50%) as defined in above orders for the material against Tender No _____, if selected as Lowest Bidder

Details of location at which local value addition will be made is as follows:

The information furnished hereinafter is correct to the best of my knowledge and belief and I undertake to produce relevant records before the procuring entity or any other Government authority for the purpose of assessing the local content of goods/services/works supplied by me.

In the event of the local content of the goods/services/works mentioned herein is found to be incorrect and not meeting the prescribed supplier class categorization criteria as per said order, based on the assessment of procuring agency(ies)/Government Authorities for the purpose of assessing the local content, action shall be taken against me in line with the PPP-MII order and provisions of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rule for which for which a bidder or its successors can be debarred for up two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Thanking You

Seal and Signature of Authorized Signatory

Date: _____

ANNUAL TURNOVER FOR THE LAST THREE YEARS

S. No.	FINANCIAL YEAR	Annual Turnover from Construction Works (Rs. in Lacs)	Remarks
1	2019-20		
2	2020-21		
3	2021-22		

Note:

- 1 The bidder shall submit the Certificate from the Chartered Accountant, wherever the Annual Turnover is certified for the relevant financial year in which the minimum criteria of Annual Turnover is satisfied should also be submitted.

DETAILS OF THE SIMILAR WORKS COMPLETED IN LAST SEVEN YEARS

Sl. No.	Description of the work with Contract No./ Work Order No.	Department in which work carried out	Date of award	Stipulated date of completion	Date of actual completion	Value of completed work (Rs. in Lacs)	Reasons for delays, Penalty if any	Any other relevant information

Note:

1. The Bidder shall submit the attested Copies of the Completion Certificates from the Client i.e. Department(s) of Govt./Semi Govt./PSU/Autonomous Bodies of Govt..

DETAILS OF ON-GOING/EXISTING WORKS

Sl. No.	Description of The Work With Contract No./ Work Order No.	Department in which work is awarded	Date of award	Stipulated date of completion	Value Of work as per order (Rs. in lacs)	Value of Work completed so far (Rs. In lacs)	Anticipated date of Completion of work	Any other Relevant information

Note:

1. The copies of Work Orders of ongoing-awarded works and documentary proof for payment issued by the Client i.e. Department(s) of Govt./Semi Govt./PSU/Autonomous Bodies of Govt. shall be attached

PAST CONTRACTUAL PERFORMANCE

(Affidavit on non-judicial stamp paper of Rs.50/- duly attested by Notary/Magistrate)

This is to certify that We, M/s _____[Name of the Bidder with address], in submission of the Bid “(Name of the Work and NIT No.)”:

- i) have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements;
- ii) do not have records of poor performance such as abandoning the work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.;
- iii) have never been banned by any Central/State Govt. Departments/Public Sector Undertakings or Enterprises or Autonomous Bodies of Central/State Govt.;
- iv) have submitted all the supporting documents and furnished the relevant details as per the prescribed format.; and
- v) have submitted all the information and the requisite documents with the Bid and further certify that we are fully responsible for the correctness of the information and documents submitted by us.

SEAL AND SIGNATURE OF THE BIDDER

Note: Exceptions of the above, if any, shall be clearly mentioned with details by the bidder for evaluation/consideration if any.

CONSENT LETTER FROM ELIGIBLE ASSOCIATE AGENCY OF SPECIALIZED WORK(S)

Name of work: **“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”**

1. I / We hereby give my consent to associate with M/s, for executing the of work of (Mention specialized work(s)).
2. I / We will execute the work as per specifications and conditions of the agreement and as per directions of the Engineer-in-Charge for the corresponding specialized work(s) till the completion of the work.
3. I / We will be responsible for necessary action to handover the installations and for rectification of defects and repair during the maintenance / warranty period.
4. Also I / We will employ full time technically qualified Engineer / supervisor for the specialized work(s) component of the work as required for the work. I / We will attend inspection of officers of the department as and when required.

Date:

Signature with date of Main Agency
/Contractor

Address:

Signature with date of Associate
Specialized Agency

Address:

1. Witness with address

(From main contractor side)

2. Witness with address

(From associated agency side)

MEMORANDUM OF UNDERSTANDING [M.O.U] BETWEEN

1] M/S [Name of the firm/agency with full address]

Enlistment Status

Valid Upto:

[Henceforth called the main contractor]

And

2] M/S [Name of the firm/agency with full address]

Enlistment Status

Valid Upto:

[Henceforth, called AssociatedspecializedAgency]

For the execution of Specialized Works :- **“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”**

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

In case of any dispute, either of us will go for mediation by the EE , AIIMS, Raipur, Any of us may appeal against the mediation to the Director, AIIMS, Raipur. His decision shall be final and binding on both of us. We have agreed as under:

1] The associated specialized agency will execute all specialized work(s) in the wholesome manner as per terms and conditions of the agreement and as per the direction of the Engineer-in-charge.

2] That the Associated specialized agency has gone through the contract and has understood the scope of work required for the purpose of executing the specialized work(s).

3] All the machinery and equipments, tools and plants, special T&P required for execution of the specialized work(s), as per agreement, shall be the responsibility of the associated specialized agency.

4] The site staff required for the specialized work(s) shall be arranged by the associated specialized agency as per terms and conditions of the agreement.

5] Site order book maintained for the said work shall be signed by the authorized representative of main contractor as well as Associated specialized Agency.

6] All the correspondence regarding execution of the specialized work(s) shall be done by the Department with the Associated specialized agency with a copy to the main contractor.

In case of non-compliance of the provisions of agreement, the main contractor, as well as the associated agency shall be responsible.

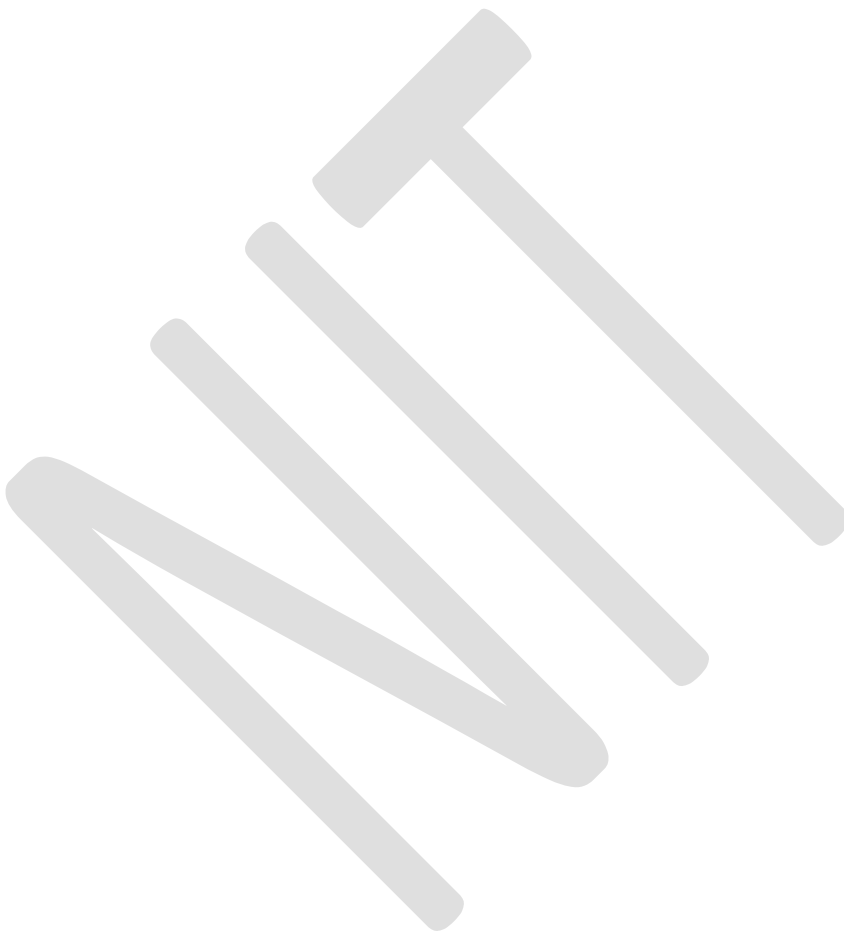
The action under clauses 2 and 3 shall be initiated and taken against the main contractor.

SIGNATURE OF MAIN CONTRACTOR
AGENCY.

SIGNATURE OF ASSOCIATED SPECIALIZED

Date:

Place



ALL INDIA INSTITUTE OF MEDICAL SCIENCE RAIPUR
~~Percentage Rate Tender/~~ Item Rate Tender & Contract for Works

Tender for the work of: **“Operation and Maintenance of 500 KLD Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”**

e- T E N D E R

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

I/We hereby tender for the execution of the work specified for the AIIMS Raipur 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 **Ninety (90) days** from the due date of opening of financial bid and not to make any modification in its terms and conditions.

A sum of **Rs. 55,000.00** is hereby forwarded 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 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 submitted with tender. If I/We, fail to furnish the prescribed performance guarantee within prescribed tender, I/we agree that the said President of India or his successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/We fail to commence work as specified, I/We agree that President of India or 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 General Conditions of Contracts (CPWD). 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 AIIMS Raipur in future for period as per decision of Engineer-in-Charge. Also, if such a violation comes to the notice of Department before date of start of work, The Engineer – in – Charge shall be free to forfeit the entire amount of Earnest Money Deposited / Performance Guarantee.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived 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.

Dated #.....

Signature of Contractor#
Postal Address#

Witness : #
Address: #
Occupation: #
applicable

e-Mail id#

To be filled in by the contractor/witness as applicable

ACCEPTANCE

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

(Rupees _____ * _____)

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

a) _____ *

b) _____

c) _____

For & on behalf of the AIIMS Raipur.

Signature.....

Dated

Designation.....

GENERAL PARTICULAR & ADDITIONAL CONDITIONS OF CONTRACT

A. GENERAL CONDITIONS

1. Name of Work: **“Operation and Maintenance of Sewerage Treatment Plant at AIIMS Residential Campus, Raipur.”**
2. For all items of **Civil/Electrical/AC&R**;- CPWD specifications with up to date correction slips up to receipt of tender shall be followed. For the items which are not covered under CPWD Specifications; B.I.S. specifications shall apply. In this regard the decision of Engineer-in-charge shall be final.
3. Wherever any reference is made of any Indian Standard, it shall be taken as reference to the latest edition with all amendments/ revision issued thereto up to the date of receipt of tenders.
4. Unless otherwise specified, the agreement rates for all items of work of the schedule of quantities are for all heights, depths, leads and lifts involved in the execution of work.
5. Other agencies working at site will also simultaneously execute the work entrusted to them and the contractor shall offer necessary co-operation wherever required to other agencies.
6. On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials. The contractor shall be bound to follow all such restrictions and adjust the program for execution accordingly, for which nothing extra shall be paid.
7. The work shall be carried out in a manner complying in all respects with the requirements of relevant bye laws of the local bodies, Labour Laws, minimum wages act, workmen compensation act and other statutory laws enacted by Central Govt. as well as State Govt.
8. All malba/ rubbish/ silt/ waste, garbage etc. generated due to any operation from buildings/ houses/ hostels and other open spaces whatsoever shall be disposed off on daily basis by the contractor to the specified common disposal point. After the collection of full truck load of the said malba (approx. 4.5 cubic meters), the same shall be disposed off by the contractor to the authorized municipal dumping ground and nothing extra shall be paid on this account. In case of non- removal/disposal in the specified period, the same would be disposed at risk & cost of contractor.
9. No residential accommodation shall be provided to any of the staff engaged by the contractor. The contractor shall not be allowed to erect any temporary set up for staff in the campus.
10. No claims of the labours shall be entertained by the Department including that of providing employment, regularization of services etc.
11. All required register will be issued by Engineer-in-Charge/Executive Engineer duly marked in chronological order but the contractor will have to arrange all such registers/stationery etc. Nothing extra shall be paid on this account.
12. All T&P, scaffoldings, ladders/Hydra etc, instruments/meters for Construction, consumable and Contingent Articles required for execution of the work shall be arranged by the contractor.
13. The contractor shall make all safety arrangement required for the labour engaged by him at his own cost. All consequences due to negligence or due to lapse of security/safety or otherwise

- shall remain with the contractor. The department shall not be responsible for any mishap, injury, accident or death of the contractor's staff. No claim in this regard shall be entertained / accepted by the department. Also Contractor is responsible to the damage caused to any man/material other than his team during execution and AIIMS will not be responsible for that.
14. Contractor shall be fully responsible for any damages caused to govt. property or allotter's property by his or his labor in carrying out the work and shall be rectified by the contractor at his own cost.
 15. GST and other Taxes as applicable shall be recovered/ paid from the contractor's bill as per Govt. of India/AIIMS Rules.
 16. Chases, holes & drilling works etc. shall be done using power operated tools in the cost of Contract. No extra will be paid for the same.
 17. The agency shall restore back the premises and other articles provided by the department to the department at the time of closure of the contract.
 18. In the case of discrepancy between the schedule of quantities, the Specifications and/or the Drawings, the following order of preference shall be observed :-
 - a) Description of schedule of quantities.
 - b) Additional specifications and special conditions, if any.
 - c) Contract clauses of General conditions of contract for Central P.W.D. works. (iv) CPWD specifications.
 - d) Architectural drawings.
 - e) Indian standards specifications/ BIS. (vii) Sound engineering practice. Any reference made to any Indian standards specifications in these documents, shall imply to the latest version of that standard, including such revisions/amendments as issued by the Bureau of Indian Standards up to last date of receipt of tenders. The contractor shall keep at his own cost all such publications of relevant Indian Standards applicable to the work at site.
 19. The contractor and /or his authorized agent should see the site order book every day and get the compliance of instruction given by the JE/AE/Engineer-in-charge (E-I/C) as per time schedule.
 20. The contractor will not pitch up tents for laborers, materials and his stores etc.
 21. No permanently / temporary huts / structures shall be constructed by the contractor at the site of work or at any government land / premises. Such structures, if any, found at the site or at AIIMS, Raipur land shall be demolished and removed at the cost of the agency without any notice.
 22. Any damage to the building structure, fittings or any other articles etc. done by the contractor or his workman during the execution of the work shall be made good by the contractor at his own cost.
 23. The contractor shall clear the site properly after the completion of the work.
 24. The Agency shall be solely responsible for compliance to the provisions of various Labor and industrial laws, such as, wages, allowances, compensations, EPF, Bonus, Gratuity, ESI etc. as per labour law relating to personnel deployed by it at AIIMS, Raipur site or for any accident caused to them and the institute shall not be liable to bear any expense in this regard. The Agency shall make payment of wages to workers engaged by it by the stipulated date irrespective of any delay in settlement of its bill by AIIMS, Raipur for whatever reason. The

Agency shall also be responsible

For the insurance of its personnel. The Agency shall specifically ensure compliance of various Laws / Acts, including but not limited to with their re-enactments / amendments / modifications etc.

- (a) The Payment of Wages Act 1936.
- (b) The Employees Provident Fund & MP Act, 1952.
- (c) The Contract Labor (Regulation) Act, 1970.
- (d) The Payment of Bonus Act, 1965.
- (e) The Payment of Gratuity Act, 1972.
- (f) The Employees State Insurance Act, 1948.
- (g) The Employment of Children Act, 1938.
- (h) The Motor Vehicle Act, 1988.
- (i) Minimum Wages Act, 1948.

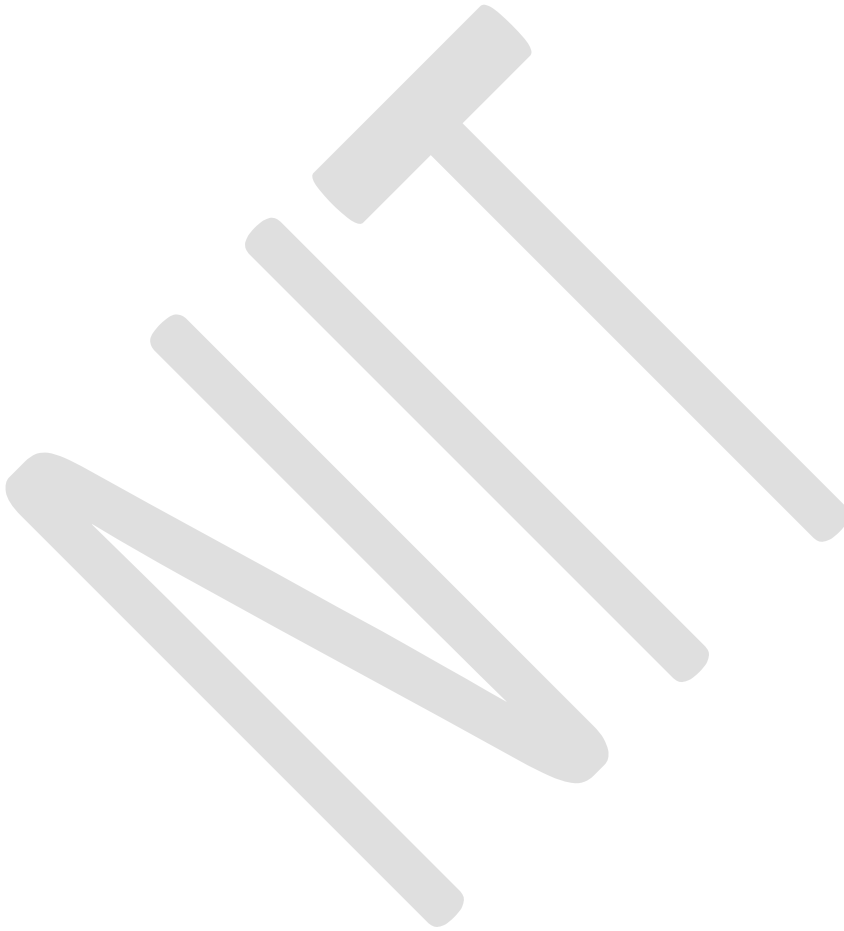
25. Breach of Terms and Conditions: Noncompliance of any terms and conditions enumerated in the contract shall be treated as breach of contract. Or In Case of breach of any terms and conditions as mentioned above, the Competent Authority, will have the right to reject the bid at any stage without assigning any reason thereof and nothing will be payable by AIIMS, Raipur in that event the EMD and /or Performance Guarantee and/or security deposit shall also stands forfeited.
26. Termination of Contract: AIIMS, Raipur would have the right to terminate the contract by giving one month's notice before the expiry of the term, in case the work performance is not up to the standard, or in case there is any violation of AIIMS, Raipur rules & regulations, or if there is any lapse in compliance of any labor legislation, or if there is any incident of indiscipline on the part of the bidder or his staff and the agreement may be terminated by either party by giving one month's notice to the institution. The decision of AIIMS, Raipur's management in this regard would be final and binding on the bidder . In such an event, AIIMS, Raipur shall have the right to engage any other bidder to carry out the task.
27. Arbitration: The Arbitration shall be held in accordance with the provision of the Arbitration and conciliations Act, 1996 and the venue of arbitration shall be at Raipur. The decision of the Arbitrator shall be final and binding on the both parties.
28. Dispute Settlement: It is mutually agreed that all differences and disputes arising out of or in connection with this agreements shall be settled by mutual discussions and negotiations if such disputes and differences cannot be settled and resolved by discussions and negotiations then the same shall be referred to the sole Arbitrator appointed by the Director, AIIMS, RAIPUR whose decision shall be final and binding on both the parties. The contract shall be governed by laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/ processing.
29. Guidelines issued by Hon'ble National Green Tribunal in O.A. No. 21 of 2015 and O.A. No. 95 of 2014 in the matter of Vardhaman Kaushik Vs. Union of India & other and Sanjay Kulshreshtha Vs Union of India & ors: Air Pollution of Dust from Construction and Demolition activity reg. issued vide letter No. DPCC/EIA/Ref-001 to 172/NGT-21/2015/225-408 dt. 17/04/2015 shall be complied by the Bidders.

B.GENERAL CONDITIONS FOR SUPPLY OF MATERIAL

1. The material shall be as per CPWD specifications with up to date correction slip and BIS Specifications wherever mentioned and as per List of approved makes (enclosed).
2. In the event of any variation between CPWD specifications and that in the IS Code the former shall take precedent over the later. In the event of variation between the nomenclature of item as per schedule of quantities and specifications, the former shall prevail.
3. ~~Material will be supplied by the contract or within 03 days after giving the requirement otherwise suitable amount imposed as a penalty shall be recovered from contractor's bill after giving notice as decided by the Engineer in charge. However, the materials in urgent nature shall be supplied within 02-03 Hours.~~
4. The sample of all the items shall have to be got approved by the Contractor from the Engineer-in-Charge/Executive Engineer or his Representative before the supply commences, the approval of sample shall be only in respect of workmanship and finish, and shall be without prejudice to the right of Engineer-in-Charge to get random samples tested out of the actual lot received as per additional conditions. This decision is the Prerogative of Engineer-in-Charge.
5. The contractor shall if required furnish the manufacturer's certificate that the material supplied satisfy the requirements of the relevant specifications.
6. The Engineer-in-Charge shall be at liberty to test respective sample (s) of each item of schedule of quantity in any approved laboratory as decided by him. The sample for testing shall be provided by the contractor. If the test proves satisfactory and the material is accepted, the testing charge in respect of satisfactory test shall be borne by the ~~department~~ **contractor**.
All other expenditure required to be incurred for making available the sample, conveyance and packing etc, shall be borne by the contractor himself. In case any sample of particular lot fails in testing the contractor shall be bound to replace the entire lot with fresh material of prescribed specifications and the rejected lot shall only be returned to the contractor after fresh lot is supplied. Testing charges in respect of failed sample will be borne by the contractor himself.
7. Rejected materials shall have to be removed by the contractor at his own cost within a week of the instructions of doing so. Also go down rent as decided by Engineer-in-Charge shall be charged by the department.
8. In case of any dispute regarding rejection of quantity of materials the decision of Engineer-in-Charge shall be final and binding upon the contractor.
9. Conditional tenders are liable to be summarily rejected.
10. The rates shall be quoted only in the schedule of quantities attached with the tender and nowhere else i.e. letter heads etc.
11. The contractors are specifically required to quote only one rate against each item. The rate Quoted for any item of material shall conform to the prescribed specifications.
12. The quantities are approximate and are liable to change up to any extent on either side. The Engineer- in-Charge reserves right to order deviation from the quantities mentioned in the tender. The contractor shall supply the additional quantity on the rates quoted in the tender documents irrespective of deviation limit mentioned elsewhere in the agreement. The contractor shall have no claim to any payment or compensation whatsoever on account of any profit or advantage which might have derive from the execution of supply in full as mentioned in tender but which did not derive any consequence of the full supply of material mentioned

in tender not having been ordered. It is not necessary to use all items in the BOQ/Schedule during contract Period. The use shall be based on the requirement at Site. Contractor cannot claim Payment against Storage of items to maintain the deadline of completion of work as per Tender.

13. The maker of material shall be same as that of actually installed/fixed at site. But, in case of non-availability or due to any reason, Engineer-in-Charge can take decision to install equivalent/new items available in the BOQ/Schedule. In case of any dispute the decision of Engineer-in-Charge shall be final with regards to make/brand of material.
14. For materials used in this work, the record shall be maintained at site in a standard Performa to watch quality and consumption of the material.



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 thisday of 20... . THE CONDITIONS of this obligation are:

(1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender;

(2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:

(a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to contractor, if required; OR

(b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and Instructions to contractor,

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

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

DATESIGNATURE OF THE BANK

WITNESS

SEAL (SIGNATURE, NAME AND ADDRESS)

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

Form of Performance Security (Guarantee)

Bank Guarantee Bond-Format – I

(On a stamp paper of appropriate value from any Nationalized Bank or Scheduled Bank)

To
EXECUTIVE ENGINEER,
AIIMS RAIPUR,
TATIBANDH,
RAIPUR – 492099

Dear Sir,

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

1. We, (hereinafter referred to as "the Bank") hereby undertake to pay to the Government an amount not exceeding Rs. (Rupees..... Only) on demand by the AIIMS Raipur.

2. We,(indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demure, merely on a demand from the AIIMS Raipur stating that the amount claimed as required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. (Rupeesonly)

3. We, the said bank further undertake to pay the AIIMS Raipur any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) shall have no claim against us for making such payment.

4. We, (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the AIIMS Raipur under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in- Charge on behalf of the Government certified that the terms and conditions of the said agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. We, (indicate the name of the Bank) further agree with the AIIMS Raipur that the AIIMS Raipur shall have the fullest liberty without our consent and without affecting in any manner our obligation hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said Contractor(s) from time to time or to

postpone for any time or from time to time any of the powers exercisable by the AIIMS Raipur against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance, act of omission on the part of the AIIMS Raipur or any indulgence by the AIIMS Raipur to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. We, (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.

8. This guarantee shall be valid up tounless extended on demand by the AIIMS Raipur.

Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

Dated theday of

for.....(indicate the name of the Bank)

SPECIAL CONDITIONS OF CONTRACT

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 07 days from the stipulated date of start of the work based on computer software and shall update the same every fortnight.
- 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 If as per Municipal or prevailing rules of the secured campuses owned by paramilitary forces, Institutions etc, the huts for labour are not to be erected at the site of work by the contractors, the contractors shall provide such accommodation at such locations as are acceptable to local bodies with all provisions concerning labour safety & sanitation as contained in the relevant clause of the contract, for which nothing shall be payable.
- 1.5 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.
- 1.6 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.
- 1.7 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.
- 1.8 The contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the department concerned.
- 1.9 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.
- 1.10 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.
- 1.11 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.

- 1.12 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.
- 1.13 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.
- 1.14 Only Star headed Stainless Steel screws shall be used unless otherwise specified.
- 1.15 Work shall be carried out in professional manner with finished product serving the intended purpose with specified strength, durability and aesthetics.
- 1.16 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.
- 1.17 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.
- 1.18 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.

2. RATES

- 2.1 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.
- 2.2 The rates quoted by the bidder, shall be firm and inclusive of all taxes and levies.
- 2.3 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.
- 2.4 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.

- 2.5 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, not with-standing the fact that the Contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the Contractor with them.
- 2.6 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. 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.

4. INSPECTION OF WORK

In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the Engineer-In-Charge, AIIMS Raipur and other senior officers of AIIMS Raipur 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 AIIMS Raipur Authorities shall also be inspecting the on-going work at site at any time with or without prior intimation.

5. CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES/SUB-CONTRACTORS

- 5.1 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 equipment's 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 Pollution control board.

Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the Contractor. 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.

- 5.2 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 STC, BSF, authorities.

Against any claim(s) arising out of such disputes. 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.

- 5.3 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, firefighting, information technology, communication & electronics and any other services.

- 5.4 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.

- 5.5 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-ordinate manner and shall perform it in proper sequence to the complete satisfaction of others.

6. 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.

7. 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. In case of non-availability of instrument Engineer-In-Charge will purchase the same and the invoice amount will be deducted from the bill and will be bound to contractor in the interest of work.

- (1) Steel tapes – 3 m / 5m / 7.5m / 15m / 30m
- (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 penetrometer.
- (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
- (17) Total station
- (18) Multimeter,
- (19) Meggar

- (20) Refrigerant Leak detector
- (21) Pipe Bender
- (22) Thermometer
- (23) Hygrometer
- (24) CFM Meter
- (25) Step Ladder
- (26) Cordless drill
- (27) PH, TDS, EC, Meter
- (28) Hardness testing kit

8. 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.

9. TESTING OF MATERIALS

- 9.1 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 equipment to be maintained by the contractor is enclosed at Para 13 page 40 & 41. 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, CPWD, O.M. No. DG/MAN/308 dated 29.05.2014. The decision of the Engineer-in-Charge of allowing any test in the site laboratory shall be final.
- 9.2 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 of IS codes relevant to the material and/or the work done.
- 9.3 Substandard 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.

SPECIAL CONDITIONS FOR ASSOCIATION OF SPECIALIZED AGENCIES

1. The main contractor shall have to associate other specialized agency(s) (Joint ventures are not accepted) for execution of each of the these specialized work(s), who fulfils the eligibility criteria as defined in Eligibility of Bidder, within 7 days of issue of letter of intent and also after taking prior approval from the Engineer-in-charge.
2. The agency shall submit the similar work experience documents in respect of experience of having satisfactory completed similar works as defined in Eligibility of Bidder.
3. However the main contractor shall also be eligible to carry out himself any or all of the above specialized works without associating any specialized agency provided:-
 - i) The main agency fulfils the prescribed eligibility criteria respectively for the above specialized work(s).
4. The intending bidder if does not possess eligibility criteria for specialized works or he could not associate any specialised agency for specialized works before tendering then he shall upload an undertaking that if "I/We shall become the lowest tenderer then I/We shall submit the documents of Associated specialized Agencies/OEM/Authorized service provider of the specialized E&M services as per the eligibility criteria mentioned in the special conditions of NIT for association of specialized agencies after acceptance of tender along with Performance Guarantee.
5. The main contractor shall have to submit documents such as self attested copies of Certificates of Work Experience/Completion issued by client department clearly indicating
 - 1.Name of work
 2. Scope of Work
 3. Agreement No.
 4. Estimated Cost
 5. Tendered Cost
 6. Final Value of Work Done
 7. Date of Start
 8. Stipulated date of Completion
 9. Actual date of completion
 10. Nature of the Work etc. (In case some of above said details are not mentioned in the Completion certificate, the firm shall attach sample proof in support of above details), self attested copy of valid Electrical contractor license, GST registration of the proposed associated specialized agencies for verification (if required) and for approval of the department as per eligibility requirement mentioned in above condition no.3 after acceptance of tender alongwith Performance Guarantee. Main contractor shall 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 of proposed associated specialized agencies alongwith above documents.
6. Consent letter of such selected associated specialized agencies for association shall also be enclosed in the prescribed format as per FORM-A alongwith documents mentioned.
7. If the main contractor fails to submit all the documents of the proposed associated specialized agency(s) as mentioned as above, after acceptance of tender alongwith Performance Guarantee then department shall reject his/her tender.

8. After approval of associated specialized agencies by Engineer-in-charge, the main contractor will submit MOU signed with the associated specialized agency as per FORM-B in shape of affidavit on stamp paper duly attested by notary in original within 7 (Seven) Days after issue of approval letter (for associate specialized agency). The MOU shall be signed by both the parties i.e. main contractor As 1st party and associated specialized Agency as 2nd party, independently for all specialized work(s).
9. All technical discussions during currency of the contract shall be attended by the associated specialized agencies and the main contractor. Commercial/Technical submissions for the specialized work(s) shall be signed and submitted by the associate specialized agencies along with the main contractor.
10. The associated specialized agencies and the main contractor shall attend the site during inspection of the work by the Engineer-in-Charge or higher authority.
11. The main contractor shall be entirely responsible and answerable for all the works done by his associated specialized agency regarding their quality, adherence to the laid down specification, terms and conditions, warranty/guarantee etc as per the agreement and he shall be liable to bear any compensation that may be levied by the department under any of the clauses of the agreement.
12. In the event of the concerned Associated specialized Agency not performing satisfactorily or failure to complete the specialized works(s), the main contractor on written directions of the Engineer-in-charge, shall remove the Associated specialized Agency deployed on the work and shall submit name of new associated specialized Agency as per eligibility criteria mentioned in the NIT to execute the left over specialized work(s) without any loss of time after completion of all formalities mentioned as above. Also if main contractor wants to change the associated specialized agency during the currency of the contract he shall submit name of new associated specialized Agency as per eligibility criteria mentioned in the NIT to execute the left over specialized work(s) after completion of all formalities mentioned as above.
13. The main contractor shall be responsible and liable for proper and complete execution of the all works including specialized work(s) and ensure coordination and completion of all associated specialized works.
14. Running payment for the work shall be made to the main contractor. In case main contractor fails to make the payment to the associated specialized agency(s) by him within 15 days of receipt of each running account payment then on the written complaint of any associated specialized agency(s) for such work, Engineer-in-Charge shall serve the show cause to main contractor and after considering the reply of the same he may make the payment directly to the concerned associated specialized agency(s) for the work as per the terms & conditions of the agreement/M.O.U. drawn between main contractor and associated specialized agency(s) fixed by him, if reply of main contractor either not received or found unsatisfactory. Such payment made to the associated specialized agency(s) shall be recovered by Engineer-in-Charge from the next RA/final bill due to main contractor as the case may be.

FORM OF APPLICATION BY THE CONTRACTOR FOR SEEKING EXTENSION OF TIME

(PART – I)

1. Name of contractor
2. Name of work as given in the agreement
3. Agreement no.
4. Estimated amount put tender
5. Date of commencement of work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulated in agreement
8. Period for which extension of time has been given previously:

	SE's letter no. and date	Extension granted	
		Months	Days
(a) 1st extension			
(b) 2nd extension			
(c) 3rd extension			
d) 4th extension			
(e) Total extension previously given.....			

9. Reasons for which extension have been previously given (copies of the previous applications should be attached)
10. Period for which extension if applied for
11. Hindrances on account of which extension is applied for with dates on which hindrances occurred and the period for which these are likely to last.

Serial no	Nature of hindrance	Date of occurrence	Period for which it is likely to last	Period for which extension required for this particular hindrance	Overlapping period if any, with reference to item.	Net extension applied for	Remarks, if any
a	b	c	d	e	f	g	h

Total period on account of hindrances mentioned above..... Months Days

12. Extension of time required for extra work.
13. Details of extra work and the amount involved:
 - a. Total value of extra work
 - b. Proportionate period of extension of time based on estimated amount put to tender on account of extra work.
14. Total extension of time required for 11 & 12

Submitted to the Sub Divisional Officer

Signature of contractor
Dated:.....

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

The Agreement made this day of two thousand and between son of of (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 five 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 five years to be reckoned from the date after the Construction 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 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 Obligorand by and for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

Signed, sealed and delivered by OBLIGOR in the presence of

1.

2.

Signed for and on behalf of THE PRESIDENT OF INDIA by in the presence of

1.

LIST OF SPECIALIZED ITEMS / JOBS

List I - Civil Works

1. ** Water proofing treatment work.
2. Steel work in steel bridge work, space frames for long span structures, steel towers.
3. ** Special foundations including all types of piles.
4. RCC Overhead Tank with independent staging.
5. Structural Repair and Rehabilitation/ Retrofitting works.
6. Soil Investigation and Survey Work.
7. ** Facade cleaning system and façade cleaning.
8. Custom made wooden furniture (factory made).
9. Diaphragm walls.
10. Post construction Anti-termite chemical treatment.
11. Water Treatment Plants
12. Security to vacant bungalows/premises.
13. Tentage works.
14. Washing/dry cleaning works.
15. Synthetic play area surface for games.
16. Environment Impact Assessment Study and Environment Clearance.

Note:- **For these works, Specialized Agencies shall have to be associated by the CPWD / Non CPWD Contractors in case the Contractor does not possess the requisite eligibility and experience as per the NIT conditions to carry out these works..

Electrical Works

LIST- II (A)

S. No. Supplying /fabrication, installation, testing and commissioning of the following

1. Kitchen equipment
2. Lifts, escalators and conveyors
3. Simultaneous interpretation systems
4. Gas plants.
5. Cold storage plant
6. Hot Water/Steam Boilers
7. Public address system; conferencing system, automatic vote recording system, recorders
8. Stage lighting
9. Projector and other special equipment for theatre
10. Repairs and calibration of various types of measuring instruments and relays etc.
11. Testing of transformer oil and dehydration and other type of high potential test.
12. Frequency Convertor
13. Temporary illumination, security lighting and wiring for power outlets for metal detectors in connection with Republic Day and Independence Day Celebrations.
14. EPBAX system (equipments).
15. EPBAX system (cabling and wiring).
16. Illumination of heritage caves and fiber optic lighting system
17. Security system and alarm
18. Building Automation System
19. Hydraulic platform /Lift
20. Incinerator
21. Laundry equipment
22. Centralized clock system.
23. Gas pipe line
24. Modular OT

25. Electrically Operated Gate
26. Fountain Work
27. Water supply motors and pumps of 100 hp or more
28. Mechanized Car Parking Systems
29. VRV/VRF Type Air-Conditioning Systems
30. Oxygen Generation Plant
31. CCTV and Allied Equipments
32. Access Control System
33. Hydro Pneumatic Pumps
34. Providing and fixing of Sensor operated Gates
35. Precision Air Conditioning System
36. LAN System
37. SITC of active power factor filter
38. SITC of Solar Photo Voltaic Power generation system
39. Electronic / Digital Signages
40. Gas based firefighting system, mist based firefighting system
41. Pneumatic Tube System
42. Nurse Call System
43. Design and Execution of Data Centre as per Tier -IV / Tier -III standards alongwith all associated E&M and Data Centre Services.

LIST-II (B)

S. No. Supplying /fabrication, installation, testing and commissioning of the following

1. Diesel Generating Set
2. Heating, Ventilation and Air-conditioning System
3. Sub-station equipment
4. Firefighting system (including wet riser and sprinkler system, portable fire extinguishers)
5. Fire detection and alarm system

List-II (C)

1. Façade Lighting Works (Interior/exterior flood lighting of heritage/Monumental buildings/structures involving Computer aided design and evolution of special mounting arrangements for luminaries).

List -III

Horticulture Works

1. Construction of Vertical Green Wall.
2. Cut flower

LIST -IV

Concurrent list of Specialized items/ jobs

1. Sewage Treatment Plant
2. AMC for Computer System and peripherals.
3. BIM services

NO CLAIM CERTIFICATE

(On company letterhead)

To,

Executive Engineer,
Project Cell, AIIMS, Raipur

Name of Work :

Agreement No. :

Sub: No claim declaration / certificate

We have received the sum of Rs. (Rupees only) in full and final settlement of all the payments due to us for the above stated work under the above mentioned contract agreement, between us and AIIMS, Raipur. We hereby unconditionally, and without any reservation whatsoever, certify that with this payment, we shall have no claim whatsoever, of any description, on any account, against Procuring Entity, against aforesaid contract agreement executed by us. We further declare unequivocally, that with this payment, we have received all the amounts payable to us, and have no dispute of any description whatsoever, regarding the amounts worked out as payable to us and received by us, and that we shall continue to be bound by the terms and conditions of the contract agreement, as regards performance of the contract.

Yours faithfully,

Signatures of contractor

or Officer authorised to sign the contract documents

on behalf of the contractor

(Company stamp)

Date:

Place:

APPROVED MATERIALS LIST (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 then, 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.

1.	Acid/Alkali Resistant Tile	Somany/ Nitco/ Kajariya/ Bell
2.	Premium Acrylic Emulsion Paint: Interior	Asian (Royale)/ ICI (Velvet)/ Berger (Luxol Silk)/ Nerolac Impression
3.	Admixures& Epoxy	FOSROC/ Aquomix/ BAL-ENDURA/ROFF/Dr.Fixit/CICO/SIKA/BASF
4.	Aluminium Composite Panel	Alpolic/ Aluco Bond/ Reynobond/ Euro bond/ Al-strong/Aludewr
5.	Aluminium Extrusions/ Sections	Hindalco/ Indalco/ Jindal/Indian Aluminium Co.
6.	P.T.M.T. Accessories	Prayag, PRAKASH, SHURYA/Supreme/Kingston
7.	Annealed Float Glass	Saint Gobain/ Modi Guard/ Hindustan Pilkington/TATA
8.	Centrifugally Cast Iron Pipe & Fittings	Neco/ RIF/ Kapilansh/ BIC/SKF/Electrosteel
9.	Ceramic Tiles	Kajaria/ Somany/ Nitco/ Orient Bell/ Johnson/Varmora/AGL/OASIS/Marbitto
10.	Cement Concrete Chequered tiles	Raj-Tiles/ Bharat/ Rigid Tiles/Advance/Ultra Tiles/NITCO
11.	CP Bottle Trap	Parryware / Hindware/ Jaquar/ GRAFDOER by VMS BathwarePvt. Ltd./Prayag
12.	CP Brass Bibcock/ Pillarcock/ Stopcock/ Angle Valve/ Concealed Stop Cock & CP fittings (Normal Range)	Marc(oriental series)/ Parko/ Jaquar (Continental series)/SPRING COLLECTION OF PRIMA /GEM/ESS/Plumber/ GRAFDOER by VMS BathwarePvt. Ltd. /L&K Metro/Vardhman/'Coral' series of parryware/'JOY' & 'VINTAGE' series of KEROVIT by Kajaria /Prayag
13.	CP Waste Coupling	Mark/ GRAFDOER by VMS BathwarePvt. Ltd./ Parko or equivalent /Prayag
14.	Curtain Carrier	Vista levlor or equivalent.
15.	Dash fastener/ Expansion Bolt/Stone Cladding Clamp	M/s DevAshish/HILTI/Fischer/Bosch/Wurth/Trixel.
16.	Door closer/ floor springs	Dorma/ Haffle/ Falcon/Godrej/Dorset/Kich/Sandhu/Hardwyn
17.	Drapery Rod	Vista Levlor or equivalent.
18.	Flushing cistern (single/Dual Flush) as per IS: 7231	Sleek Dual flush PVC cistern of Hindware / 'Slimline'ofParryware /Prayag
19.	EPDM Gasket	AnandLescuyer or equivalent.

20.	Epoxy Primer & Paints	Berger/ Pidilite/ CICO/ BASF/ SIKA/Asian/Nerolac/ICI Kansai Akzo Nobel.
21.	Fibre Glass Shelf	Kamal/ Bath King or equivalent.
22.	Float/Clear/Frosted/Toughened /Refractive Glass	Modi Float/ Saint Gobain/ Asahi/AIS/Modiguard.
23.	Flush Doors / Shutters as per IS: 2202	Kutty flush door/ Anchor/ Century/ Kitlam/Archid/JAYNA/Ashiyana Brand by Evergreen Industries/ Bhimsaria Door/ Century/ Greenply /Archid/Kitply/Selected Products Company/Jain Doors pvt. ltd./Duro/Durian
24.	Flush Valve	Aquel/ Marc/ Parryware/ Jaquar /Prayag
25.	FRP Shutters/frame	Fibre Glass Engineers/ Raipur/ Aashoo Model or equivalent/JAYNA/ Selected Products Company.
26.	Galvanized/Stainless Steel Anchor Fasteners	Shakti/ Arrow/ Hilti/ Fischer
27.	GI fitting	Tata/ Jindal/ Zenith/UNIK/AVR/Zoloto.
28.	GI Pipe	Tata/ Zenith/ Jindal (HISAR)/Prakash Surya.
29.	Glass Mosaic Tile	Bissazza/ Saon or equivalent.
30.	Gun Metal Gate Valve	Zoloto/ Leader/ SAINT
31.	False Ceiling system	Boral Gypsum / India Gypsum/ Laffarge/ St. Gobain(Gyproc)/ Armstrong/Hunter Dougals/Aearolite/Gridsquare/Interarch
32.	Hardner	Hard crete of Snowcem India/ MC Deritop F.H.
33.	Jet Assembly for EWC	Parryware/ Jaquar/ Grohe/ Kohler
34.	Laminate	Marino/ Greenlam/ Decolam/ Century/ Formica/ Kitlam/Action TESA/Sunmica/Durian
35.	Low Level PVC Cistern Single flush	Sleek model Cistern of PVC of Hindware or 'Slimline' model of Parryware, JINDAL /Prayag
36.	Melamine Polish	Melamine Gold of Asian Paint/Wudfinof pidilite/Timbertone of ICI Dullex/ Beegel.
37.	Metal False Ceiling	Nittobo / Armstrong / Trac / Durlum / Huntordonglas/Aerolite
38.	Mineral Fibre/Calcium silicate Ceiling	Armstrong / Nitobo / Daiken / Hunter Douglas/ Aerolite
39.	Modular SS Railing System	Metallica India / Stark steel Fabricator / D-line International Denmark / Mobel Hardware.
40.	M.S .Pipe (Railing)	Jindal / Prakash Surya/ Tata/ RINIL
41.	Marine Plywood / BWP Ply	Kitply / Duro / Century/ Greenlam/ Durian
42.	Non asbestos high impact polypropelene reinforced Cement sheet	Everest or equivalent
43.	Oil Bound Distemper/Dry Distemper	Asian (Professional Acrylic Distemper)/Maxilite of ICI / Bisan of Berger/Nerolac (Beauty Acrylic Distemper)
44.	Water closet (Orissa Pan/Indian type) & fittings, accessories as per IS : 2556	Parryware / Hindware /'KEROVIT' by Kajaria/ESSCO by Jaquar.
45.	PE-AL-PE Composite pipes	Jindal or equivalent.
46.	Plastic Connection Pipe	Parryware/Kamal Delux or equivalent.
47.	Plywood/Veneer	Archid/ Kitply/ Green ply/ Century/JAYNA/Green Ply/Merino/Duro/Durian

48.	Polyester Powder Coating	Nerolac/ Berger/ J&N
49.	Poly Sulphide Sealant	PIDISEALbyM/s Pidilite Industry/RDL941-TECHSEALChokseyChemicals/BASF/SIKA/Fosroc
50.	Polymer Modified Cementitious grout	BalEndura/ PidiliteKeroKoal/Ultratech/Ardex/Ferrous Crete.
51.	Pre-laminated Particle Board IS : 12823 (Gr-I/ Type-II)	Kitlam/ Tesa/ Archidply/Eco brand/Century/Bhutan board/Action Tesa/Greenlam/Merino
52.	Primer (Cement Primer)	Decoprime WT of Asian/ white primer of ICI/BP white of Berger/ Nerolac
53.	PVC Rain Water Pipe & Fitting	Finolex/ Classic of Kisan/ Kasta/ Supreme/AKG.
54.	PVC Shutter and frames	Rajshri/ Sintex/Polyline/Duroplast/Jain wood Industries.
55.	PVC Tiles	Arm Strong/ LG or equivalent.
56.	Screws	GKW / Nettle Fold or equivalent.
57.	Silicon Sealant	G.E./ DOW Corning/Waker/BASF/Pidilite/ROFF
58.	Solid Plastic Seat Cover for EWC	EWC standard seat cover white of Parryware/Hindware/'KEROVIT' by Kajaria
59.	Stainless Steel	Jindal Stainless Steel/ Salem Steel
60.	Stainless Steel Screws	Kundan/ Arrow or equivalent.
61.	Stainless steel Sink with or without Draining board.	Nirali/ Hindware/ Frankee/ Cobra/AMC/ GRAFDOER by VMS BathwarePvt. Ltd./Parryware/Neelkanth/Nirali
62.	Structural Silicon Sealant	Dow Corning/ Wacker/ GE/ Du-pont
63.	Structural steel	TATA/ SAIL/ RINL/TISCO/JSW Steel ltd./Jindal steel & Power ltd.
64.	Super plasticizer	MC Baucheme/ Sika/ Fosroc
65.	Synthetic Enamel Paints	Gloss Synthetic Enamel of ICI(Dulux)/Asian (Apolite Premium gloss)/Berger (Luxol Hi Gloss)/ Synthetic Hi Gloss of Nerolac
66.	Terrazzo tiles /Mosaic Tiles	Raj-Tiles/ Bharat/ Rigid Tiles/NIC/A-1/GTC
67.	Cement Concrete Paver Block &Kerb stone	Rigid Tiles/ Raj-Tiles/Advance
68.	Textured Exterior wall paint	Spectrum/ Ultratech / Heritage by Bakelite coating and paints/Asian paint/Berger/Nerolac/Luxture.
69.	Towel Ring/Towel Rod/Towel Rack	Kamal/ Marc or equivalent /Prayag
70.	Pre-Painted/powder coated CRC windows	M/s classic engineers and fabricators/ M/s JK Enterprises Jaipur/ Nclalltek&seccolor ltd. Hyderabad/ ultimate safety metals.
71.	Veneer	Archid/ SUN/ Durian/ Ventura/ NLDK
72.	Virtuosos China Wash Basin Oval	Hindware / Parryware /KEROVIT' by Kajaria/CERA/Jaguar/ESSCO by Jaquar /Prayag
73.	Vitreous China Floor moulded European with Cistern Complete	Parryware / Hindware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar /Prayag
74.	Vitreous China Floor Mounted European W.C. without cistern	Parryware / Hindware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar/Prayag
75.	Vitreous China Half stall Urinal	Model No. 6002 Urinal flat back large of Hindware or magnum of Parryware/ ESSCO by Jaquar/Prayag
76.	Vitreous China laboratory Sink	Hindware / Parryware /KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar/Prayag

77.	Vitreous China Low Level Cistern for European W.C.	Hindware / Parryware / KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar/Prayag
78.	Vitreous China Pedestal for Wash Basin	Pedstal of Parryware / Hindware or equivalent/ CERA/Jaguar/ ESSCO by Jaquar/Prayag
79.	Vitreous China Wall Mounted W.C. with vitreous Cistern (component)	Parryware / Hindware / KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar/Prayag
80.	Vitreous China Wall Mounted W.C. without Cistern.	Parryware / Hindware / KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar/Prayag
81.	Vitreous China Wash Basin Rectangular without Pedestal	Hindware / Parryware / KEROVIT' by Kajaria/ CERA/Jaguar/ ESSCO by Jaquar/Prayag
82.	Vitrified / Porcelain Tile	Marbogranit/ Euro/ Somany/ diamond of Naveen / Granamite of Bell / OASIS/ceramic/ Granito/ Kajaria/ M/s Restile//Rak/ Johnson/Nitco/ Varmora/AGL/Marbitio.
83.	Waste Pipe	Kamal with brass checknut/Viking
84.	Water Proofing Compound (Liquid)	Pidiproof Ltd./CICO/ Super plast by M/s Structural water proofing/ Impermo/FOSROC/Dr.Fixit (Pidilite Industries))/BASF/ROFF/SIKA/ArdexEndura (BalEndura).
85.	White Cement	JK White/ Birla White.
86.	CPVC Pipes as per IS: 15778	AKG/Ashirvad/PRIME FLOW OF KRISHI POLYMERS/Supreme/KSR by Kisan irrigation/Flowguard plus by finolex/Prince /Prayag
87.	Teak wood/hard wood wire mesh & panel doors	A-1 Teak product Indore or equivalent.
88.	Reinforcement steel	Tata/Sail/RINL/Jindal/Jindal steel & power ltd.
89.	Block Boards as per IS: 1659	JAYNA/Century/Greenply/Archid/Kitply or equivalent.
90.	Brass bib cocks/stop cock	Marc/Parko/Jaquar/SPRING COLLECTION OF PRIMA as per IS : 781 or equivalent/Prayag
91.	Brass ball cocks (Float valve)	Marc/Parko/Jaquar /SPRING COLLECTION OF PRIMA as per IS:1703 or equivalent/Prayag
92.	Water meter	SPRING COLLECTION OF PRIMA as per IS: 779 or equivalent.
93.	HDPE Pipes as per IS:4984	KRISHNA plast pipes/KSR by Kisan irrigation/Supreme/Reliance/Jain
94.	uPVC Pipes as per IS: 4985	KRISHNA plast pipes/AKG/ KSR by Kisan irrigation/Supreme/Astral/Prince/Ashirwad/Prayag
95.	uPVC Screen and casing pipes for bore well/tube well as per IS : 12818	KRISHNA plast pipes/KSR by Kisan irrigation/Supreme/Prayag
96.	uPVC-SWR Pipes SN 8 as per IS: 13592	KRISHNA plast pipes/KSR by Kisan irrigation/Finolex/AKG/Supreme/Prince/Ashirwad/ Astral/Prayag
97.	Wooden Shutter with frame	Siesto Brand by Bramsaria doors or equivalent.
98.	uPVC Windows/Doors	SIESTO Brand by Bhimsaria Polymers/Duroplast/Fenesta/Komerling/Wintech/Al uplast
99.	Cement (OPC/PPC)	A.C.C., Jaypee Cement, Ultratech, Shri Cement, JK

		Lakshmi, GujratAmbuja Cement and Cement Corporation of India.
100	Corrugated GI Sheets	Tata, Essar , Sail JSW, Bhusan
101	Colour coated profile sheets	Tata (Ezydeck)/Lloyd Superdeck/JSW/Jindal
102	Float Glass Profile Sheet TATA (transparent)	Tata, Modiguard, Saint Gobain
103	Aluminium doors & window fittings (Heavy duty)	Jyoti , Argent, Everest/Kilong/Alualpha/classic/Ebco
104	Steel/Wood primer / paint	ICI delux, nerolac, berger, asian
105	Bitumen 85/25 Emulsion (MS)	HPCI, IOCL,BPCL
106	PVC water storage tanks	Sintex, water well, Siltank, Polywell/Plasto/ 'SILTANK' by Supreme
107	Bitumen VG-30, VG-10	As per particular specification of item from IOCL, BPCL, HPCL.
108	Rigid Phenolic foam for cold and hot insulation as per IS: 13204	Phenotherm manufactured by Bakelite Hylam ltd
109	Surface Texture Finishes	Heritage manufactured by Bakelite Coatings & paints ltd. or equivalent
110	FRP Chhajjas	Selected Products Company or equivalent.
111	FRP Porta cabin	Selected Products Company or equivalent.
112	G.I. Wire-mesh/Netting	Selected Products Company or equivalent.
113	Wall Putty (White Cement based)	Buildwell (Walplast Products Pvt. Ltd.)/Birla wall care/JK white/Berger/Asian paints/ferrous Crete
114	AAC block	'Ecorex' manufactured by EcorexBuildtechpvt. Ltd. or equivalent.
115	UPVC Agriculture/Pressure pipes and fittings	AKG Extrusion Pvt Ltd. or equivalent /Prayag
116	UPVC underground drainage & sewerage pipes SN 8 as per IS:15328	KSR by Kisan irrigation/Finolex/AKG/Supreme/Prayag
117	Fabrication of aluminium& UPVC doors, windows, Facades including ACP and glazing work	Skyler World or equivalent.
118	Fabrication of aluminium structural glazing and aluminium doors & windows.	KANHA ALU AND FAB PVT. LTD., Raipur or equivalent.
119	Processing and fabrication of glass (toughened, DGU and lamination	Wadhwa Glass Works (P) Ltd., Raipur or equivalent.
120	Glass reinforced Gypsum (GRG) false ceiling	'Diamond' manufactured by Diamond International Inexpvt. Ltd/Gyproc by Saint Gobain.
121	Wooden shutter with frame	'Bhimsaria' or equivalent
122	PPR-C pipes as per IS: 15801	KSR brand/Supreme/Prayag
123	PVC fittings as per IS: 10124 and IS: 7834	KSR brand or equivalent/Prayag
124	PVC underground draingae pipes (structured wall type) as per IS: 16098	Supreme or equivalent/Prayag
125	PVC septic tanks	'Safegard' by Supreme or equivalent
126	PVC underground water tanks	'Amrutam' by Supreme or equivalent

127	PVC readymade toilet blocks	'Cleanage' by Supreme or equivalent
128	PVC chambers & Manholes	Supreme or equivalent
129	Pre-Painted/powder coated CRC windows	M/s classic engineers and fabricators/ M/s JK Enterprises Jaipur/ Nclalltek&seccolor ltd. Hyderabad/ ultimate safety metals.
130	White cement based polymer modified self curringmortor	Ultratech/Dr.Fixit/ Sika/ Fosroc
131	Gypsum plaster	Ferrous crete/ Gyproc (Elite-90)/ Ultratech
132	Tile Adhesive	Ferrous Crete / Ardex/ Endure (Gold Star)/ Pidilite (Fevimatex)/ Weabr (Saint Gobain)
133	Integral water proofing compound with cement (for plaster & mortar)	FOSROC/ Conplast 421/Dr.fixit : LW+/ Sika : sikacim/Asian Paints: Smart care vitalia& equivalent product of BASF/CICO/ArdexEndura
134	Water proofing for bathroom/toilet/balcony & other wet areas.	Fosroc: Brush Bond/CICO:Tapecrete/Dr.fixti : Pidilite 2k/Sika: Nito Bond/Asian Paints: Damp Block 2k & Equivalent Product of BASF/Ardex endure
135	Crystalline water proofing compound.	Fosroc : Fosroc crystalline/Dr.Fixit: Dr.fixit crystalline/Sika: Sika Crystalline/Asian Paints:Crystalline Quart & Equivalent Product of BASF/CICO/ArdexEndura
136	Polycarbonate sheet	GE Plastic/Lexan/MG Polyplast
137	Fire rated doors	Signum fire protection/Shakti Metdoor/NAVAIR/Sukri/Promat International
138	Stainless steel railing Accessories	Jindal/Dorma/Kich/GEZE/Godrej/Hardwyn
139	Stainless steel door & windows fittings	Jindal/Dorma/Kich/Dorset/Godrej/Ozone
140	Acrylic Distemper 1 st quality (washable/Readymix/Low VOC)	Asian Paints (Tractor Aqua Lock Paint)/ Berger: commando or equivalent paints of Nerolac or ICI-Dulux.
141	Plastic emulsion plaint	Asian paint: (Apcolite Heavy Duty Premium Emulsion paint)/ Nerolac :Impressio/Berger:Easy clean/ICI-Dulax:Velvet touch
142	Acrylic Smooth Exterior Paint	Asian Paint : (Apex/ Professional Premium Exterior Emulsion/ Nerolac: XL/Berger: Weather coat/ICI-Dulux: Weather Shieled
143	Premium Acrylic Smooth Exterior Paint with Silicon Additive	Asian paint: Apex Ultima/Nerolac: XL Total/Berger: Weather coat all guard/ICI dulux: Weather Shield max
144	Fire paint	Asian paints/Akzo Nobel Coatings India ltd./ PROMAT/Jotun
145	D.I. Pipes & fittings	Electrosteel/Jindal/Tata Ductura/Kapilansh/Kesorom
146	C.I. manhole covers, frames & CI Gratings	Neco/Raj iron Foundary Agra/BIC/SKF/Kapilansh
147	SFRC manhole cover & Grating	K.K./Jain Pragati
148	C.P. Brass fittings (Superior Range)	Jaquar/Grohe/Roca/Prayag
149	Sanitary ware fittings & Accessories (Superior range)	Kohler/Roca/Hindware/Parryware/Prayag

150	Mirror glass	Atul/Modi Guard/Golden Fish
151	Extruded Polystyrene Insulation Board	Dow Corning/Supreme/Taxes/Analco
152	Heat Resistant Tiles	Swastik/Thermatek
153	Floor Hardener	Ironite/Ferrok/Hardonate
154	Modular Expansion Joint	Herculus/Sanfield India Ltd. Vexcolt
155	Glass Wool	Dow Corning/ U.P. Twinga/Isover
156	UPVC Doors and window hardware	Rotto/Dorset/Kinlong
157	AAC Block adhesive	Ecorex/Ultratech/ArdexEndura/Ferrous Crete
158	Ready Mix Plaster	Ultratech/Ferrous Crete/Saint Gobain
159	Post tension slab	Ultracon technology limited/Tech-9/CRUX
160	Acoustical Wall paneling	Hush or equivalent to be decided by Engineer-in-charge.
161	Sports Vinyl Flooring	Ebaco or equivalent to be decided by Engineer-in-Charge

APPROVED MATERIALS LIST (ELECTRICAL)

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 then, 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.

Sl. No.	Item	Acceptable Makes
1	PVC insulated Copper wire / Telephone wire	KEI / HAVELLS / RR Kabel / Polycab / Finolex/ Anchor/ (All with ISI Marked)
2	MCCB / Switch Gear with Thermomagnetic releases	L&T/Seimens/Legrand / Schneider/Hager/ABB/ GE/C&S Electric
3	MCCB with Variable microprocessors based releases (o/c, s/c, e/f)	L & T (D-Sine) , ABB (ISO Max), Siemens, Schneider (NS Compact), GE (Recold Plus), Legrand (DPX)
4	MCB / MCB Prewired DB / RCCB/ Industrial Socket not less than 10 K.	Legrand / L&T / Hager / Seimens / Schneider/ Havells/ ABB/HPL
5	Steel Conduit.	BEC / AKG / MK / Rama / Finolex
6	PVC Conduit	BEC,AKG, MK, Anchor, Finolex, Steel Craft, Saraswati, Swastik , Polycab
7	Casing Caping	Saraswati, Polycab, Precision, Astral
8	Call Bell / Buzzer / Ceiling rose / Electronic Regulator.	Anchor / Vinay Clair / Polo Rider / North West.
9	Brass Batten / Angle Holder.	Kinjal / Antex / Emperor/Anchor/Havells/Bajaj.
10	Modular Switch / Socket / Blanking Plate /PVC Box / Metal (GI) Switch Box (the gauge of GI Box shall not less than 20 SWG, of the same make that of Switch) Front Plates, Telephone, T.V. Outlets Socket / Fan Regulator.	Crabtree (VERONA), Anchor (Vision), L&T (Entice), MK (Citric), Legrand (Myrius), Schneider (Opale)/Roma
11	Lamp for (light fittings)	Philips / Osram/ GE/ Bajaj/ Wipro/Crompton/Halonix
12	XLPE insulated PVC sheathed 1.1 KV grade Al. conductor armoured UG cable.	Finolex/ Cable Corporation of India / R.R. Kabels/ Universal Cable/Havells/KEI/ Polycab.
13	Galvanize Octagonal Street light pole/ High Mast & galvanised bracket.	Bajaj/ Transrail/ Valmont/Aster.
14	HRC Protection Fuses/ Fuse Fittings.	Siemens/ L&T/ Schneider /ABB

15	Selector Switches/ Indicating Lamps (LED type)	AE/ Enercon/ L&T/ Neptune/ Conserve/ Secure/ Keycee/ Vaishnav
16	Digital Ammeter/ Voltmeter	Conserve/ Secure/Enercon/AE/ MECO/ Universal/ Rishab/ Yokins
17	Current. Transformer	L&T/ A.E./ Kappa/ IMP/ GE or equivalent
18	LUGS, Thimble, Cable Glands	Dowels/ Multi/ COMET/ Hex/ Jhonson / Gripwell/Comex/Comed
19	Timer	L&T/ Siemens/ Schinder/ Hager/ Legrand
20	Modular Blanking Plate	Clipsal, Crabtree, MK, Anchor, Legrand, L&T, ROMA, Siemens Northwest
21	G.I. Pipe	Jindal/ Tata/ Prakash/Surya
22	Power contactor	L&T / Siemens / Schinder/Legrand /ABB
23	Fluorescent Tube Fittings	Surya/ Keslec/ Trilux,/ Bajaj,/ Osram, /GE , Wipro,/ Crompton/ Philips /Halonix
24	Tap-off Box (Plug in Type), End Feed Unit	C&S Electric & Switchgear, L & T, ABB, Siemens, Schneider, Tricolite
25	LT Panels / Feeder Pillars / Floor Panels for upto 400A i/c switchgear	L & T, ABB, Siemens, Schneider, Tricolite, Adlec, CRS, Sudhir, Jakson, Advance Panel (Narela), Adhunik, Havells.
26	MPCB	L&T, ABB, Siemens, Schneider
27	LED fittings	Havells/Wipro/CGL/Philips/Bajaj/Osram/Halonix
28	LED Make	Nichia / citizen/ Lumileds / APT Electronics/Cree/Osram /Bridgelux.
29	Static Voltage Stabilizer	Reputed make as approved by Engineer-In-Charge
30	Loudspeaker, Amplifier, Volume Controller,	JBL,BOSE,BOSCH, Electro-Voice, Sennheiser, D & B audiotechnik, meyer Sound
31	Ceiling Fan	Havells/Bajaj/Usha/Crompton/Halonix

LIST OF APPROVED MAKES OF MATERIALS

MANUAL FIRE ALARM SYSTEM

1	Fire alarm Zonal Panel, Main Control Panel , sounder MCB, Talkback unit/ Response Indicator /Detector	Agni Instruments Engineers India Pvt ltd Okhla New Delhi/ Safeway Security System / Electroquip / Steel age Industries (Minmax)(Honeywell)/Edward
2	Amplifier/Microphone/Hooter	Ahuja/Philips/ Agni Instruments Engineers / Safe way security System / Agni suraksha
3	CO2/ABC fire extinguisher	Minimax/Ceasefire/Kanex(All with ISI marked)
4	Smoke dectectors	Apollo series 65 / system sensor

- 1) If any makes stated above does not comply with the technical specifications given in the tender then such a make shall not be allowed.
- 2) If for any Material Makes not given. It should be got approved from the Engineer-in-charge.

LIST OF APPROVED MAKES OF MATERIALS (Wet Riser System)

SNo	Details of Equipment / materials	Make
1	Terrace Monoblock pump set	Kirloskar model – KDS- or similar model of Mather & Platt / Grandfos/Wilo/Jyoti.
2	MS Pipe / GI Pipe	Tata / Jindal (Hissar)/ SAIL (all with ISI marked)
3	CI Butterfly valve.	Audco / Advance / Kirloskar / SANT./KARTAR /Zoloto
4	CI Non return valve	Kirloskar / Kalpna/ Indian Valve company / SANT./KARTAR/ Zoloto
5	Landing valves/ Hydrant valves	Newage / Minimex / Padmini / Getech/Omex.
6	Gun metal branch pipe	Minimax / Newage / Padmini / Getech/Omex.
7	RRL Hose pipe	Newage / Minimex / Padmini / CRC.
8	Hose Cabinet	Minimax / Newage / Padmini / CRC/Getech.
9	FBC	Minimax / Newage / Padmini / CRC/Getech.
10	First Aid hose reel.	Jyoti / CRC/ Padmini / Maruti.
11	Hose reel drum	Minimax / Newage / Padmini / Getech.
12	Gun metal valves	Sant / Leader / Kirloskar / Zoloto.
13	Pressure gauge	Feibig / H.Guru / indfos.
14	Pressure Switch	Danfoss / Ranutrol / H.Guru.
15	Electrical panel	Any CPRI approved manufacturer.
16	MCCB/MCBs	L&T/ Legrand / Siemens/ Schneider.
17	Starter	L&T / Siemens / ABB/ C & S.
18	Digital Voltmeter / Ammeter	AE/L&T.
19	Selector Switch	Kaycee / L&T / AE.
20	Indicating lamp	L&T / Siemens / BCH / Kaycee.

21	CTs	AE/L&T .
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- 1) If any makes stated above does not comply with the technical specifications given in the tender then such a make shall not be allowed.

If for any Material Makes not given. It should be got approved from the Engineer-in-charge.



ADDITIONAL CONDITION

1. The work is to be executed in the AIIMS Raipur Residential Campus which is under high security restrictions. Restrictions are imposed by the security authorities on the working and movement of labour, materials etc. The contractor shall be bound to follow all such restrictions. The contractor will have to submit names with Photo IDs of the persons & workmen whom he proposed to engage at least two days in advance so that entry permits are issued by the security authorities. If he fails to observe this condition the entry of labourers will not be possible. No claim of damages due to loss of man hours will be admissible.
2. Work site will be kept neat and clean.
3. The security agencies may impose restrictions on the working hours, movement of vehicles for transportation of materials. The contractor shall be bound to follow all such restrictions and adjust the programme for execution accordingly. He should take into consideration all factors and contingencies while quoting rates. No claim what so ever shall be entertained by the department on this account.

Any damage done by the contractor to any existing work during the course of execution of the work shall

PARTICULAR SPECIFICATIONS & SPECIAL CONDITIONS FOR CIVIL WORKS

[A] PARTICULAR SPECIFICATIONS

1.0 GENERAL

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

1.2 The following modifications to the above specifications and some additional specifications shall however apply:

- i)** All stone aggregates shall be of hard stone variety
- ii)** Sand to be used for cement concrete work, mortar for masonry and plaster work shall be of standard quality and screened as required. The same shall consist of hard siliceous material. It shall be clean sand.
- iii)** FPS (non-modular) brick of 7.5-class designation for full brick masonry and half brick masonry with, in super structure shall be used in size (F.P.S. units) [size . 250 mm x125mmx70mm]. Brick shall be obtained from plant as approved by Engineer -in charge.

Fly ash (non-modular) brick of 10 -class designation for full brick masonry and half brick masonry with, in super structure shall be used in size (F.P.S. units) [size . 230 mm x120 mmx65 mm]. Brick shall be obtained from plant as approved by Engineer -in charge.

2.0 Wherever any reference to any Indian Standard Specification occurs in the documents relating to this contract the same shall be inclusive of all amendments issued thereto or revisions thereof, if any, up to the last date of receipt of tender.

3.0 Unless otherwise specified in the schedule of quantities the rates for all items of the work shall be considered as inclusive of pumping out or bailing out water if required for which no extra payment will be made. This will include water encountered from any source, such as rains, floods, and sub-soil water table being high due to any other cause whatsoever.

4.0 R.C.C. Work (Mix Design)

- 4.1** For concrete work laboratory tests with PPC cement will be carried out by the contractor through approved laboratories/institutions approved by the Engineer-in-charge. For this purpose the various ingredients shall be sent to the lab/test houses or Institutions and the samples of such ingredients sent shall be preserved at site.

The trial mix shall be prepared with approved aggregates, cement and water. The concrete batching plant to be employed in the work shall be used for preparing the trial mix to simulate actual field conditions.

Design mix shall be prepared without adding any admixture and minimum cement content of design mix as specified in the item is based on without adding any admixture. Admixture may be added to achieve desired workability for which nothing extra shall be paid to the contractor.

5.0 FLOORING

The rate of items of flooring is inclusive of Providing Sunken Flooring in Bathrooms, Kitchen, W.C., etc. and nothing extra on this account is admissible.

6.0 WOOD WORK

The samples of species of timber/PVC to be used shall be deposited by the contractor with the Executive Engineer before commencement of the work. The contractor shall produce cash vouchers and certificates from standard kiln seasoning plant operator about the timber section to be used on the work having been kiln seasoned by them, failing which it would not be so accepted as kiln seasoned.

- 6.1** Factory made shutters, as specified shall be obtained from factories to be approved by the Engineer-in-charge and shall conform to IS: 2202 (Part-I) 1991. The contractor shall inform well in advance to the Engineer-in-charge the names and address of the factory where from the contractor intends to get the shutters manufactured. The contractor will place order for manufacture of shutters only after written approval of the Engineer-in-charge in this regard is given. The contractor is bound to abide by the decision of the Engineer-in-charge and recommend a name of another factory from the approved list in case the factory already proposed by the contractor is not found competent to manufacture quality shutters. Shutters will, however, be accepted only if this meets the specified tests.

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

7.0 STEEL WORK

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

8.0 INTERNAL WATER SUPPLY AND SANITARY INSTALLATIONS

- 8.1** Centrifugally cast (spun) iron S & S pipes and G.I. pipes wherever necessary shall be fixed to R.C.C. columns, beams etc. with rawl plugs and nothing extra shall be paid for this.
- 8.2** The contractor shall be responsible of the protection of the sanitary and water supply fittings and other fittings and fixtures against pilferage and breakage during the period of installation and thereafter until the building is handed over.

9.0 VARIATION IN CONSUMPTION OF MATERIALS

- 9.1** The variation in consumption of material shall be governed as per CPWD specifications and clauses of the contract to the extent applicable.

10.0 CONDITIONS

- 10.1** The contractor will have to work according to the programme of work, decided by the Engineer-in-charge. The contractor shall also construct a sample unit complete in all respects within time specified by the Engineer-in-charge and this sample unit shall be got approved from the Engineer-in-charge before mass construction is taken up. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account.
- 10.2** The contractor shall take instructions from the Engineer-in-charge for stacking of materials in any place. No excavated earth or building materials shall be stacked on areas where other buildings, roads, services of compound wall are to be constructed.
- 10.3** If as per Municipal rules the huts for labour are not to be erected at the site of work by the contractors, the contractors are required to provide such accommodation as is acceptable to local bodies and nothing extra shall be paid on this account.
- 10.4** Grey cement bags shall be stacked/stored in separate godown to be constructed by contractor at his own cost as per sketch (which is only indicative and actual size will depend on the site requirements) at page 23 of CPWD specification 2014 Vol.I with weather leak proof roofs and walls. Each godown shall be provided with single door with two locks. The keys of one lock shall remain with CPWD Engineer-in-charge of work and that of the other lock with the authorized agent of the contractor at the site of work so that the cement is removed from the godown according to the daily requirement with the knowledge of both the parties and proper account maintained in standard proforma.
- 10.5** The contractor is responsible for the safe custody of the materials issued to him even if the materials are under double lock system.

- 10.6 The contractor shall construct suitable godowns, yard at the site of work for storing all other materials so as to be safe against damage by sun, rain, damages, fire, theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his cost.
- 10.7 The standard sectional weights referred to as standard tables in Para 5.3.4 in specifications for works, 2009 Vol.I vide page 135 of Table-5.4 to be considered for conversion of length of various size of M.S. bars/cold twisted bars and Thermo Mechanically Treated Bars into weight are as under:[Note: These are as per clause 6.2 of IS:1786.

TABLE

Nominal Size	Weight KG/M	Size (Diameter MM)	Weight KG/M
6	0.222	25	3.85
8	0.395	28	4.83
10	0.617	32	6.31
12	0.888	36	7.99
16	1.58	40	9.86
20	2.47		

- 10.8 All materials obtained from contractor shall be got checked by the Junior Engineer-in-charge of the works on receipt of the same at site before use.
- 10.9 Royalty at the prevalent rates shall have to be paid by the contractor on all the boulders, metals, shingles, sand and bajri etc. collected by him for the execution of the work, direct to the Revenue authority or authorized agent of the State Government concerned or Central Government.

11.0

TESTING OF MATERIAL

- 11.1 Grey cement & Thermo-mechanically Treated Bar shall be arranged by the contractor.
- 11.2 The contractor shall procure all the materials in advance so that there is sufficient time for testing and approving of the material and clearance of the same before use in work.

12.0

INTEGRAL WATER PROOFING TREATMENT

- 12.1 The contractor must associate himself with the specialized firm to be approved by the Engineer-in-Charge in writing, for integral cement based water proofing treatment for sunken floors and on roofs. 10 years Guarantee Bond in prescribed proforma must be given by the specialized firm on stamp paper which shall be countersigned by the contractor, in token of his overall responsibility. In addition 10% (ten percent) of the cost of these items would be retained as Guarantee Bond to watch the performance of the work done. If any defect is noticed during the Guarantee period for ten years to be reckoned from the date after the maintenance period prescribed in the contract expires it should be rectified by the contractor within seven days and if not attended to, the same will be got done by another agency at the risk and cost of the contractor. However, this security deposit can be released in full, if bank guarantee of equivalent amount for 10(ten) years is produced and deposited with the department.

13.0 TREATMENT FOR ROOF SURFACE

- 13.1 The brickbats shall be from well-burnt bricks. The proprietary waterproofing compound shall conform to IS: 2645-1975. Before execution of work, water proofing compound has to be brought to site from which random sample would be got tested and a certificate of it's conforming to IS Code should be produced. The proprietary waterproofing compound shall be added at the rate recommended by the specialized firm but not exceeding 8%(percent) by weight of cement.
- 13.2 The finished surface after waterproofing treatment shall have minimum slope of 1 in 80. At no point shall the thickness of waterproofing treatment be less than 65mm.
- 13.3 While treatment of roof surface is done it shall be ensured that the outlet drainpipes have been fixed and mouths at the entrance have been added and rounded off properly for easy flow of water.
- 13.4 The surface where the waterproofing is to be done shall be thoroughly cleaned with wire brushes. All loose scales shall be removed and dusted off. The surface shall be treated with neat cement slurry admixed with proprietary water proofing compound to penetrate into crevices and fill up all the pores in the surface. This cement slurry shall be applied at the junction of parapet and terrace slab by injection process.
- 13.5 After the slurry coat is laid, layer of well burnt brick bats shall be laid in cement mortar of mix as specified by the specialist firm but not leaner than 1:5(1 cement: 5 coarse sand) admixed with proprietary water proofing compound to required gradient and joints filled to half the depth. The brick bat of various thickness shall be used to achieve the specified gradient. This layer shall be rounded at the junction with the parapet and tapered towards top for a height of 300 mm. Curing of this layer shall be done for three days.
- 13.6 After curing, the surface shall be applied with a coat of cement slurry admixed with proprietary water proofing compound.
- 13.7 Joints of brick bat layer shall be filled fully with cement mortar of mix as specified by the specialized firm but not leaner than 1:4 (1 cement: 4 coarse sand) admixed with proprietary waterproofing compound and

finally top finished with average 20mm thick layer of same mortar and finished smooth with cement slurry admixed with proprietary water proofing compound. The finished surface shall have marking of 300 x 300 mm false squares to give the appearance of tiles.

- 13.8 Curing of water proofing treatment shall be done for a minimum of ten days.
- 13.9 The Measurement shall be taken along with the finished surface of treatment including the rounded and trap portion of junction of parapet wall.

[B] SPECIAL CONDITIONS

01. The contractor shall follow all the provisions of **Construction & Demolition Waste Management Rules 2016 issued by Ministry of Environment & Forest notification dtd. 29.03.2016.**
02. The contractor shall not store/dump construction material or debris on metalled road.
03. 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.
04. 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.
05. 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.
06. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction materials and construction debris to prevent inhalation of dust particles.
07. 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.
08. 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.

09. The contractor shall compulsory use of wet jet in grinding and stone cutting.
10. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF guidelines, 2010.
11. The contractor shall carry out on-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
12. The contractor shall ensure that all DG sets comply emission norms notified by MoEF.
13. 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 case where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
14. 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.
15. Unless otherwise specified in the Schedule of quantities the percentage rates below/above or at par tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account. Payment for centering, shuttering, however, if required to be done for heights greater than 3.5m shall be admissible at rates arrived at in accordance with clause 12 of the agreement if not already specified.
16. The contractor shall make his own arrangements for water and for obtaining electric connections if required and make necessary payments directly to the department concerned.
17. Other agencies doing work related with this project will also simultaneously execute the works and the contractor shall afford necessary facilities for the same. The contractor shall leave such necessary holes, openings etc. for laying, burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps, etc. as may be required for other agencies conduits for Electrical wiring/cables will be laid in a way that they leave enough space for concreting and do not adversely affect the structural members. Nothing extra over the agreement rates shall be paid for the same.
18. Some restrictions may be imposed by the security staff etc. on the working and for movement of labour, materials etc. The contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.

19. (a) The building components will be carried out in the manner complying in all respects with the requirements of relevant byelaws of the local body under the jurisdiction of which the work is to be executed or as directed by the Engineer-in-charge and nothing extra will be paid on this account.
- (b) The contractor shall comply with proper and legal orders and directions of the Local or Public authority or Municipality and abide by their rules and regulations and pay all fees and charges, which he may be liable.
20. The contractor shall give a performance test of the entire installation(s) as per standing specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the contractor for the test.
21. Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been built in the items and nothing extra shall be payable (or) extra cement considered in consumption on this account.
22. Testing of materials:
- Samples of various materials required for testing shall be provided free of charge by the contractor. Testing charges shall be borne by the department. However, if material does not conform to the relevant codes/specifications, the testing charges shall be borne by the contractor. All other expenditure required to be incurred for taking the samples, conveyance, packing etc. shall be borne by the contractor himself.
- The Structural and Architectural drawings shall at all times be properly co-related before executing any work. However, in case of any discrepancy in the item given in the schedule of quantities appended with the tender and Architectural drawings relating to the relevant item, the former shall prevail unless and otherwise given in writing by the Engineer-in-charge.
23. In all contracts where departmental issue of cement and steel is not stipulated, special conditions shall be incorporated as below:
- 23.1 Conditions for Cement (Grey Cement).
- i) The contractor shall procure Portland Pozzolana Cement (PPC) [conforming to IS:1489 (Part-I)], as required in the work, from reputed manufacturers of grey cement such as ACC, Ultratech, Shree Cement, GujratAmbuja, Jaypee Cement, J.K. Lakshmi Cement, Cement Corporation of India 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. Supply of cement shall be taken in 50 Kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got tested in accordance with provisions of relevant BIS codes. In case 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.

- ii) Use of PPC (Portland Pozzolana Cement) shall be used in RCC structures in accordance with the circular issued by the Directorate General of Works vide No.CDO/SE(RR)/Fly Ash (Main)/102 dt.09.04.2009. The use of PPC shall be regulated as per the following conditions stipulated in the circular dt.09.04.2009:-
- a) IS:456-2000 Code of Practice for Plain and Reinforced Concrete (as amended upto date) shall be followed in regard to Concrete Mix Portion and its production as under:
- (i) The concrete mix design shall be done as “Design Mix Concrete” as prescribed in clause-9 of IS 456 mentioned above.
 - (ii) 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.
- b) Minimum M25 grade of concrete shall be used in all structural elements made with RCC both in load bearing and framed structure.
- c) The mechanical properties such as modulus of elasticity, tensile strength, creep and shrinkage of flyash mixed concrete or concrete using flyash blended cements (PPCs) are not likely to be significantly different and their values are to be taken same as those used for concrete made with OPC.
- d) 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, fly ash and /or PPC received from different sources shall be ensured by trials.
- e) In environment subjected to aggressive chloride or sulphate attack in particular, use of flyash admixed or PPC based concrete is recommended. In case, 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.
- f) Wet curing period shall be enhanced to a minimum of 10 days or its equivalent. In hot & arid regions, the minimum curing period shall be 14 days or its equivalent.
- g) 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.

- h) 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.
- i) While using PPC for structural concrete work, no further admixing of flyash shall be permitted.
- iii) The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-charge.
- iv) The cement godown of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at the site of work for which no extra payment shall be made. Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-charge at any time.
- v) The cement shall be got tested by Engineer-in-charge and shall be used on work only after test results have been received. The contractor shall supply free of charge the cement required for testing. 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.
- vi) The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions therein.
- vii) 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.
- viii) Damaged cement shall be removed from site immediately by the contractor on receipt of notice in writing from the Engineer-in-charge. If he does not do so within three days of receipt of such notice, the Engineer-in-charge shall get it removed at the cost of the contractor.

23.2 Special conditions for steel reinforcement bars

- 1) a) The CPWD/Contractor shall procure IS marked TMT bars of various grades from the steel manufacturers of their authorized dealers (as per following selection criteria) having valid BIS license for IS:1786:2008 (Amendment -1 November 2012).

The procured steel should have following qualities:-

- i. Excellent ductility, bend ability and elongation of finished product due to possible refining technology.
- ii. Consumption of steel should be accurate as per design.
- iii. Steel should have no brittleness problem in finished product.
- iv. Steel should carry the quality of corrosion and earthquake resistance.
- v. Quality steel with achievement of proper level of sulphur and phosphorus as per IS: 1786:2008.

b) **Selection Criteria of steel manufacturers**

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

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

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

Or

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

Or

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

For production of liquid steel to finish product at single/multiple locations with NABL or any other similarly placed accrediting Government body which operates in accordance with ISO/IEC 17011 and accredits labs as per ISO/IEC 17025 conforming to IS:1786-:2008 (Amendment-1 November 2012).

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

Director cum CEO, AIIMS Raipur shall approve the steel manufacturers.

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

- 3) Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time or written orders from the Engineer-in-Charge to do so.
- 4) The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more, or as decided by the Engineer-in-charge.
- 5) The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent their 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) 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:

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

- 7) The contractor shall supply free of charge the steel required for testing including transportation to testing laboratories. The cost of tests shall be borne by the contractor.
 - 8) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of steel shall be worked out as procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the consumption is less than theoretical consumption including permissible variations recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment need to be made.
 - 9) The steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.
- 10.1 The following procedure should be followed in case of removal of rejected/sub-standard materials from the site of work.
- i) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the site order book under the signature of the AE/AEE giving approximate quantity

of such materials.

- ii) As soon as the material is removed, a certificate to that effect may be recorded by the AE/AEE against the original entry, giving the date of removal a mode of removal i.e. whether by truck, carts or by manual labour. If removal is by truck, the registration number of the truck should be recorded.
 - iii) When it is not possible for the AE/AEE to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site the required certificate should be recorded by the Junior Engineer and the AE/AEE should countersign the certificate recorded by the Junior Engineer.
- 11.2 Cement should be kept in godowns under double locks and keys and its consumption account invariably maintained, whether the cement is supplied departmentally or arranged by the contractor. A register should be maintained at the site of each work costing above Rs.20,000.00. This register should contain the columns as shown in Appendix-28. (CPWD Works Manual 2014).

The pages of the register should be machine numbered and each page initialed by the EE. The cement godown and the register are required to be checked by the AE/EE in-charge of the work as per following schedule.

- i) At least weekly or fortnightly, respectively in case of works at the Headquarters of AE/EE.
 - ii) Whenever they visit the site of work in case of works located outside the Sub-Divisional/Divisional Head Quarters.
- 11.3 Factory made glazed steel doors, windows & ventilators shall be manufactured in a workshop approved by the Chief Engineer.

Special Conditions for Steel

Sl. No.	Item	Checkpoint	Remarks
1	Steel producer having manufacturing facilities at plant	a. Factory address and Registration no.	
		b. Certificate of manufacturing process	
		c. Refining process of steel Producer	
		c.1 BF-BOF route	
		c.2 Corex-BOF route	
		c.3 DRI-EAF route	
		With documentary evidence either for BOF or EAF	
		d. Steel plant having infrastructure for producing sponge iron, billete and TMT Rebars	
		e. Production and quality flow chart	
		f. Plant evaluation and process verification	
2	Established	g. List of plant & machinery	
		Document verification for:	
		a. Govt./PSU Approvals	
		b. Supply orders of TMT Re-bars in Govt. Projects(Minimum-5 years)	
		c. Verification of direct supply orders to any State/Central Govt. Department	
3.	Indigenous	d. User Certificate issued by any Govt. Department directly.	
		Documentary evidence like;	
		a. Certificate of incorporation.	
		b. Memorandum of articles of association	
		c. Credit rating of the company from CARE/CRISIL/ICRA should not be C/D grade (minimum last 3 year)	
		a. Test results from Govt./NABL accredited laboratories	
4	Reliable	b. In house testing facility for physical/chemical tests(NABL accredited)	
		d. Calibration certificates	
		e. List of lab equipments:	
		e.1 Calibration certificates	
5	Use of Iron-Ore/Processes Iron are as basic raw materials	e.2 Computerized UTM	
		Verification of Iron-Ore/Process iron ore invoices	
6.	In-house rolling facility	Plant verification to identify in house rolling facilities, production of liquid steel & crude steel	
		a.ISO 9001:2008 Certification	
		b. ISO 14001:2004 Certification	
		c. OHSAS 18001 : 2007 certificate	
		d. IS 1786:2008(TMT Re-bars)	

		e. IS 2830:1992 (Billets)	
8.	Product Range	TMT Re-bars FE 415/415D/500/500D/550/550D	
		CRS (Corrosion Resistant) & EQR (Earthquake Resistant) TMT Re-bars Size 8 to 36 mm dia	

Note:

DRI-EAF->Direct Reduce Iron-Electric ARC Furnace

BF-BOF-> Blast Furnace – Basic Oxygen Furnace

COREX-BOF->COREX Furnace- Basic Oxygen Furnace

SPECIAL CONDITIONS FOR PROCUREMENT OF CEMENT & STEEL

1.0 CEMENT

- 1.1 The contractor shall procure Portland Pozzolana Cement conforming to IS:1489(Part-I), as required in the work, from reputed manufacturers of cement such as ACC, Ultratech, Vikram, Shree Cement, Ambuja, Jaypee Cement, Century Cement & JK 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 manufacturer(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufacturers, given by the tenderer, fully or partially.

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

- 1.2 The cement shall be brought at site in bulk supply of approximately 50 tonnes or as decided by the Engineer-in-Charge.
The cement godown of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at site of work for which no extra payment shall be made.
- 1.3 Double lock provision shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-Charge or his authorized representative and the keys of the other lock shall remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
- 1.4 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 test 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.
 - c) If the cement brought is in smaller lots than specified in para 1.2 above, the cost of testing charges beyond the permissible frequency shall be borne by the contractor.
- 1.5 The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in clause 42 of the contract and shall be governed by conditions laid therein. In case the cement consumption is less than theoretical consumption including permissible variation, recovery at the rate so prescribed shall be made. In case of excess consumption no adjustment needs to be made.

- 1.6 The cement brought to the site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer-in-Charge
- 1.7 The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do so within three days of receipt such notice the Engineer-in-Charge shall get it removed at the cost of the contractor.
- 1.8 The contractor may use OPC in place of PPC only after written permission of the Engineer-in-Charge. In such case no extra payment shall be made in any form to the contractor by the department.

2.0 STEEL

- 2.1 The contractor shall procure TMT bars of Fe 500D 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 tonnes per annum and above.

In case of non-availability of steel from primary producers the NIT approving authority may permit use of TMT reinforcement bars procured from steel producers having Integrated Steel Plants

(ISPs) using iron ore as the basic raw material for production of crude steel which is further rolled into finished shapes in-house having crude steel capacity of 0.5 Million tonne per annum and more.

In case of non-availability of steel from Primary Producers as well as ISPs then the NIT approving authority may also permit use of TMT reinforcement bars procured from secondary producers.

- a) The grade of the steel shall be Fe 500D 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 license from either of the firms Tempcore, Thermex, Evcon Turbo & Turbo Quench to produce TMT Bars.
- c) The TMT bars procured from primary producers and ISPs shall conform to manufacture's specifications.
- d) The TMT bars procured from secondary producers shall conform to the specifications as laid by Tempcore, Thermex, Evcon Turbo & Turbo Quench 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 500-D or other grade of steel as specified in the tender.
- 2.2 The contractor shall have to obtain and furnish test certificates to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work.
- 2.3 Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined under para 2.1(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 or written orders from the Engineer-in-Charge to do so.

- 2.4 The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more, or as decided by the Engineer-in-Charge.
- 2.5 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to prevent their distortion and corrosion, and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.
- 2.6 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:
- 2.8 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.
- 2.9 The steel brought to site and the steel remaining unused shall not be removed from site without the written permission of the Engineer-in-Charge.
- 2.10 In case contractor is permitted to use TMT reinforcement bars procured from ISPs or secondary producers then:
- (1) The base price of TMT reinforcement bars shall be as indicated under schedule 'F'.
 - (2) The rate of providing & laying TMT reinforcement bars as quoted by the contractor in the tender shall also be reduced by Rs. 7.00 per kg.

TREATMENT SCHEME

The scheme based on MBBR technology considered for the augmentation of the plant is as under:

1. DESIGN PARAMETER

Normal sewage is having following characteristics. Tenderer will get the sewerage tested before undertaking detailed design.

pH	-	5.5 to 9
BOD	-	150-350 mg/lit
TSS	-	300 mg/lit
COD	-	350-450 mg/lit
Coliform count	-	10^6 - 10^7 counts MPN/100 ml.
O & G	-	40 mg/lit

Treated sewage should be having following characteristics, suitable for reuse in horticulture

pH	-	7 to 8
BOD	:	<10 mg/lit
COD	:	< 150 mg / lit.
TSS	:	<30 mg/lit
Outlet Coliform	:	< 100 counts / 100 ml
O & G	:	<5 mg/lit

The aerobic conditions should be maintained in the process i.e. in presence of oxygen; system shall be self-sustaining type & not involve any sludge recycling.

2. STRUCTURE AND COMPONENTS

The proposed 500 KLD STP is based on latest MBBR technology and following components/provision are there in STP.

a) CIVIL: -

- Screen Chamber
- Oil & Grease tank.
- Equalization tank.
- FAB Reactor.
- Secondary Tube Settler.
- Filter Feed Tank.
- Sludge holding Tank.
- Treated and UT water Tank.

- Office Cum Laboratory
- Foundations of Pumps.
- Interconnecting Pathways.

b) Mechanical Equipments: -

- SS Bar Screen.
- Sewage lift pump.
- Air diffusion system
- Air Purging Grid: .
- FAB Media.
- Tube settler media.
- Twin lobe Rotary Air Blower with accessories.
- Chlorine dosing system.
- Filter feed pumps.
- Dual media filter.
- Activated Carbon filter.
- Sludge feed Pump.
- Hydraulic filter Press with sludge trolley accessories.
- Poly electrolyte dosing tank: MOC- HDPE, capacity.
- Interconnecting Piping, fittings & Valves.

c) Electrical:-

- Electrical panel, cabling and earthling.
- Instrumentation consisting of level controllers, pressure gauges, water meter (Electromagnetic).

d) Sewer Lines :-

- The treated effluent can be used in the campus for horticulture purpose with MS pipe K-7.

3. PRE-TREATMENT

Sewage shall be collected in existing equalisation tank and then pumped to first existing tank after passing through existing stilling chamber & fine bar screen chamber; this tank shall be utilized as equalization tank.

In fine screen, floating matter, any large particles are trapped in the bars. Removal of floating / coarse matter is essential otherwise it can choke pipelines / pumps etc, and hinder the normal operation of the treatment plant. The screens are made of epoxy coated mild steel flats, placed at equal intervals. The inclination of bars is kept such that manual raking becomes easy.

Equalization tank is provided to cater peak load conditions and to maintain homogenous conditions and to avoid any settling, for the same aeration is provided through air grid in the equalization tank.

4. BIOLOGICAL TREATMENT

Sewage from equalization tank shall be pumped to process reactor.

The main pollutants in the raw sewage are represented in the form of bio-chemical oxygen demand (BOD) and chemical oxygen demand (COD). The ammonical nitrogen, nitrate nitrogen and phosphorous present also represent as polluting substances. The bacterial ability to synthesize the organic matter to harmless end products like carbon di-oxide and water molecules is utilized to treat the raw sewage.

The bio-reactions are carried out in controlled environment in the bio-reactor, to maximizing the BOD removal efficiency & avoid any short circuit. The bio-reactor comprises of a tank, fitted with aeration grid. The bacterial activity needs dissolved oxygen, to synthesize the organic matter. This is supplied by passing air in form of coarse bubbles. The air is passed at the bottom of the tank, so that complete volume of tank is utilized. Oxygen dissolves in liquid, which can now be used by the bacteria.

The bacterial population is present on the media, which forms an integral part of the reactor system. The media is made of small polypropylene elements. Millions of such pieces are present in the reactor.

Large surface area is available for the bacterial population to grow. The bacteria grow on the plastic media, by using the organic content in the raw sewage, and the dissolved oxygen available. Due to constant aeration, the media is set in whirling motion, so that continuous mixing takes place.

The bacterial layer growth on the media surface increases to a certain extent, and then gets sloughed off after a specific period. This phenomena is called sloughing. This creates new surface for further bacterial growth. Sloughing takes place only after complete growth and subsequent dyeing – off of the bacterial layer and hence the sloughed off material is completely digested.

Ammoniac nitrogen is completely converted into nitrate nitrogen, in the bacterial synthesis. About 50 – 60% of the phosphates are also assimilated in the organic synthesis. (Nitrogen and phosphorous are utilized as micronutrients in the bacterial activity.) The bacterial reaction is carried out in two stages, for maximizing the BOD removal efficiency. Hence, two such reactors are provided in series. Within the reactors, arrangements are made to retain the plastic media in place.

Air supply is done through perforated stainless steel pipes. Use of stainless steel pipes ensures that no maintenance is required.

5. SLUDGE REMOVAL

Digested Sludge produced during decomposition in process reactor, is then removed from the treated sewage from bottom of tube settler through auto de-sludge valve and drained to sludge sump.

The sludge then pumped to filter press for dewatering to achieve solid concentration 20 – 25%.

Treated sewage over flow from the top of tube settler is collected from the entire surface of the tank through over flow weirs and then stored in chlorine contact tank.

6. DISINFECTION

Treated sewage shall be in chlorine contact tank for a period of 60 minutes. Chlorine is added in the form of hypo chlorite solution to kill the pathogens / E-Coli coliform. It is dosed at inlet of the tank & for complete mixing of hypo solution baffle walls are provided in the tank.

Chlorine being a very strong oxidizing agent, a small dose of 3 – 5 mg /l is enough to achieve desired levels of disinfection. Small residual chlorine (of the order of 0.2 – 0.25 mg / l) also ensures that there is no re-growth of E-coli, till the final disposal point.

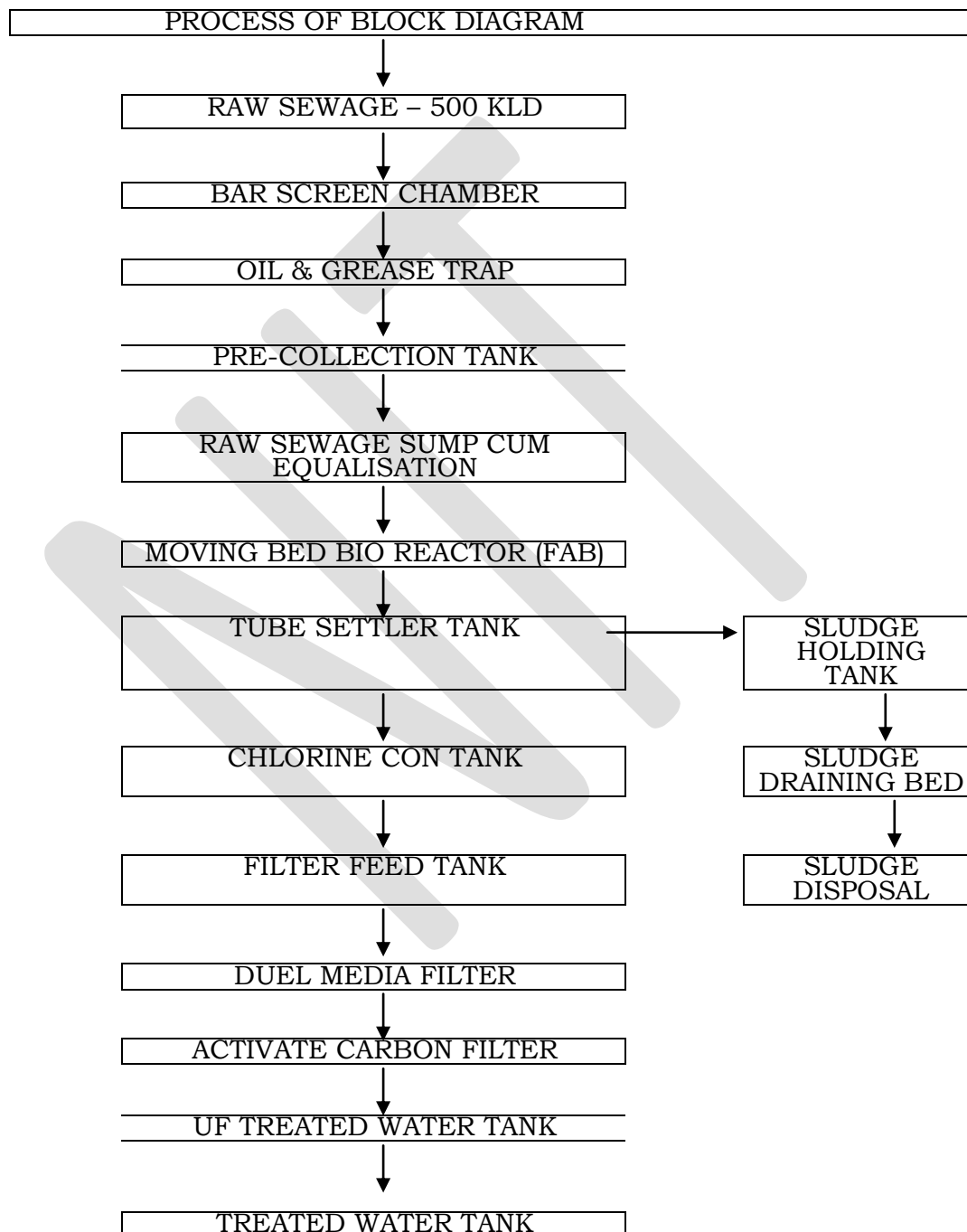
At the top of the tank Hypo solution tank is provided fitted with electronic metering type dosing pumps for dosing.

7. TERTIARY TREATMENT

From outlet of chlorine contact tank, treated sewage is pumped to tertiary treatment unit comprising of Dual Media Filter and Activated Carbon Filter to achieve the desired results and to make it fit for reuse in Horticulture.

Treated sewage is collected in treated water tank for further pumping to the reuse end; same tank shall provide water for back washing of filter also.

8. TREATMENT SCHEME



SPECIAL CONDITION FOR SPECIALISED JOB

1. The plant is to be based on MBBR Technology on turn key basis completely factory fabricated and ready for installation on the foundation to be made separately or with fabricated components, sections, site assembly & erected on the foundation made separately or with any suitable method.
2. The department will provide electric supply up to the point of Electric panel installed by the Contractor. The electric consumption during the O&M shall however be borne by the Department.
3. The compensation penalty, if any, imposed & levied on the department, under any regulation related to pollution Control by the pollution Control board or any other regulatory authority for failing the general standards as laid down and modified under environment (Protection) Act 1986 for treated effluent, shall be recovered from the agency.
4. The officers/officials of the Department as well as the officials of pollution control board/ Central Pollution Control Board shall have free access to the plant for the purpose of inspection and monitoring the working of the plant. They will have the authority to collect the treated effluent as & when they so desire.
5. The plant shall be taken over by AIIMS Raipury after the successful completion of contract period of the Plant, after checking for its operations & maintenance done during the contract period.
6. The periodicity of test of the effluent during maintenance shall be as per standard practice or as decided by the Engineer-in-Charge.
7. Any defect or damage to any part of the plant & machinery resulting in either unsatisfactory performance of the plant or inefficient treatment of waste generating effluent not conforming to laid down standard shall be got rectified and repaired by the agency at his risk & cost during maintenance period.
8. Defective parts of mechanical & electrical equipment such as pumps, motors, pressure gauges, pipelines, valves, starters & other equipment, shall be replaced with spare parts of approved make conforming to relevant I.S. code during maintenance period.
9. The agency shall be fully responsible for watch & ward, upkeep safety of the plants, equipment etc. from pilferage, theft and misuse in any manner during maintenance period till the handing over the same to the department.
10. The contractor shall be fully responsible for any act of trespass and consequential damage to the plant.
11. Connection of gasket flanges shall be done with stud bolts and nuts.
12. Threads of Bolts and nuts shall be coated before installation with lubricant to prevent galling of threads.

13. All equipment shall be open to inspection of Engineer-in-Charge during various stages of manufacturing starting from identification of raw material to completion and all the observations of the Engineer-in-charge shall be complied with during manufacturing.
14. All equipment shall be got tested hydrostatically as per the requirements of specification/ codes in presence of the Engineer-in-charge.
15. Water Tightness Test: - Water tightness test shall be carried out for all liquid storage structures to the full satisfaction of the Engineer-in-Charge. The concrete surfaces shall not be plastered or covered with any other external hydro insulation before carrying out required tests. In case of underground structure, back filling shall not be done before such tests. Any defect or leakage noticed during such tests shall be immediately restored at no extra cost to the department. In cases where minor rectification works do not yield satisfactory results, guniting or pressure grouting shall be restored to for the structures at contractors cost as per direction and satisfaction of the Engineer-in-Charge All the structures must be adequately water proofed with appropriate water proofing material confirming to CPWD Specifications and should remain leakage free.
16. Tenderer shall submit 3 sets of Operation & maintenance manual prior to start of commissioning of the plant, compiling complete technical specifications of all equipment's.

24.0 SECRECY

- 24.1 The contractor shall take all steps necessary that all persons employed on any work inconnection with the contract have notice that the Indian Official Secrets Act-1923 applies tothem & will continue so to apply even after the execution of such works under the contract.
- 24.2 The contract is confidential and must be strictly confined to the contractor"s own use (except so far as confidential disclosure to sub-contractors or suppliers as necessary) and to the purposeof the contract.
- 24.3 All documents, copies thereof & extracts there from furnished to the contractor shall be returned to the Engineer-in-Charge on the completion of the work/ works or the earlier determination of the contract.

25.0 LABOUR AND SECURITY

- 25.1 Contractor should provide his plan for labour huts as per his requirement and get it approvedfrom the Engineer-in-Charge. The contractor will be provided space for labour huts etc. insidethe campus but the space requirement and location, as assessed by Engineer-in-Charge shallbe final and binding.
- 25.2 Contractor has to follow the security requirement of the campus and obtain necessary entry passes for the labour and vehicles and follow security checks at entry/ exit gates, restriction on movement of vehicle, restricted timings of working etc. The Department however shall assist the contractor in obtaining such passes for movement of vehicles and labour. No claimwhatsoever shall be entertained on account of delay in entry of vehicles and labour including restrictions in working hours, if there is any.
- 25.3 The contractor shall employ only Indian Nationals after verifying their antecedents and loyalty. The contractor shall, on demand submit list of his agents, employees and work people concerned & shall satisfy as to the bonafides of such people.

- 25.4 The contractor & his work people shall observe all relevant rules regarding security promulgated in which work is to be carried out by the Controlling Administrative Authority of the campus/area (hereinafter referred to as “Administrator”).
- 25.5 The contractor, his representative, workman shall be allowed to enter through specified gates& timing as laid down by the controlling authority. They shall be issued an identity card or an individual pass in accordance with the standing rules & regulations & they should possess the same while working. The contractor shall be responsible for the conduct & actions of his workmen, agents/ representatives.
- 25.6 Normally contractor shall be allowed to carry out work between 7 AM to 6 PM. However, he may also be allowed to carry out the work beyond 6 PM & upto 7 AM if the site conditions/circumstances so demand with prior written permission from the “Administrator”. However, if the work is carried out in more than one shift or at night, no claim on this account shall be entertained.
- 25.7 Normally contractor’s material/ vehicles etc shall be allowed to move in/ go-out between 7 AMto 7 PM only & no movement of material/ vehicles out of site of work shall be allowed during night hours unless specific permission is obtained from the “Administrator”.
- 25.8 In case if a separate entry has been allowed, the contractor has to make all arrangement for making a separate entry gate and barricading of the working area to segregate/separate the same from other areas. All these have to be done by the contractor at his own cost including safeguarding any untoward incident in the restricted area due to separate entry gate and barricading arranged by the contractor. No extra amount on this account shall be payable by the department.

26.0 TRANSPORTATION AND OFFICE INFRASTRUCTURE:

- 26.1 The contractor shall make arrangement for Helmets and leather shoes (meant of construction work at sites) for all field staff of the department during the entire period of maintenance for safety reasons. One helmet and two pairs of shoes per staff member (maximum ten members)of the departments per year shall be arranged by the contractor.

27.0 SAFETY MEASURES

- 27.1 Contractor shall take all precautionary measures to avoid any damage to adjoining property.

All necessary arrangement shall be made at his own cost.

28.0 Warning/ Caution Boards

All temporary warning/ caution boards/ glow signage display such as “Construction Work in Progress”, “Keep Away”, “No Parking”, Diversions & protective Barricades etc. shall be

provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer-in-Charge. These glow signage and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer-in-Charge. Nothing extra shall be payable on this account.

29.0 Sign Boards

The Contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer-in-Charge. The Contractor shall fabricate and put up assign board in an approved location and to an approved design indicating name of the project, client/ owner, architects, structural consultants, Department etc. besides providing space for names of other Contractors, Associate contractors and specialized agencies. Nothing extra shall be payable on this account.

- 29.1.1 Necessary protective and safety equipments shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the Contractor at his own cost and used at site.
- 29.1.2 No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer -in- Charge in this regard. Also all precautions and safety measures shall be taken by the Contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L shall be borne by the Contractor.

1. Scope of Work

Following items are covered under the scope of Comprehensive maintenance, Break down maintenance, Preventive maintenance i/c routine daily, weekly, monthly, quarterly and yearly maintenance of installation as per details furnished here under, shall be carried out. Comprehensive maintenance also includes supply/ replacement and repair of Units spares as required. No extra payment will be made for supply/ repair/ replacement of spare units/ components.

2. Attending To Complaints

All defects and deficiencies should be rectified promptly after lodging of complaint. The complaint can be lodged through telephonic message or through complaint register kept at plant. For expeditious disposal of complaint, contractor will keep sufficient reserve of unit exchange spare quantity & item to be kept as unit spares shall be jointly decided with Engineer-in-charge.

The contractor will furnish Telephone No. and his contact person to whom the complaint has to be lodged.

3. Identity Cards

The identity cards will be issued to the workman`s employed by the contractor after proper police verification for which Contractor shall submit a list of worker`s to be deployed on site of work. They will be required to carry the identity cards with them during their working inside the building.

- 4. The contractor shall arrange sodium hypo chlorite/ any other recommended chemical for cleaning free of cost during the operation maintenance period in required quantum. Nothing extra shall be paid on this account.

5. The contractor shall be responsible for replacement of the spare part required for running the Sewage Treatment Plant free of cost during the operation and maintenance period. Nothing extra shall be paid on this account.
6. The contractor shall arrange for conducting all required tests on effluent and shall submit the monthly reports to the Engineer-in-charge.
7. The department shall supply electricity and diesel for Generator for operating the sewage treatment plant.
8. The contractor shall dispose of sludge received from the treatment of sewage. Nothing extra shall be paid on this account.
9. In case of any breakdown, the contractor shall undertake the repair work of the STP within 24 (Twenty Four) hours and put the plant in operational condition.
10. In case the contractor fails to undertake the repair work of STP within Twenty Four Hours and is unable to put in operational mode, a sum of Rs. 10000 / - (Ten Thousand) Only shall be recovered for each fault per day till the STP is put to operational to the entire satisfaction of the Engineer-in-charge.
12. Plant Operations and Maintenance Manual

Contractor shall submit three (3) sets of draft Operation and Maintenance (O&M) manual to the Owner during execution / erection. After approval of draft, the final operating and maintenance manual shall be made available before commencing the commissioning of the plant. The objective of the manual is to assemble under one bound cover all the instructions, data and drawings necessary for the operation's personnel to start, operate, control, shut down and maintain the systems under normal and emergency conditions in a safe manner.