



Shri Mata Vaishno Devi Shrine Board Tender Document

for

Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance (Five years) of Sewage Treatment Plant (STP) based on Membrane Bio Reactor Technology (MBR) of 30 KLD Capacity complete in all respects to cater the requirement of Toilet Block No. 3A Banganga, Katra of Shri Mata Vaishno Devi Shrine Board

e-NIT No. CO/SW/STP/164/07 of 2024 Dated:11.10.2024

Last Date for submission of Tender : 30.10.2024

Address: Central Office, Shri Mata Vaishno Devi Shrine Board, Katra (J&K) – 182301
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**OFFICE OF THE CHIEF EXECUTIVE OFFICER
SHRI MATA VAISHNO DEVI SHRINE BOARD,**
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Notice Inviting e-Tender
e-NIT No. CO/SW/STP/164/07 of 2024 Dated: 11.10.2024

E-Tenders are invited, on behalf of Shri Mata Vaishno Devi Shrine Board, Katra through its Chief Executive Officer from the professional firm / companies/ Limited Liability Partnership (LLP) dealing in manufacturing of STP for **“Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for (05 year) Standalone Sewage Treatment Plant (STP) 30 KLD capacity based on Membrane Bio Reactor (MBR) at Toilet Block No. 3A, Banganga”**.

S. No	Description of work	Approx. cost of Project	Time of completion	Amount of CDR / FDR
1	Survey, Design, Supply, Installation, Commissioning, Testing and Operation and Comprehensive Maintenance for (05 years) of Standalone Sewage Treatment Plant (STP) 30 KLD capacity complete in all respects to treat sewage from toilet blocks at Toilet Block No. 3A, Banganga	160.00 Lacs	120 days	3.20 Lacs i.e 2% of project cost

The e-NIT consisting of Qualifying Information, Eligibility Criteria, Specifications, Bill of Quantities, (B.O.Q), set of Terms & Conditions of Contract and other details can be seen / downloaded from the departmental Website:- <http://jktenders.gov.in> & on SMVDSB website www.maavaishnodevi.org as per following:

Publishing Date	11.10.2024 at 03:30 PM
Bid Download Start Date	11.10.2024 at 04:30 PM
Pre Bid Conference & Profile Presentation	16.10.2024 at 01:00 PM
Bid Submission Start Date	18.10.2024 at 01:00 PM onwards
Bid submission End Date (Online)	30.10.2024 at 04:00 PM
Submission of Hard Copy (end) date and time	30.10.2024 upto 05:00 PM
Date of Opening of Technical Bid (Online)	31.10.2024 at 03:00 PM

The tender should be accompanied with an Earnest Money in the form of CDR / FDR amounting to Rs. **3.20** Lakh from any Nationalized / Scheduled Bank duly pledged to the FA/Chief Accounts Officer, Shri Mata Vaishno Devi Shrine Board, Katra and Tender Fee of Rs1000/- in the official account of Shri Mata Vaishno Devi Shrine Board Branch J&K Bank Katra, Account No. **0235040500001804, IFSC – JAKA0KATTRA**. The bidder shall mention UTR No. in the prescribed Technical Bid Form at **Schedule-A**. Complete bidding process will be done online on e-Tender portal www.jktenders.gov.in & www.maavaishnodevi.org. The tenders should be submitted strictly in accordance with the provisions of the detailed e-NIT.

Sd/-
Asstt. Conservator of Forest
SMVD Shrine Board, Katra

Instruction to Bidders regarding e-Tendering process:

1. The interested bidder can download the e-NIT / bidding document from the website www.jktenders.gov.in & www.maavaishnodevi.org.
2. To participate in bidding process, bidders have to get (DSC) "Digital Signature Certificate" as per information Technology Act-2000, to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get above mentioned digital certificate from any approved vendors.
3. The Bidders, who already possess valid (DSC) Digital Signature Certificates, need not to procure new Digital Signature Certificate.
4. The bidders have to submit their bids online in electronic format with Digital Signature. The bids cannot be uploaded without Digital Signature. No Proposal will be accepted in physical form.
5. Bids will be opened online as per time schedule mentioned in the e-NIT.
6. Before submission of online bids, bidders must ensure that scanned copies of all the necessary documents have been attached with bid.
7. The SMVDSB will not be responsible for delay in online submission of bids whatsoever reasons may be.
8. All the required information for bid must be filled and submitted online.
9. Bidders must attach scanned copies of all documents & EMD as specified in the tender documents.
10. The details of cost of documents, EMD specified in the tender documents should be the same, as submitted online (scanned copies) otherwise bid will not be accepted.
11. Bidders are advised to use "My Documents" area in their user on <http://jktenders.gov.in>, e-tendering portal to store important documents like Balance sheet, GST Registration Certificate, Tax Clearance Certificate, IT certificate, and other related documents etc., and attach these certificates as Non-Statutory documents while submitting their bids.
12. Bidders are advised not to make any change in BOQ (Bill of Quantities) contents or its name. In no case they should attempt to create similar BOQ manually. The BOQ downloaded should be used for filling the item rate as prescribed and it should be saved with the same as it contains.
13. Bidders are advised to scan their documents at 100 DPI (Dots per Inch) resolutions with Black and White, PDF \ Scan properly.
14. The guidelines for submission of bid online can be downloaded from the website <http://www.jktenders.gov.in> & www.maavaishnodevi.org.
15. The Tenderer(s) should carefully study the document and prepare his tender with consideration of all provisions of the document. He should fully acquaint himself / herself with site conditions and all other factors which may influence preparation of his tender.

Sd/-

**Asstt. Conservator of Forest
SMVD Shrine Board, Katra**

No:- CO/SW/STP/164/56-59

Dated: 11.10.2024

Copy to the:

1. Chief Executive Officer, SMVDSB, Katra.
2. Addl. Chief Executive Officer, SMVDSB, Katra.
3. FA / Chief Accounts Officer, SMVDSB, Katra.
4. Dy. Manager (IT) for publication on the official website of the Shrine Board.



**OFFICE OF THE CHIEF EXECUTIVE OFFICER
SHRI MATA VAISHNO DEVI SHRINE BOARD,
Central Office, Jammu Road, Katra (J&K) – 182301
Fax: +91- 1991- 232120 Tel.: +91-1991-232818**

E-mail: sanitation@maavaishnodevi.net , acf@maavaishnodevi.net

e e-NIT No. CO/SW/STP/164/07 of 2024 Dated: 11.10.2024

SUBJECT: Notice inviting E-Tender on the prescribed format duly affixed with Revenue Stamp worth Rupees Six only are invited on behalf of Chief Executive Officer Shri Mata Vaishno Devi Shrine Board from the professional firm / Companies/ Limited Liability Partnership (LLP) dealing in manufacturing of STPs for **Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for (05 year) Standalone Sewage Treatment Plant (STP) 30 KLD capacity based on Membrane Bio Reactor (MBR) at Toilet Block No. 3A, Banganga ”.**

1. REQUIREMENT:

For and on behalf of SMVDSB, through its CEO, SMVDSB, e-Tender affixed with e-Stamp under Two Bids System are invited from the professional firm/ Companies/ Limited Liability Partnership (LLP) dealing in manufacturing Standalone Sewage Treatment Plants for **“Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for (05 year) Standalone Sewage Treatment Plant (STP) 30 KLD capacity based on Membrane Bio Reactor (MBR) at Toilet Block No. 3A, Banganga ”.**

The detailed Tender Document containing details of the items with full description and terms and conditions is available at www.jktenders.gov.in & www.maavaishnodevi.org

2. TENDER SCHEDULE:

Publishing Date	11.10.2024 at 03:30 PM
Bid Download Start Date	11.10.2024 at 04:30 PM
Pre Bid Conference & Profile Presentation	16.10.2024 at 01:00 PM
Bid Submission Start Date	18.10.2024 at 01:00 PM onwards
Bid submission End Date (Online)	30.10.2024 at 04:00 PM
Submission of Hard Copy (end) date and time	30.10.2024 upto 05:00 PM
Date of Opening of Technical Bid (Online)	31.10.2024 at 03:00 PM

Name of the Project:

“Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for (05 year) Standalone Sewage Treatment Plant (STP) 30 KLD capacity based on Membrane Bio Reactor (MBR) at Toilet Block No. 3A, Banganga” as per the latest guidelines of NGT/CPCB.

3. **ELIGIBILITY CRITERIA:**

- a. Bidder must be an approved manufacturer/ supplier of Sewage Treatment Plants (s) duly registered under the Companies Act, 1956 and must be having an experience of at least 03 years in the field of STPs. The bidder should be an ISO 9001 certified, BIS recognized in designing and execution of STPs with its own in house quality plants
- b. Bidder must be income tax payee and shall submit attested copies of the Income Tax Returns / Income Tax Assessment Order for the last three financial years 2020-21, 2021-22 and 2022-23. Bidder shall also submit proof of PAN & GST.
- c. Bidder must have Average Annual financial turnover of at least Rs.50.00 lakh related services during the last three years, i.e. 2021-22, 2022-23 and 2023-24 ending of financial year. Attested copies of audited balance sheets and profit and loss of account for the last three financial years
- d. The bidder must have sound financial background and a positive net-worth of at least Rs 10.00 Lakh each year continuously for the last three financial years 2020-21, 2021-22 and 2022-23.
- e. The bidder must have carried out design, supply, installation, testing and commissioning of Sewage Treatment Plants of at least 30 KLD or more capacity during the last three years viz. 2020-21, 2021-22 and 2022-23.
- f. The bidder must enclose undertaking on the letter head of the company that the bidder has never been black listed or punished by any court for any criminal offence/breach of contract and no police/vigilance enquiry/criminal case is pending against him or company/agency as the case may be.
- g. Any Government body in India should not have blacklisted the Bidder/OEM/its subsidiary, dealing in similar products

h. **PROCEDURE FOR SUBMISSION OF TENDER:**

Bidders are invited to submit Bids for “e-Notice Inviting Tender (e-NIT) for “Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for (05 year) Standalone Sewage Treatment Plant (STP) 30 KLD capacity based on Membrane Bio Reactor (MBR) at Toilet Block No. 3A, Banganga” in two parts viz. Technical Bid (**Schedule-A**) and Financial Bid (**refers to BoQ Online only**) as per enclosed proforma along with supporting documents, application fee, EMD etc. The bidders are required to submit their bid under 2 bids system with Cover-I (Technical Bid) and Cover-II (Price Bid).

A. **Cover-I (Technical Bid)**

(This cover shall contain): -

- (i) **Schedule-‘A’** form duly filled in along with relevant documentary proofs.
- (ii) Scanned copies of EMD **Rs 3.20 Lacs in** shape of CDR / FDR pledged to Chief Accounts Officer, SMVDSB.
- (iii) Tender Fee of **Rs.1,000/-** shall be deposited in the official account of Shri Mata Vaishno Devi Shrine Board, Branch J&K Bank Katra, Account No. **0235040500001804, IFSC – JAKA0KATTRA (in IFSC Code JAK0KATTRA – 0 stands Zero)**. The bidder shall mention UTR No. in the prescribed Technical Bid Form at **Schedule-‘A’**
- (iv) Tender Document containing Instructions, **Terms and Conditions duly signed** on each leaf by the Tenderer, along with documentary proof wherever required.

B. Cover II (Price Bids):

- (i) Price bid shall contain price quoted for each work separately as per BoQ & has to be submitted **online** in the form of BoQ only.
- (ii) The price bid should be absolute and unconditional.
- (iii) Conditional bids shall be rejected.
- (iv) The price bid shall be opened in favour of bidders who qualify in the technical bid. Rates are required to be quoted strictly as per prescribed BoQ / item of works.
- (v) Price bids not conforming to above standards or suffering from any flaw shall be rejected.

Note: The bidder shall upload and submit the original instruments in respect of cost of documents, EMD and other relevant documents by or before specified date in the **Tender Schedule** in the office of the Asstt. Conservator of Forest, SMVDSB alongwith Technical Bid. e-Tender will not be accepted without hardcopies of the Tender fee receipt and EMD.

4. Selection Criteria:

All bidders shall submit documentary proof in support of meeting eligibility criteria. In the first stage of evaluation, Proposals shall be rejected, if found deficient as per the requirements of Tender / Bid Processing Fee and other eligibility criteria. Only bids confirming the e-NIT conditions shall be further taken up for evaluation. Evaluation of the technical Bid will start first. The bidder qualifying the technical bid shall only be admitted in process of financial bid evaluation. The participating bidder's criteria eligibility shall be evaluated on the basis of points to be obtained in the point matrix.

A. Technical & Pre-Qualification Points:

S No	Description	Particulars	Max Points	Document detail required (duly attested by the bidder)
1	Design, Supply, Installation, Testing and Commissioning of minimum 10 KLD or more capacity of Sewage Treatment Plants contracts executed under execution over the last 03 years (2020 onwards)	> 5 contracts	10	Relevant copies of work orders
		3-5 contracts	7	
		upto 2 contracts	5	
2	Average turnover for last 03 FY viz. 2020-21, 2021-22 and 2022-23	>5 Crore	10	Audited balance sheet for the last three years 2020-21, 2021-22 and 2022-23
		3 - 5 Crore	7	
		< 3 Crore	5	
3	Average net-worth for last 03 FY viz. 2020-21, 2021-22 and 2022-23	>3 Crore	10	
		1.5 - 3 Crore	7	
		<-1.5 Crore	5	
4	Experience of executing Operation and Maintenance of STPs (Not less than 03 years)	> 07 years	10	List of works executed (year wise)
		05-07 years	7	
		03-05 years	5	
5	Profile Presentation (Methodology Work plan, any prestigious award for STP)		20	
Total Score			60	

B. Technical & Financial Bid Evaluation criteria:

- i. For qualifying in the technical bid, bidder shall have to score minimum 30 points out of 60 as mentioned in the above point matrix table. Any bidder failing to obtain the minimum qualifying score, the technical bid shall not be admitted in financial bid opening process.
- ii. Financial bids of the technically qualified bidders shall be opened and the bidder emerging L-1 bidder shall be considered for the allotment of the contract. In-case of the tie in rates, revised sealed bid can be obtained on the spot and the bidder offering lowest rates shall be considered for the allotment of the contract. In-case of tie in the second instance as well, the bidder scoring more in the technical bid evaluation process shall be considered for the allotment of the contract. In-case of tie at third instance, it shall be decided by the process of “draw of lots”.
- iii. The Shrine Board reserve the right to negotiate the quoted rates, terms & conditions with the lowest tenderer or any of the other tenderers on quality basis to ascertain the suitability of the acceptance offer.

5. **Pre-Bid Conference:**

A pre-bid conference will be held on **16.10.2024 at 01:00 PM** at Conference Hall, Central Office, SMVDSB, Katra and the successful bidder shall display its power point presentation regarding the ibid work. It is advised that after Pre-bid meeting, the bidder shall visit the site to acquaint themselves with the prevailing condition and other facilities available nearby. Conceptual understanding / layouts of area, whichever possible will be provided to bidders during pre-bid meeting. Shrine Board reserves the right to modify the terms & conditions of e-NIT after the pre-bid conference in view of any practical modalities which may emerge during the pre-bid meeting.

6. **General conditions:**

- i. That work allotted to the successful bidder shall be for a period of five years commencing from the date of issuance of LoA. The successful bidder shall have to enter into agreement with Shri Mata Vaishno Devi Shrine Board, Katra within a period of 15 days from the issuance of LoA.
- ii. The Chief Executive Officer, SMVDSB reserves the right to accept or reject any one or all the tenders without assigning any reason thereof.
- iii. The successful bidder shall have to make payment on account of any loss / damage caused to the property of the Shrine Board by his workers intentionally or un-intentionally, failing which the same shall be recovered from his due payment / Security Deposit of bidder.
- iv. That successful bidder shall provide its workforce in decent uniforms viz. shirt / trouser / shoes / suit and with identification badges at its own cost. The successful bidder shall ensure that the staff deployed is properly, cleanly and neatly dressed and they shall be disciplined and polite to the Yatries and the staff of the Shrine Board at all times. The personnel provided by the successful bidder shall be of good character, physically fit, efficient and skillful in their duties. **The successful bidder shall furnish medical fitness certificates issued by the competent authority, of the manpower engaged within 60 days from the issuance of Letter of Award and subsequently furnish the same on half yearly basis**

- v. That the successful bidder shall have to deposit EMD in the form of CDR / FDR / TDR pledged to FA/CAO, SMVDSB along-with the tender document.
- vi. The Successful bidder shall deposit an amount equals to the 10% of the offered bid as Security Deposit before signing the agreement in the shape of CDR/FDR/TDR pledged to FA/CAO, SMVDSB, Katra. The EMD of the Successful bidder shall be returned subsequently within a period of 15 days after submission of Security Deposit.
- vii. The Security Deposit shall be forfeited if the successful bidder prematurely withdraws or if the services are terminated for being unsatisfactory.
- viii. The successful bidder shall be under obligation to credit the salary to its employees into their respective bank accounts only for the preceding month by or before 03rd of every successive month, failing which penalty @1% of the monthly bill shall be imposed. Further, the successful bidder shall submit a certificate every month along with the bills raised certifying compliance of this Clause.
- ix. The leave arrangement, as and when required, shall have to be made by the successful bidder only and there shall be no additional liability to Shrine Board in this regard. However, in the event of additional manpower required in a particular shift, the same shall be arranged within the total existing manpower. The successful bidder shall refrain from engaging a particular employee for more than one shift in a day.
- x. The successful bidder shall be exclusively responsible for meeting requirements of Labour Laws, the charges for leave arrangements, expenditure on uniforms, insurance, EPF/PF/CPF etc. Any amount of claim / compensation on this account, as may be payable, shall be the liability to the successful bidder solely and Shrine Board shall in no way be responsible for any act of omission or commission of the successful bidder with regard to the violation of labour laws or any other law for the time being in force.
- xi. The successful bidder shall fully comply with all applicable laws, rules and regulation relating to EPF/PF/CPF Act, minimum wages Act, Contract Labour Act, Workmen's Compensation Act and such other Acts or Laws, Regulations passed by Central, State and Local Govt. Agency or Authority from time to time.
- xii. The successful bidder shall have to abide by all laws of the land including Minimum Wages Act, Labour Laws, Companies Act, tax deduction liabilities, welfare measure of its workers and all other obligations, and any such acts that are not essentially enumerated and defined herein.
- xiii. That the successful bidder shall solely be liable for any costs, charges or expenses arising out of any claims or legal proceedings in connection with or relating to its operation / activities under this agreement. The successful bidder shall be liable to indemnify and keep indemnified the SMVD Shrine Board against any damages, compensation, costs, charges or expenses arising out of any claims or proceedings relating to its operations / activities.
- xiv. That the successful bidder shall continuously maintain adequate protection of all the materials and equipment from damages, destruction or loss and shall also protect the property of the SMVD Shrine Board from any damage.

- xv. That if it is observed during bidding process/bids evaluation stage that a bidder has indulged in corrupt/fraudulent/collusive/coercive practice, the bid of such Bidder(s) shall be rejected and its Earnest Money Deposit (EMD) shall be forfeited. Further, such agency shall be debarred for future business with Shrine Board for a period of next five years.
- xvi. That the successful bidder shall ensure that its employees / workforce maintain the sanctity of Shrine and shall not indulge in any activity which is prejudicial to the interest of the Holy Shrine. **Staff of the successful bidder shall not indulge in smoking or consumption of liquor/alcohol or consumption of any non- vegetarian food articles.** They shall maintain proper decorum and discipline, and ensure proper conduct in speech and dress. They shall also refrain from any other activity which might hurt the sentiments of pilgrims.
- xvii. At the time of execution of agreement, the successful bidder shall submit list of employees to be engaged for the above mentioned works and only those employees will be allowed to perform in the above mentioned works.
- xviii. The successful bidder shall submit Police verification report of manpower engaged at above mentioned works within 60 days from the date of issuance of Letter of Award. In case of failure to furnish the same within stipulated period, penalty as per Clause-20(iii) (5) shall be imposed and same shall be deducted from the monthly bill of the successful bidder.
- xix. Each worker must possess and carry Aadhar Card at all times.
- xx. The successful bidder is under obligation to make alternate arrangements immediately, in case its employees go on strike. If such arrangements are not made by the successful bidder, a penalty of **Rs. 10,000/-** per day for first instance, **Rs. 50,000/-** per day for second instance and in case of third instance the contract is liable to be terminated without notice and the security deposit / EMD shall be forfeited. Further, work shall be carried on the risk and responsibility of the successful bidder.
- xxi. Staff must maintain & ensure utmost personal hygiene & etiquette and manners, especially the followings:
1. Staffs to have regular haircuts and nicely combed.
 2. Do not smoke before beginning and during the shifts.
 3. Nails should be kept short & clean.
 4. Hands must be free of stains and skins break. Cut & burns must be covered with the proper dressings and not be left exposed. Wash hands with soaps after using toilet or after eating or handling refuse.
 5. Uniform should be cleaned, laundered & ironed. Change uniform regularly. Uniform should not be worn outside the working premises and when not on duty.
 6. Shoes must be kept clean and free of stains. No sandals / chappal be allowed.
 7. All the workers of the successful bidder shall maintain highest standards of 'Etiquette and Manners' while talking / interacting to yatris and Shrine Board's Staff.
- xxii. After verification of antecedents, badges will be issued to them by the successful bidder or his representative. The cost of badges would be borne by the successful bidder.

- xxiii. The successful bidder shall be responsible for behavior and conduct of his workers. No workman with doubtful integrity of having bad record shall be engaged by the successful bidder.
- xxiv. No payment shall be made to the successful bidder for any damage caused by any natural calamity, whatsoever during the execution of the work. The successful bidder shall be fully responsible for any damage to the SMVDSB Property; any loss caused shall be recovered from the bills of the successful bidder.
- xxv. Labour huts/stay of workmen will not be allowed at site.
- xxvi. The successful bidder shall have to ensure that information provided to it as part of this contract / agreement shall be kept confidential, secure and protected.
- xxvii. The Shrine Board shall not be bound to accept the lowest or any Tender and reserves to itself the right of accepting / rejecting the whole or a portion of any of the Tender, as it may deem fit, without assigning any reason thereof.
- xxviii. The successful Bidder shall take necessary accidental insurance cover for the workers under Employee's Compensation Act. Manpower engaged by the successful Bidder should be covered under Employees State Insurance Corporation making statutory contribution under ESIC Act as per Govt. Laws.
- xxix. The successful Bidder shall comply with the provisions of the Apprentices Act, 1961, Minimum Wages Act, 1948, PF/Gratuity Act, Employee's Compensation Act, 1923, Contract labour (Regulation and Abolition) Act, 1970, Payment of Wages Act, 1936, Employers Liability Act, 1938 and Industrial Disputes Act, 1947 etc as may be applicable, and the rules and regulations made there under from time to time. Failure to do so shall amount to breach of the Contract and the Tendering authority may, at its own discretion, terminate the contract. The successful bidder shall also be liable for any pecuniary liability arising on account of violation by him of the provisions of the Act.
- xxx. Lockable storage space shall be provided to the successful bidder by the Unit Incharge, subject to availability. Non-availability of lockable storage space due to any reasons shall not relieve the successful bidder to adhering their contractual obligations in any way. However, the successful bidder shall be responsible for security and safe custody of machinery/equipments installed at STP.
- xxxi. Dismantled / replaced parts should be handed over to Shrine Board's Engineer-In-charge or to his subordinate staff under proper receipt.
- xxxii. Engineer-in-Charge / officer deputed by SMVDSB have the right to conduct a technical audit of the plant and to perform any random analysis/ laboratory test or inspection as deems necessary. The expenditure incurred for conduct of laboratory test if any shall be borne by the successful bidder and same shall be deducted from the monthly payment done in favour of successful bidder.
- xxxiii. The Parties who are filing GST return on quarterly basis are required to file IFF return on monthly basis so that Shrine Board can claim input.
- xxxiv. All bidders shall submit documentary proof in support of eligibility criteria. In the first stage of evaluation, proposal shall be rejected, if it is found deficient as per the requirements of Tender Fee/ Bid Processing Fee/ eligibility for responsiveness of the proposal. Evaluation of the technical Bid will start first and at this stage the financial bid (proposal) will remain unopened. Only the Financial bids of technically eligible & qualified bidders shall be opened.

- xxxv. The Bidders should go through the technical details mentioned in **Schedule – A** and stick to the specifications mentioned therein while quoting the rates. The rate quoted by the bidder should include all incidental expenditure such as transportation of the Standalone Sewage Treatment Plant to the site insurance including transit insurance, civil works at site of installation of STP(s), Plumbing Works, and Pumping of the treated water to the overhead tank provided on the Rooftop of Toilet Blocks or any nearby building / available space as suggested by SB authority.
- xxxvi. The rate quoted should be inclusive of all taxes including GST. Rates mentioned in the quotations should be in Indian Rupees. All costs of importing any components will be the responsibility of the Bidders.
- xxxvii. All materials shall be of the **BIS/IS** approved quality, new and unused and be capable of satisfactory operation when exposed to the local atmospheric conditions.
- xxxviii. Bidder should be **ISO Certified Company**. Preference will be given if bidder should have own lab setup.
- xxxix. Conditional, illegible, ambiguous tender(s) received after the stipulated date and time shall be out rightly rejected.
- xl. The tenderer shall be completely responsible for the design of all components, structural details & supervision of the civil works including labor & material, Supply, Installation, Testing of the Mechanical, Electrical pipes, Fittings & other accessories.
- xli. Work under this contract is time-bound and has to be completed within the time limit set in the tender. Work shall be executed in accordance with an agreed schedule within the overall time frame.
- xlii. The Shrine Board reserves the right to order additional quantity or reduce the quantity of the material advertised at the time of placement of order for which the quoted rates shall be valid.
- xliii. All materials shall be of the Government approved quality, new and unused and be capable of satisfactory operation when exposed to the local atmospheric conditions.
- xliv. The Tenderer is required to submit a statement of facts in details as to their previous experience in performing a similar or comparable work and business and technical organization, financial resources and manufacturing facilities available and to be used in performing the contract.
7. **Specific Conditions:**
- i. The Standalone STPs shall be installed preferably above the ground. If space availability is a constraint then the STP may need to be constructed in multiple levels. Proper arrangements for ventilation/ exhaust/passage have to be provided accordingly in the construction plant.
- ii. It is proposed to utilize the entire treated Sewage for “**cisterns of toilet blocks and for maintenance of parks & gardens or fire hydrant tanks for wild/buildings fire protection**”. Therefore the system components have to be provided accordingly to ensure clear, transparent & odour-less discharge.

- iii. For sludge handling, a proper sludge handling network/centrifuge shall be provided, and it is recommended to collect the de-watered compressed sludge into HDPE bags for disposal to the final destination as per the approval of the Pollution Authorities. The **sludge handling** shall be in the scope of successful bidder.
- iv. **Disposal of Solid Waste:** The disposal of all solid waste including from sludge handling network as generated from the STP during construction, commissioning, and O& M shall be the responsibility of the contractor. The solid waste shall be disposed off in accordance with the CPCB/JKPCC Norms to the site identified by the Engineer-In-charge. Loading, unloading, transportation of solid waste shall be in the contractor's scope.
- v. The tenderer may have to provide an acoustic enclosure for STP(s) and shall ensure no foul smell or noise occurs during the operation or in its idle state.

8. **Scope of Work for Tenderer:**

Survey, Design, Supply, Installation, Testing & Commissioning:

- i. Planning and designing of the Standalone Sewage Treatment Plants as per latest standards laid down by Government of India, State Govt. and BIS standards by considering additional factors in the selection of (i) an appropriate site specific wastewater collection system, including topography and sensitive natural resources, depth to bedrock or groundwater (ii) Feasibility of cluster treatment.
- ii. Key consideration should be (i) innovative green technology (ii) cost effectiveness, (iii) operating and maintenance costs optimization.
- iii. Tenderer shall provide the architectural and structural drawings/working drawings of complete piping route/plan, MOC and other plumbing work at the site of STP for approval by Unit In-charge, SMVDSB.
- iv. All RCC and masonry works related to Sewage Treatment Plants and related foundation works for electrical and mechanical equipment shall be executed by the Contractor itself, as per the drawings approved by Shrine Board.
- v. Execution of works includes all **Civil, Electrical, Mechanical, Civil Designing & Drawing**, Plumbing processing equipments for pumping of treated water to the overhead tank on the Rooftop of identified Toilet Blocks or other purpose as per the requirement of treated water in consultation with Engineer-in-charge (**refer Annexure-III to IX**).
- vi. Any other allied work required for the functioning of the treatment plant conforming to the Statutory Acts, Rules, Standards etc.
- vii. Overall design factor for individual elements shall be as per the Manual of Sewerage, Govt. of India, New Delhi.
- viii. All works shall be planned, designed and executed based on latest IS codes of practice and other relevant codes applicable to civil/electrical/mechanical/plumbing works.
- ix. The sludge will be handled properly so that the cakes are formed to be used as manure by installing mechanical sludge handling/beds.
- x. The agency will provide tests reports on the parameters mentioned in 11 (A, B,C & D) table of E- NIT from authorized CPCB/JKPCC monthly and any time when desired by Monitoring/ Inspecting Officer.
- xi. The tenderer shall make necessary plumbing arrangement for reuse of treated water in the **cisterns of toilet blocks or for maintenance of parks & gardens or storage in fire hydrant tanks for wild/buildings fire protection** and the plumbing fittings to be used must comply with ISI Standards and should be fire

retardant. All measures should be taken, such as necessary insulation of piping network vulnerable to freezing in harsh winters.

9. **Scope of Shrine Board:**

- i. The site for Standalone Sewage Treatment Plant at identified locations shall be identified by the Engineer-In-charge in consultation with tenderer.
- ii. Electricity and water bills shall be borne by the Shrine Board. However, bidder shall ensure energy efficient devices at the site for reduced consumption.
- iii. The Shrine Board shall have power to make any alteration, omissions, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to be necessary, advisable during the progress of work, and the contractor shall be bound to carry out the work in accordance with any instruction which may be given to him in writing, signed by the Engineer-In-charge. Such alteration, addition or substitution shall not invalidate the contract and any altered, additional or substituted work shall be carried out by the tenderer on the same conditions in all respects on which he agreed to do the main work and at the same rate as are specified in tender for the main work. The time of completion of the work shall be extended on in the proportion that the altered, additional or substituted work bears to the original contract work and the certificate of the Unit / Engineer In-Charge shall be conclusive as to such proportion.
- iv. Periodic/random testing of the influent/Sewage to check the compliance as per CPCB parameters from any of the recognized laboratories/agencies if required.
- v. Accommodation for supervisor and operators shall be provided by Shrine Board on payment basis.

10. **Designing of Civil work**

- i. Civil work like Platforms & other works for the Sewage Treatment Plant shall have to be designed for the total sewage flow 30 KLD/day within the available land / site for the project.
- ii. Cost of structural design and drawings for civil works will deem to be included in the quoted price of work.
- iii. The Bidders have to include the cost of barbed Fencing around the treatment plant battery limits, entry gate to final treated water tanks. All manholes, vent pipes, railings & supports as required.
- iv. The Bidder shall be required to execute as a part of scope of work, any other item not specified above or indicated in the tender but essentially required for satisfactory and desired functioning of the plant. The Bidder shall provide a defined scheme based upon this process along with sizes of different tanks and equipment and take guarantee of the treated effluent to the standard required as per Pollution Control Board norms. Without restricting to the generality of the foregoing, the work shall consist of:-

(A) Battery Limit

The battery limit of STP Vendor shall start from the collection tank & up to the final treated water tank of STP Plant.

I. Civil works consist of:-

- a) Collection sump (Existing to be used), Barbed fence to be used as boundary wall, Platform for MS Tank, Railing, Jallis, Staircase in MS for maintaining purpose, Shed etc.

- b) Piping up to the STP will be done by SMVDSB. Treated water from the Treated tank shall be reused by SMVDSB
- c) List of MS-FRP Tanks
 - 1) Bar Screen Chamber
 - 2) Oil & Grease Trap
 - 3) Equalisation Tank
 - 4) Anoxic Tank
 - 5) Aeration Tank
 - 6) MBR Tank
 - 7) MBR Cleaning Tank
 - 8) Treated water Tank
 - 9) Sludge Holding Tank

II. Mechanical Equipment

Design, supply, erection, commissioning and testing of all mechanical equipment's, as discussed in the proceeding sections, generally comprising of:

- a) Coarse Screen/Fine Screen
- b) Raw Sewage Lifting Pumps
- c) Agitator for Anoxic Tank
- d) Air Blower
- e) Filter Feed Pumps
- f) MBR System
- g) CIP System
- h) Chlorine & Poly Electrolyte Dosing System
- i) Filter Press etc
- j) Any other equipment's required for functioning of STP or as per client's requirement.

III. Electrical Equipment

Design, Supply, Erection, Commissioning and Testing of all Electrical equipment generally comprising of:

- a) Electric motors for all equipments as required.
- b) Motor control center completes with all internal wiring and accessories.
- c) Electrical cables from M.C.C panel to all electric motors and units.
- d) Electric earthing stations as per I.E.E. rules.
- e) All internal lighting & exhaust system etc.
- f) Silent DG Set of Equivalent / Desired capacity to be considered by the bidder for Non-Stop Operation

IV. Piping Work

Laying of all piping work as per detailed designs and generally for:

- a) All above mentioned civil structure and MS-FRP tanks.
- b) For the interconnection of the various equipment's,

- c) All interconnecting piping between various units bypass etc.
- d) Effluent piping within limits as shown on the drawings.

(B) **SPECIFICATION FOR PIPING WORK**

I. SCOPE OF WORK

Work under this section consists of furnishing detailed designing, labor, materials and necessary equipment required to provide all piping valves and other appurtenances for the treatment plant.

Without restricting to the generality of the foregoing, the piping work shall consist of:-

- All gravity pipes between various units.
- Pressure pipes from pumps to aeration tank, treated effluent disposal.
- All other pipes, valves and control gates necessary and required.
- All piping shall be of suitable material/make, to be as per the approval of the Unit-In-Charge.

II. PIPES (FOR TREATMENT PLANT)

- a. All pipes under pressure / gravity shall be cast iron double flanged pipes class "B", conforming to I.S. 1537 or S&S C.I. pipe to I.S.1536 class LA.
- b. Fittings for double flanged and S/S pipes shall conform to I.S: 1536.
- c. Sluice valves shall be non-rising type spindle with wheel conforming to I.S: 780 of reputed make.
- d. Pipes, fittings and valves shall be jointed with 3mm thick rubber gasket conforming to I.S: 638 and units and bolts S/S pipes shall be jointed with refined pig lead Tyton joints.
- e. Pipes shall be laid true to level and gradient and properly supported by brick masonry or concrete pillars at appropriate places.
- f. If required the pipes can be fabricated from heavy duty M.S Black pipes and then painted, as per required specifications.
- g. All pipes shall be tested to a hydrostatic pressure 100 psi. for at least 30 minutes without any leakage.

III. VALVES

Valves for effluent outlet shall be 80mm and sludge outlet shall be 100mm dia. Both valves in each unit shall cast iron butterfly valves manually operated. **Other valves necessary and required shall be standard cast iron full way valves.**

IV. SPECIFICATION FOR MECHANICAL EQUIPMENT

SCOPE OF WORK

Work under this section shall consist of providing detailed design, labor, materials and equipment necessary and required to provide all mechanical equipments for the treatment plant. All the works shall conform to the list of Indian Standards on Sewerage and Sewage treatment as stand enclosed in the annexure

V. GENERAL

All Mechanical Equipment shall be provided with proper protection from the external environment, in the form of coverings, tin-sheds etc.

VI. DIFFUSED AERATION

Diffused aeration is an efficient way to transfer oxygen to a water body. A compressor on shore pumps air through a hose, which is connected to an underwater aeration unit. Attached to the unit are a number of diffusers. These diffusers come in the shape of discs, plates, tubes or hoses constructed from glass-bonded silica, porous [ceramic](#) plastic, PVC or perforated membranes made from [EPDM \(ethylene propylene diene Monomer\) rubber](#). Air pumped through the diffuser membranes is released into the water. These bubbles are known as *fine bubbles*. The [EPA](#) defines a fine bubble as anything smaller than 2mm in diameter. This type of aeration has very high oxygen transfer efficiency (OTE). On average, diffused air aeration diffuses approximately 2–4 cfm (cubic feet of air per minute).

Fine bubble diffused aeration is able to maximize the surface area of the bubbles and thus transfer more oxygen to the water per bubble. Additionally, smaller bubbles take more time to reach the surface so not only is the surface area maximized but so are the number of seconds each bubble spends in the water, allowing it more time to transfer oxygen to the water. As a general rule, smaller bubbles and a deeper release point will generate a greater oxygen transfer rate.

However, almost all of the oxygen dissolved into the water from an air bubble occurs when the bubble is being formed. Only a negligible amount occurs during the bubbles transit to the surface of the water. This is why an aeration process that makes many small bubbles is better than one that makes fewer larger ones. The breaking up of larger bubbles into smaller ones also repeats this formation and transfer process.

a. **Blowers and Aeration System:**

The treatment plant shall be provided with rotary positive displacement roots type blowers with a common base and a central electric control panel, belt drive system, drip proof induction type electric motors, necessary valves including a pressure release valve and suitable filter and silencing. All piping and related accessories necessary to connect the blowers to the plant air header shall be provided by the plant manufacturer. All air piping from the blower-motor unit to the air header shall be approved steel pipe with malleable iron fittings. Flexible reinforced rubber connecting sleeves shall be provided wherever required. There shall be 100% standby arrangements for blowers.

b. **Air Diffusers**

Each diffuser drop-pipe shall be equipped with non- clog fine bubble diffuser of sufficient quantity to keep pressure loss through the drop-pipe assembly to a minimum. The air diffusion devices shall be designed to distribute air to cover the entire length of the tanks and to have efficiency such that an adequate supply of oxygen is maintained in the tanks to treat the effluent load for which the plant is designed.

VII. SEWAGE RELIFT PUMPS, SLUDGE RECIRCULATION, FILTER FEED PUMPS, FILTERED WATER PUMPS

(Each type of pumps shall be min. N+1 redundancy (N working + 1 standby))

- a. Raw sewage re-lift pumps shall be compact, mono-block, dry motor submersible type with non-clog free flow open impellers and with solid handling capacity of required size.

Sludge return, filter feed & soft water pumps shall be horizontal non-clog centrifugal pumps for the required discharge and head and of required specifications. Pump shall be directly connected to an electric motor by means of a flexible coupling and mounted on a common C.I. or M.S. base plate.

- b. Each sludge return pump shall have a capacity suitable for re-circulating 100% sludge. The second pump shall be a standby.

VIII. CHEMICAL DOSING PUMPS

- a. Provide chemical dosing pumps complete with plastic suction and delivery piping, solution tank, mixing tank and feed arrangement.
- b. Pumps shall be complete with motor control center, cabling and connection.

IX. CHLORINATION UNIT

Providing gravity feed type chlorination plant working on differential pressure principle. The unit shall include solution tank, one mixing tank and feed arrangement with suitable device to control the dosage.

All fabricated surfaces shall be painted after thoroughly freed from dust and grease and dried with a coat of red oxide primer and three coats of finish paint as per provisions of I.S:1477-1971 and I.S:1477-1971.

X. Specification for Electrical Work

Work under this section shall consist of providing detailed designing, labour, materials and equipment necessary and required to provide all electrical equipment for the treatment plant.

Without restricting to the generality of the foregoing the electrical installation work shall consist of:-

- (i) Electric motors for all equipment.
- (ii) Cabling to all electrical motors.
- (iii) Wiring for pumping station and control room.
- (iv) Motor control center
- (v) Instrumentation
- (vi) Internal electrification of all pumps/control rotors.

XI. GENERAL

- a. All electrical motors and other equipment shall be suitable for 400 volts, 3 phase, 50 cycles or 220 volts, single phase, 50 cycles, A.C., Supply motor 1 H.P. or below shall be single phase. All motors installed in open area must have space heaters and the circuits should have provision for automated operation.
- b. All motors shall be rated 10% above the required H.P.
- c. Each motor shall be provided with weatherproof terminal box and motors in exposed conditions shall be provided with suitable removable PVC covers.
- d. Connections to all motors shall be made with flexible connections with suitable bushes and terminal lugs.

- e. **All electrical equipment supplied shall conform to relevant Indian or British standards wherever applicable and of reputed makes. All items shall be tested at manufacturer's works and certified copies of such tests shall be supplied to the owners.**
- f. All electrical equipment e.g. motors, switchgears, cables etc. shall be of reputed make only approved makes Siemens, NGHP, Crompton, Kirloskar, Indian Cable Company, Cutler and Hammer or Larsen & Turbo.
- g. All electrical work shall be executed by authorized and qualified persons competent to undertake such works under the rules and regulations of the local electric supply authority.

XII. MOTORS

Electric motors shall be totally enclosed fan cooled induction type squirrel cage motors conforming to I.S: 325.

Each motor shall be provided with a starter and stop push button switch suitably mounted near each motor. This shall be in addition to the main switchgear provided in the switchboard cubicle. Not required for sludge/effluent pump).

XIII. MOTOR CONTROL CENTRE

Company shall supply and install cubicle type motor control center fabricated from 16 gauge M.S. sheet and angle irons. The cubicle shall be stove enamel painted inside and outside. Provision of space for switchgear for future installations shall be made as specified below:-

The Switchgear shall comprise of:-

- a) Incoming switch fuse unit of required rating.
- b) Flush panel mounted voltmeter on incoming main with selector switch for reading voltage between each phase 0-500 volts.
- c) Bus bar chamber with copper bus bars of required capacity.
- d) Isolation S.F. Units one for each motor.
- e) Isolation S.F. Unit for yard lighting circuit 60 amps.
- f) Isolation S.F. unit for pump house and control room lighting circuit 15 amps.
- g) Push button operation DOL starters for motors / pumps upto 7.5 H.P. and automatic star-delta starters for motor 7.5 H.P. and above for all motors.
- h) Space for two starters for future installations.
- i) One flush mounted Ampere meter for each 3 Phase motor.
- j) Three phase indicating lamps on incoming main.
- k) On/Off Neon indicating lamps for each motor.
- l) All interconnection color-coded wiring from incoming S.F. unit to switches, starters, motors and other accessories. All wiring inside the panel shall be with copper conductors.
- m) Provision of remote starting (from plant room)

XIV. CABLING

- a. Company shall supply install and commission all cables from the M.C.C. panel to each motor. Underground cables shall be laid to a minimum depth of 900 or as specified by the Consultant and shall be protected with sand and bricks on top. Cables running on surfaces shall be neatly clipped to aluminum saddles at suitable intervals.
- b. All cables shall be "Tropodur" PVC sheathed cables of 1100 volts grade conforming to I.S: 1554 part-I. All cabling work shall be as per standard practice in accordance with i.e. rules.

XV. EARTHING

- a. Company shall provide two earthing stations independent of each other separated by 3 m from the building.
- b. Earth plates shall be buried in a pit 1.2x1.2 m wide and at a depth of at least 3 m. below ground level. The connection between main bars shall be made by means of three 5mm brass studs fixed at 100mm centers. The pit shall be filled with coke breeze loose soil and salt. A G.I. pipe 20mm dia. With perforations shall be placed vertically on the periphery to reach to ground level. A manhole of brick masonry 30x30x24 Consultant to surround the pipe shall be provided over the pit for inspection.
- c. All conduit runs metal clad equipment, main switches, plug, boxes metallic fittings shall have effective earthing using appropriate size of G.I. wire and proper clips to comply with the requirements of the rules.

XVI. DG SETS

1 No. Silent DG set of Required Capacity to be provided within the plant.

XVII. Wiring, Cabling etc:

All wiring shall be in accordance with the relevant Indian Standard. All wire shall be run in continuous lengths from controller to valve. All cable jointing shall be contained in waterproof containers and adequately sealed against moisture penetration with commercially available joiners designed for direct burial. All joints shall be in a valve box. Adequate wire (1000 mm) shall be left at valves during installation to enable future replacement of valves without the need for excessive jointing of wires. Wires shall be laid below or beside the pipe reticulation system in a common trench with the pipes. Wires not in pipe trenches should be in suitably sized heavy duty electrical conduit.

11. Scope of Work of the Successful Bidder for Annual Operation & Comprehensive Maintenance:

- i. The Bidder shall be responsible for 24x7 Operation and Comprehensive Maintenance for the period of 05 years of Standalone Sewage Treatment Plants at Toilet Block No. 3A, Banganga Katra, which includes regular checking of parameters required for smooth operations of the plants, Filtration Plant, Pump Set and Electric Driven Pump Set etc including entire electro-mechanical parts as per CPCB/JKPCC norms.
- ii. The bidder shall comply with CPCB/JKPCC norms (as revised from time to time) and also Directions / Orders from National Green Tribunal / Ministry of Environment, Forest & Climate change
- iii. For operationalisation and maintenance of Plants, the Successful Bidder shall deploy one qualified Supervisor and adequate technical operators (Minimum 01 number in each shift) for the smooth functioning of the Plants 24x7, as per the following qualifications / experiences:
 - a) **Supervisor (Skilled):** An individual having environmental engineering or science (Graduate or Post Graduate) Background with experience of at least three years in handling STP operational and maintenance work. Certificate of experience in similar plants of minimum capacity essential.
 - b) **Operator (semi-skilled):** An individual having High School Pass with sciences and be physically fit and mentally alert who work in shifts in operating and maintaining screens, grit removal devices, pumps, aerators,

- valves, etc and having Minimum 2 year experience in handling STP operational and maintenance work.
- iv. The Successful Bidder shall maintain necessary log books on daily basis, records of internal and external testing, submit periodic reports etc.
 - v. All consumables, chemicals required for Operation and Maintenance of the STPs shall be provided by the Successful Bidder.
 - vi. Successful bidder shall ensure regular dosing of chemicals in the system, backwash, rinsing of multi grade filters, activated carbon filter and cleaning of bar screen etc.
 - vii. Regular checking of parameters like color, odor, pH value etc and take immediate action for corrective measures, in case of deterioration in any parameter.
 - viii. Undertake regular preventive maintenance of all mechanical equipments, pumps valves etc. and take corrective action whenever required for smooth operations.
 - ix. Successful Bidder should be fully equipped with tool sets and testing equipments required for day-to-day operation and maintenance of the plant.
 - x. Successful Bidder shall record daily data of the operations, maintaining all sorts of records as per requirements viz. sheets of system performance, chemical consumption records, electrical consumption records, daily inlet outlet discharge quantities.
 - xi. Successful Bidder shall provide all preventive/routine maintenance and breakdown/corrective maintenance required for ensuring maximum uptime.
 - xii. If the system is found damaged/defective due to non-maintenance, the cost for correcting the breakdown system will be deducted from the payment chargeable under the maintenance contract as per the penalty amount defined in Penalty Clause.
 - xiii. Successful Bidder shall submit the Character Certificate of each manpower duly verified by the Competent Authority of Police Department.
 - xiv. Successful Bidder shall submit the medical fitness certificate of each manpower duly certified by Medical Department not below the rank of Block Medical Officer.
 - xv. Successful Bidder shall perform Monthly testing of the required parameters of the influent and Sewage quality, for pH, Suspended Solids, COD, Total Dissolved Solids, Total Ammonical Nitrogen, BOD, Oil & Grease, Cl, SO₄, Cyanide, Fluoride, pb, Hg, Ni, Zn, Hexavalent Chromium Cr+6 & Phosphate (as P) from CPCC / JK Pollution Control Committee (JKPCC) or labs approved by CPCC / JKPCC and submits the same to Engineer-in-charge. Sampling shall be done in accordance with BIS 3025.

12. Calibration of Instruments:

All the measuring instruments and other devices shall be calibrated regularly as mentioned below:

- i. The instruments and devices shall be calibrated by the authorized specialized staff of the Bidder.
- ii. All such instruments shall be calibrated once in every twelve months by approved third party specialized agency.
- iii. Immediately after calibration, the results/ reports shall be submitted to Engineer-Incharge.
- iv. First calibration by approved third party specialized agency shall be done after twelve months of commencement of O&M period.

13. Training:

The successful Bidder shall make provision of imparting training to Shrine Board's staff on Operation and Maintenance of STP free of cost on quarterly

basis. The successful Bidder shall formulate a training module for imparting training to the staff of Shrine Board and submit the schedule with Human Resource Department (Training Section), Central Office, SMVDSB, Katra well in advance to enable personnel department to plan trainings to the sanitation staff. After the accomplishment, successful bidder shall submit a report to this office with the detail like name of the employee trained, topics covered during the training etc. with due certification of Unit Head

14. Reporting:

- i. The successful Bidder shall prepare daily and Monthly reports (in approved formats) of pumping / treatment and plant performance and submit to Engineer-Incharge and shall assist Engineer-Incharge in preparing the necessary documents for their purpose and record as per Performa given from time to time. The report shall contain following:
 - a. A description of the maintenance work carried out in the reporting period. A report on major failures, if any, their causes and remedial actions taken.
 - b. Raw Sewage quantity, quality and Sewage quality shall be submitted to Engineer-in-Charge.
 - c. Sewage quality and quantity (daily basis) in the reporting period.
 - d. O&M staff deployed by the Bidder during the reporting period.
 - e. Major repair works carried out, if any
 - f. Anything significant or accident happened during period under report.
 - g. Apart from the regular maintenance staff, the Bidder shall send a technical expert to inspect/check the Plant on monthly basis who shall write his comments in the Log-book which shall be verified by the Engineer-Incharge.
- ii. The Successful Bidder shall get the final test reports done from an approved External Testing agency on monthly basis for the influent and Sewage quality, suitable to ensure proof that the entire Plant is running satisfactorily. The cost incurred for test reports shall be borne by successful bidder
- iii. The treated Sewage water/digested sludge shall be tested for the following parameters on Monthly basis and Shrine Board, may order analysis of additional parameters required to check the efficiency and efficacy of the plant on the cost of the Bidder.
- iv. To avoid corrosion / rusting of the equipments / parts of the Sewage Treatment Plants, the successful bidder shall be responsible to apply grease, oiling, painting etc. Painting shall be done annually of complete plant

A. Sewage Treatment Plants can be operated with the help of 4 different ways:

1	Preliminary	Removal of Solids, Oil & Grease
2	Primary	Removal of floating & settleable such as Suspended solids, Organic Matter
3	Secondary	Removal of Biodegradable organic matter (BOD).
4	Tertiary	Removal of residual suspended solids, Dissolved solids

- B. Physical and chemical parameter for Influent/Sewage : The treated waste water should comply with the standards given in consent order by CPCC / JKPCIS standards with (not limited to) following parameters:**

Parameters	Units	Limits
pH	–	6.5-8.5
Total Suspended Solids	mg/l	<10
COD	mg/l	<50
Ammonical Nitrogen	mg/l	<5
BOD	mg/l	<10
Oil & Grease	mg/l	<3
Total Nitrogen	mg/l	<5
Fecal Coliform	MPN/100ml	<100

Note: All the above tests shall be performed on a 24 hour composite sampling (2 hourly composite) at least once a month.

- C. All Bacteriological (Fecal Coliform) analysis of treated Sewage : (Once in a month)**

Date of sample	Influent (MPN/100ml)	Sewage (MPN/100ml)
24 hour composite		

- D. Physical chemical analysis of biological sludge: (Once in month)**

S.No.	Parameter
1.	Appearance
2.	Odour
3.	Moisture percentage
4.	Organic content (percentage of Total solids)

- i. The Chemicals and reagents required for testing will be arranged by the successful bidder from its own. The Bidder will employ its own staff for testing purpose. However, the Shrine Board will be at liberty to get random sampling and testing done on its own or from any other agency at the cost of the Bidder.
- ii. Successful Bidder has to ensure maximum cleanliness in the operation and maintenance of the plant. At any time, the plant, its equipments and its surroundings have to be kept neat and clean, failing which penalty equivalent to the cost of per day Operation and Maintenance charges shall be imposed and recovered from the dues out of Comprehensive Operation and Maintenance Contract.
- iii. Under no circumstances Plant should remain under breakdown for more than 03 hours. In the event of breakdown/ shut down the onus of attending to the problem

in the shortest possible time will rest on the Bidder failing which Engineer-in-Charge of Shrine Board is empowered to get the breakdown / shut down / any defect rectified from any outside agency at the risk and cost of the Bidder and recommended necessary deductions from their bills.

- iv. After expiry of operation and comprehensive maintenance contract of five years, the Bidder shall handover the STP(s) along-with residential structure in good running condition to authorized officer of Shrine Board or successful successor bidder.
- v. Precaution against any fire hazards or other damages to Plant and equipment shall be arranged by the Bidder. The Bidder shall keep the Shrine Board indemnified from any encumbrances /loss on this account. It shall also be the responsibility of the successful bidder to install sufficient number of fire extinguishers in order to avoid any untoward incident.
- vi. The successful bidder shall conspicuously display the flow chart depicting functioning / working of STP(s) including capacity of STP(s) alongwith storage capacity of treated water.

15. **Earnest Money Deposit:**

- (i) The Bidders should submit an EMD of **Rs 3.20 Lakh** in the form of CDR/FDR pledged to the FA / Chief Accounts Officer, Shri Mata Vaishno Devi Shrine Board, Katra. There shall be no relaxation/ concession to any Unit/Agency whatsoever in regard to the amount of EMD to be paid.
- (ii) The earnest money of the Bidders shall be forfeited if they withdraw their tender or raise the price of their offer within the validity period. The earnest money shall also be forfeited in case of the Bidders who do not comply with LoA issued to them within the validity period of the offer or violate any terms and conditions contained herein.
- (iii) Earnest money deposited shall be released in favour of the unsuccessful Bidders(s) within one month after allotment of LoA.

16. **Prices, Taxes & Levies etc:**

- i. Prices quoted must be firm and F.O.R work site and it should include all the components of taxes, local levies (entry tax and toll tax payable at Lakhapur), prices for transit insurance, freight, installation, etc. at destination site, discount, if any, should be shown separately while quoting rates per unit.
- ii. Goods & Service Tax (GST) or any other tax chargeable at present rates shall be borne by the Bidders. However any variation in taxes during execution of work shall be borne by the Shrine Board.

17. **Payment Terms:**

- i. 50% of Project Cost on pro-rata against submission and approval of all drawings including procedures and deliverables mentioned scope of the work namely Pre-delivery Inspection and design validation, Method Statement, etc and after delivery of material and equipment at site (No part shipment of a full equipment will be entertained for payment)
- ii. 40% of Project Cost on pro-rata basis against installation at site, Testing & Commissioning including initial training to staff and final submission of all built drawing including O&M manuals, maintenance charts, future training calendar of manpower to the client etc securing necessary approval for the Shrine Board including obtaining of all license and approval from statutory authorities to be satisfaction of Unit In-charge, SMVDSB.

- iii. Remaining 10% of the project cost shall be released @ 2% every year during the comprehensive maintenance contract period of Five (5) years.
- iv. The O&M payment shall be paid on quarterly basis against the bill raised by the Bidder before the Engineer-in-Charge. The Engineer-in-Charge should duly verify the bills and forward the same alongwith performance report to the Incharge, Sanitation Section, Central Office, Katra for release of payment.

18. **Contract Rates:**

The Contract rates and prices shall be deemed to include all labour, materials, equipments, temporary works and buildings, insurance, sales tax, all taxes and duties, establishment charges, profit, supervision, transport, testing and other charges and fees and other incidental expenses that may be incurred for proper execution, completion and maintenance of the works, and shall include for all obligations imposed upon him by the specifications, schedules and drawings pertaining to the work.

19. **Security Deposit:**

- (i) The successful Bidders(s) shall furnish security deposit equivalent to 10% (ten percent) of the value of the contract in the form of Bank Guarantee / CDR /FDR from Nationalized/ Scheduled Bank pledged to the FA / Chief Accounts Officer, Shri Mata Vaishno Devi Shrine Board, Katra valid upto the end of Comprehensive Operation and Maintenance Contract period of five (05) years. Such security deposit shall be furnished within one month from the date of issuance of LoA. Failure to do so within the stipulated period will make the contract liable for cancellation together with forfeiture of the EMD at the discretion of Chief Executive Officer, Shri Mata Vaishno Devi Shrine Board. The EMD of the successful Bidders will be release after the deposit of Bank Guarantee in full
- (ii) The security deposit will be released within one month from the date of completion of Contract Agreement and no interest will be paid thereon.

20. **Penalty:**

- i. In case of failure on the part of the Bidders to install & commission the Standalone Sewage Treatment Plant(s) and execute the work in full or part thereof within the delivery schedule stipulated in the award of work, a penalty @ 0.5% (*half percent*) per week of unfinished work subject to a maximum of 03% (*three percent*) of the cost of unfinished portion of the contract shall be levied at the discretion of the Shrine Board.
- ii. The Shrine Board will be at liberty to treat the following reasons as violation of agreement deed attracting monetary penalties as per the following details to the licensee on the basis of complaints received and verified by its officer to be authorized by the Chief Executive Officer / Addl. Chief Executive Officer for the purpose and its repetition shall invite cancellation of license. The penalty on complaints shall be imposed for maximum of three times, thereafter the agreement deed shall be liable to cancelled, the security deposit shall be forfeited.
- iii. In case, the firm fails to deliver the material upto 6 weeks after scheduled time of 60 days, cancellation of LoA, forfeiture of security deposit & equipment installed shall be property of the Board.

S No.	Particulars	Amount (in Rs.)
1.	Non-wearing of uniform by the Staff.	200/- per employee per violation.
2.	Non-wearing of I-Card by the Staff.	200/- per employee per violation.
3.	Smoking of cigarettes or use of any tobacco products or pan chewing / playing of cards or consumption of liquor / alcohol or eating of non-vegetarian food within or around the premises.	1000/- per complaint.
4.	Misbehave with the pilgrims / staff.	1000/- per complaint.
5.	Non-submission of police verification reports after 60 days of LoA.	200/- per person per month
6.	Non- submission of medical fitness certificate of engaged manpower after 60 days of LoA.	500/- per person on half yearly basis
7.	Poor performance as assessed by Unit Head / Executive Engineer or any other authorized officer of Shrine Board officials.	Rs. 1000/- per occasion
8.	Breakdown Delays after complaint lodged by the Unit Head / Engineer-In-Charge.	Upto 1 days - Nil: From 2-5 days Rs.1,000/- per day From 6-12 days: Rs. 2,000/- per day. Beyond 12 days: Contract shall be liable for termination and forfeiture of Security Deposit.
9.	In case of non submission of training schedule / non-providing of training on quarterly basis.	Rs. 5000/- per quarter.
10	Cleanliness of the project site which includes removal of weeds like grass, dandelions, plantain, thistle etc,	1000/- per complaint.
11	Preventive maintenance aspect which includes grease, oiling, painting, displaying information	10000/- per complaint.

21. **Storage of Material and Safe Custody:**

Lockable storage space, if available, at site shall be made available to the successful Bidder by the Unit-In-Charge. However, the contractor shall be responsible for security and safe custody of his equipment installations, till they are formally taken over by the Unit-In-Charge. Non-availability of lockable storage space due to any reasons shall not relieve the contractor of his contractual obligations in any way.

22. **Measurement:**

All works shall be measured in accordance with relevant IS Standards not withstanding general or local practices unless where specifically described otherwise in the specific sections of the specifications. All measurements shall be taken by the Engineer-In-Charge in the presence of the successful Bidder. Payments shall be released against invoice of the contractor based on the joint measurements recorded as per the terms of payment specified in the order.

23. **Material Inspection, Examination & Testing:**

All materials and equipment shall be new. On arrival of the materials at site they shall be inspected and checked by the Engineer-In-Charge to ensure that the materials conform to the specifications and standards. The Engineer-In-Charge and his representatives shall at all reasonable time have free access to the Contractor's/Manufacturers works. They shall have full powers to examine the

materials and workmanship of the various items being manufactured at the contractors/manufacturer's works or at any other place from where the material or equipment is obtained. Original Test Certificates of the manufacturer shall be submitted by the Contractor for all major equipments before they are accepted by the Engineer-In-Charge. Acceptance of any material or equipment shall in no way relieve the Contractor of his responsibility for meeting the requirements of the contract.

24. **Performance Monitoring Committee (PMC):**

There shall be a Performance Monitoring Committee to be nominated by the CEO/Addl. CEO to monitor the performance of the STP(s) as per the prescribed norms of CPCB for the purpose of releasing payments to the contractor and imposition of penalties, if any.

25. **Delivery:**

(i) The Delivery, installation and commissioning of the Standalone Sewage Treatment Plant 30 KLD at Toilet Block No. 3A, Banganga Katra should be completed within 120 days from the date of issuance of Letter of Award (LoA).

(ii) In case of failure to execute the contract, the Shrine Board shall have the right to order risk contract at the cost of supplier or / and cancel the contract and claim reasonable compensation / damages.

(iii) As soon as the allotment letter is issued to the Contractor/ Bidder, he will submit to the Engineer-in-Charge, his program to complete the works by the time indicated in the contract, in the form of a Bar Chart for review of the Engineer-in-Charge and make suggested modifications before his approval of the same. The approved bar chart shall be diligently and strictly followed with a view to complete the works as per schedule. The progress & planning of works shall be reviewed from time to time.

26. **Technology Certificate:**

The supplier shall issue a certificate stating that-

- i. The Standalone Sewage Treatment Plant is/are of the latest technology. In support of this, Bidder shall furnish design validation from Central Pollution Control Board (CPCB)/J&K State Pollution Control Board (JKPCC)/National Environmental Engineering Research Institute (NEERI), Nagpur/IITs.
- ii. The Standalone Sewage Treatment Plant should be so designed that these can be upgraded to the CPCB/JKPCC norms issued from time to time.

27. **Factory Inspection:**

The CEO/ ADDL CEO may constitute a committee to visit manufacturing unit of the successful bidder, in such case successful bidder shall be liable to have their factories inspected by a team of at least three officers/ Officials of the Shrine Board for assisting their technical/ commercial capacity for ensuring smooth supply of material and uninterrupted execution of STPs work. No Supplies unless otherwise directed shall be dispatched without prior inspection and approval by the Shrine Board and all the boarding, lodging, to & fro fare on account of the Inspecting shall be borne by the Suppliers/ Contractor.

28. **Guarantee & Defects Liability:**
All works covered by this contract shall be guaranteed by the Tenderer against faulty material and workmanship for a period of 12 months to commence from the date of compliance to CPCB/JKPCC Norms assessed on the basis of 02 successive test reports spaced atleast one month apart, by the Performance Monitoring Committee. Any part found defective shall be replaced free of all costs by the contractor. If performance of equipment during guarantee period is not satisfactory, the guarantee period shall be extended for further periods as decided by the Unit-In-Charge, considering the time taken to achieve satisfactorily performance.
29. **Permits & Licenses:**
All licenses and permits for the work under Government control (local/Central) authorities shall be obtained by the tenderer himself at his own costs and fees.
30. **Insurance:**
The bidder shall insure all equipment, materials, machinery and installations as a whole until successful completion and handing over to the Engineer-In-Charge. Insurance policy should cover for all kinds of erection risks, fire, theft, or loss in transit. All workers and third party shall be insured in accordance with the employee Compensation Act in the event of an accident.
31. **Shrine Board reserves the right to alter, accept or reject part or all the Tenders without, assigning any reason thereof.**
32. **Termination of Contract:**
That the contract shall be liable to be terminated any time during the period of contract on one month's notice by the Shrine Board or payment of an amount equivalent to one month's sum in lieu of the notice. The contract shall also be liable to be terminated any time during the period of contract on three months' notice by the successful bidder or payment of an amount equivalent to three month's sum in lieu of the notice. The successful bidder shall not sublet the operation to any other agency / person etc. at any time during the period of contract.
33. **Allotment of The Work / Contract, In Case Of Termination Of Contract/ Work Order Situation Arises:**
- (A) The Earnest Money Deposit shall be forfeited, if the successful Bidder fails:
- i) To accept Letter of Award
 - ii) To furnish Security Deposit in accordance with Clause **No.6(vi)** of the e-NIT.
 - iii) To take-up the work or execute the agreement with SMVDSB in the stipulated time.
- (B) Termination of Contract during the currency of the contract period due to whatsoever reasons.
- In any of the above situations, the SMVDSB may allot the work for the remaining period to L-2 bidder if agreed on the same rates quoted by the L-1 bidder. In case, L-2 bidder do not agreed on the rates quoted by L-1 bidder then L-3 bidder and so on shall be called for negotiations. However, the final decision shall be taken by the Chief Executive Officer, SMVDSB.
34. **ARBITRATION:**
All disputes and differences between the parties here to shall be referred to the sole arbitration of the person to be nominated and appointed by the **Chief Executive**
-

Officer, Shri Mata Vaishno Devi Shrine Board, whose decision shall be final and binding upon the parties to this agreement. The provision of The Arbitration and Conciliation Act, 1996 shall apply. Courts at Jammu / Katra / Reasi only shall have the jurisdiction to entertain any legal proceeding arising out of this contract.

35. **Shri Mata Vaishno Devi Shrine Board's Rights In Respect Of E-Tender:**

- i. SMVDSB reserves the right to modify terms and conditions of the contract which shall be granted to the successful bidder after the bidding process, if in the opinion of the SMVDSB, it is necessary or expedient to do so in yatries / Board's interest. The decision of the SMVDSB shall be final and binding.
- ii. SMVDSB reserves the right to suspend and / or cancel the contract with the selected party in part or in whole at any time if in the opinion of the SMVDSB, it is necessary or expedient in the public interest. The decision of the SMVDSB shall be final and binding. Also, SMVDSB shall not be responsible for any damage or loss caused or arising out of aforesaid action.

36. **Force Majeure:**

If during the currency of contract, there is any out-break of war/ natural calamity or any such reason, which whether financially or otherwise affects the execution of the contract the firm (unless contract is terminated) under provision of this clause shall make his / her best efforts to complete the contract. However after outbreak of such war / natural calamity or any such reason, Shri Mata Vaishno Devi Shrine Board shall be entitled to terminate the contract at any time by giving notice in writing. Force majeure is hereby defined as a 'clause' which is beyond the control of SMVDSB / firm and which consequently affects the performance of the contract.

37. **Jurisdiction:**

Court of Jammu, Reasi & Katra alone shall have the jurisdiction with respect to the subject matter of this contract.

38. **Validity Of Rates:**

The rates quoted by the bidders shall be valid for a period of 60 months (Sixty months) from the issuance of rate contract or till new rate contracts are finalized by SMVDSB whichever is later.

Queries may be addressed to:

Asstt. Conservator of Forest, SMVDSB, Katra,
Fax: +91- 1991-232120 Tel.: +91-1991-232818
Website: www.maavaishnodevi.org,
Email: acf@maavaishnodevi.net, sanitation@maavaishnodevi.net

Sd/-

**Asstt. Conservator of Forest
SMVD Shrine Board, Katra**

No:- CO/SW/STP/164/56-59

Dated: 11.10.2024

Technical Bid

S.No.	Particular / Criterion			Page No
1	Name of the Firm Organization with complete details, including Address (Telephone No./ Contact Mobile No. / Fax No. / E-mail) alongwith brief description of background (The background may be as a separate).	:		
2	Date of establishment of the Firm. Details of Registration No. of the firm/ company/ LLP. Location of Head Office, Regional Office and Branch Office.	:		
3	Please specify whether you are submitting you tender as a proprietor of the firm or as a partner of the firm or Director of the Company.	:		
4	Name of the Proprietor / Partner / Directors of the tendering firm / Company/ LLP together with technical qualifications. Organization Charts, Manpower Strength and details of key personnel.	:	Attached / Not Attached	
5	Past experience in the field along with performance certificates (please enclose testimonials / documentary evidence)	:	Attached / Not Attached	
6	Annual turnover in the last three years as per audited balance sheet, a copy whereof to be enclosed along with profit and loss account statements.	:	Attached / Not Attached	
7	a) PAN (proof to be enclosed) b) ITR statements / Income Tax Assessment Order (for the last 03 years to be enclosed) c) Service Tax Registration No.	:	Attached / Not Attached	
8	Detail of EMD (in form of CDR / FDR only)	:	Amount: Name of issuing Bank: Date of issue	

9	Duration of validity of Bid	:		
10	Does the Bidders owe by himself or by proxy or on behalf of any other person any money / due in connection what so ever to the Shrine Board.	:	Yes/ No	
11	VAT/ Sale Tax Registration Number (attach copy)	:		
12	Tender Fee	:	Shrine Board Receipt No. & date _____ Or DD No. _____ dated _____ Bank _____ Payable _____	
13	Attested copy of valid BIS Certificate attached or not:	:		
14	Literature / leaflets on products	:	Attached / not attached	
15	Copy of Certificate,	:	Attached / not attached	
16	Authenticate Photostat copies of test certificates from	:	Attached / not attached	
17	Any other documents / information required to be provided as per terms and conditions and requirements of the tender document (indicate item wise)	:	Attached / not attached	

I certify that I am authorized to furnish the information given in the Schedule-A on behalf of the firm I represent and that it is true to the best of my knowledge and belief

Signature of Bidder _____

Name of the Firm & Address _____

Financial Bid**Online Only**

Office of the Chief Executive Officer
Shri Mata Vaishno Devi Shrine Board, Katra (J&K)

Name of the Tenderer: _____

Amount of CDR/FDR with number & date: _____

To
The Chief Executive Officer,
Shri Mata Vaishno Devi Shrine Board
Katra

Sir,
I _____ S/o Shri _____

R/o _____ in capacity as Proprietor of a firm/ Partner of a firm/ Director of Company, hereby submit my tender for the Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for a period of five (05) years of Sewage Treatment Plants complete in all respects to cater the requirements of toilet blocks at Toilet Block No. 3A, Banganga” for an amount mentioned below:

S. No.	Particulars	Amount (in Rs.)
1.	Total Cost of the project including Survey, Design, Supply, Installation, Testing and Commissioning of 30 KLD each capacity Sewage Treatment Plants at Toilet Block No. 3A, Banganga inclusive of all taxes (A)	
2.	Operation and Maintenance of STP(s) installed at Toilet Block No. 3A, Banganga inclusive of all taxes (B)	
	Year	Operation & Maintenance Cost
	1 st Year	
	2 nd Year	
	3 rd Year	
	4 th Year	
	5 th Year	
	Total “B”	
	Grand Total (A+B)	

I affirm that the rates offered are inclusive of all taxes, duties, freight, insurance, carriage, etc. I further affirm that I have read and fully understood the tender notice and agree to abide by all the terms and conditions laid therein, which are being signed in token of my acceptance.

Signature of Tenderer

Signature of Bidders _____

Signature of Block Letters _____

Name of the Firm & Address _____

Tender document for :Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance for (05 year) Standalone Sewage Treatment Plant (STP) 30 KLD capacity based on Membrane Bio Reactor (MBR) at Toilet Block No. 3A, Banganga”.

e-NIT No. : **CO/SW/STP/164/ 07 of 2024**

Dated : **11.10.2024**

Cost of Tender Document : Rs.1000/-

Receipt No. & Date : _____

Issued to M/s _____ against Demand Draft for an amount of Rs._____ drawn vide No._____ dated_____.

Authorized Signatory

Technical Specifications

A. Sewage Treatment Plant-30 KLD followed by MEMBRANE BIO REACTOR Technology (MBR)

Survey, Design, Supply, Installation, Commissioning, Testing, Operation and Comprehensive Maintenance (Five years) of Sewage Treatment Plant (based on MEMBRANE BIO REACTOR Technology (MBR) of 30 KLD Capacity complete in all respects to cater the requirement of Toilet Block no. 3A, Banganga of Shri Mata Vaishno Devi Shrine Board.

DESIGN CRITERIA		
S.No	Description	Consultant's Requirement/ Recommendation
1	<u>Flow Capacity</u> Total daily ultimate flow in Cu.m/day Peak factor	30m ³ /day 3.00
2	<u>Quality of the Untreated Effluent</u> BOD Suspended solids COD pH Oil & grease	250 to 300 mg/lit 250 mg/lit 350 to 450 mg/lit 6.5 to 8.0 10 mg/lit
3	<u>Quality of the Treated Effluent</u> BOD Suspended solids COD pH Oil & Grease	<10mg/lit < 20mg/lit <50mg/lit 6.5 to 8.5 < 5mg/lit
4	<u>Location & Position of STP</u>	Attached as per Survey Report
5	<u>Treatment Methodology</u>	MBR Technology
(CONTRACTOR)		
Dated:		

Affidavit to be submitted by the bidder

Performa of affidavit to be submitted by the bidder regarding eligibility. "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 SMVDSB, then I/We shall be debarred for biding in SMVDSB Contracts in future forever. Also, if such a violation comes to the notice of SMVDSB before date start of work, the Authorized Officer of SMVDSB shall be free to forfeit the entire amount of Earnest Money Deposit/ Performance Guarantee."

Signature of Bidders _____

Signature of Block Letters _____

Name of the Firm & Address _____

List of Indian Standards on Sewerage and Sewage System

1	IS: 5600-1970	Indian Standard Code: Specification for Sewage and Drainage Building Elements
2	IS 6279 :1971	Indian Standard Code: Equipment for grit removal devices
3	IS 6280:1971	Sewage screens
4	IS 7784: Part 1& 2: Sec 1 to 5	Indian Standard Code: Code of practice for design of cross drainage work Part 1 General features
5	IS 9110:1979	Indian Standard Code: Hand operated augers for cleaning water closet. pipe and sewer
6	IS 9213:1979	Indian Standard Code: BOD Bottle
7	IS 10037 : PT1 to 3 :1981	Indian Standard Code: Requirements for sludge dewatering equipment. Part 1 sludge drying beds-sand, gravel and under drains
8	IS 10261 :1982	Indian Standard Code: Requirement for sewing tank (clarifier equipment) for waste water
9	IS 10552:1983	Indian Standard Code: Buckets to be used in power driven buckets type sewer cleaning machine
10	IS :4733-1972	Method of sampling test sewage effluent

Approved Makes of Major Components for Sewage Treatment Plant		
1	Air blower	Akash/A1 Blower/Key/Airvak
2	Blower Motor	Bharat Bijlee /Crompton Greaves/ Siemens / Kirloskar or Equivalent
3	Submersible Non Clog Pump	Willo/KSB/CNP/Kirloskar/Lubi
4.	Clear water pumps	Willo/KSB/CNP/Kirloskar/Lubi
5	Disinfection Pump	Asia Lmi / Toshcon/Pentair/ E-Dose or Equivalent
6	Gear Boxes	Greaves Gear or Equivalent
7	Cable	Finolex / Polycab / Delto /Havells or equivalent
8	Sludge Transfer Pump	Roto/ Kirloskar /Willo / Ksb / Lubi/Jhonsons or equivalent
9	Butter Fly Valve	ISI
10	Control Panel	CPRI Approved Vendor with component shal be from L&T / Siemens / English Electric Component / Auto Switch or Equivalent
11	Gun Metal Valve	Any ISI make
12	HDPE / PVC Pipe Class III	Finolex / Supreme / Oro / Trustlene or Equivalent with fitting
13	GU/MS Pipe Heavy Class paint / epoxy paint	Jidal Hissar/Surya/Prakash or equivalent
14	Solution Tank	Sintex, Ganga, Sheetal, LDPE or equivalent
15	Diffuser	Rehau/ Techpro/W360
16	Structural Steel	Tata / Rathi / Ispat /Sail or equivalent
17	MS/GI /UPVCPiping	Jindal / Supreme/Astral/Surya Prakash
18	MBR Unit	Qua/Dow/Imemmfow/Dupond/Hiflux/Pentair
19.	Screw Press	W 360/CNP/Akash/Auric/Pharmatech/SIMA
20	Basket Type Centrifuge	A B engineers/ W 360/Apollo
21	Sludge Loading Pumps	Kirloskar/Roto/Rotomac/Willo
22	UV System	Alfa/Creative/W 360/Sukrat
23	Ozonator System	Creative/Sukrat/Am Ozonics/W360
24	Flow meter	Aster,UPC/W360/Forbes
24	Pressure gauges, Transmitter	H guru
25	Permeate Pumps & Back wash Pumps& Other clear water pumps	Willo/KSB/CNP/Kirloskar/Lubi
26	Control Panel (Electrical)	CPRI Approved Vendor
27	Cabling & Wiring	Finolex, National, Polycab
28	Cable Tray	Vendor specific, ISI Mark

DESIGN CRITERIA & SPECIFICATION OF EQUIPMENTS SEWAGE TREATMENT PLANT - 30 KLD (Banganga)			
S. No.	DESIGN PARAMETERS	Inlet	Outlet
1	pH	6.5 - 8.0	6.5 - 8.5
2	BOD ₅ 20	250 - 300 mg/l	< 10 mg/L
3	COD	350 - 450 mg/l	< 50 mg/L
4	TSS	200 - 300 mg/l	< 20 mg/L
5	Oil & Grease	< 10 mg/l	< 5 mg/l

CIVIL WORKS FOR STP (SCOPE OF SMVDSB)	
1. COLLECTION TANK (EXISTING)	
Quantity	1 No.
Capacity	As per site
MOC	Civil Construction
2. BASE SLAB & PLATFORM	
3. DRAIN & DRAIN COVERS	
4. ANY FENCING AROUND PLANT	
5. ELECTRICAL SUPPLY TO OUR PANEL	
6. SUPPLY OF SEWAGE TO COLLECTION TANK	
7. EARTHING TO OUR PANEL	
8. ANY SHED ABOVE PLANT	

MILD STEEL TANKS	
1. BAR SCREEN CHAMBER	
Quantity	1 No.
Size	0.6m x 0.8m x 0.8m
Capacity	0.4m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
2. OIL & GREASE TRAP	
Quantity	1 No.
Size	0.6m x 0.8m x 0.8m
Capacity	0.4m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
3. COLLECTION CUM EQUALIZATION TANK	
Quantity	1 No.
Size	1.5m x 2.5m x 2.0m + 0.4m FB
Capacity	8.5m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
4. ANOXIC TANK	
Quantity	1 No.
Size	0.8 x 1.4 x 2.9m + 0.4m FB
Capacity	3.2m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
5. AERATION TANK	
Quantity	1 No.
Size	1.4m x 2.0m x 2.9m + 0.4m FB
Capacity	8.0m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
6. MBR TANK (AS PER MEMBRANE MAKE RECOMMENDATION)	
Quantity	1 No.
Size	2.4m x 2.0m x 2.9m + 0.4m FB
Capacity	13.5m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm

Surface Protection (Outside)	Enamel
7. MBR CLEANING TANK (AS PER MEMBRANE MAKE RECOMMENDATIONS)	
Quantity	1 No.
Size	2.4m x 2.0m x 2.9m + 0.4m FB
Capacity	13.5m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
8. TREATED WATER TANK	
Quantity	1 No.
Size	1.2m x 1.2m x 2.1m + 0.4m FB
Capacity	3.0m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel
9. SLUDGE HOLDING TANK	
Quantity	1 No.
Size	1.2m x 1.2m x 2.1m + 0.4m FB
Capacity	3.0m ³
MOC of Tanks	Mild Steel
Thickness of Tanks	5 mm thick
Surface Protection (Inside)	FRP Coating thickness 2 mm
Surface Protection (Outside)	Enamel

DESIGN CRITERIA & SPECIFICATION OF EQUIPMENTS SEWAGE TREATMENT PLANT - 30 KLD ELECTROMECHANICAL EQUIPMENTS	
1. COARSE SCREEN	
Quantity	1 No.
Size	0.6m(L)x 0.6m(W)x 0.6 m(H)
Spacing between bars	25mm
MOC	SS 304
2. FINE SCREEN	
Quantity	1 No.
Size	0.6m(L)x 0.6m(W)x 0.6 m(H)
Spacing between bars	10mm
MOC	SS 304
5. SEWAGE LIFTING PUMPS	
Quantity	2 Nos. (1W + 1S)
Capacity	1.5 m ³ /hr
Head	12 Mtr
Partical Size	40 mm
MOC	CI Casing CI Impeller & CS Shaft
Type	Submersible
Protection	FRP Motor Cover
Make	Kirloskar/CNP/Willo/Lubi
6. ANOXIC TANK AGITATOR	
Quantity	1 No.
Type	Central Drived
MOC	SS 304
RPM	50
Make	Fabricated
7. ROOT AIR BLOWERS FOR EQUALISATION TANK AND SLUDGE HOLDING TANK	
Quantity	2 Nos. (1W + 1S)
Capacity	60 m ³ /hr
Head	5000 mm WC
Type	Twin Lobe Type
MOC	CI
Automation Feature for Root Air Blowers	Timer based Interlocking
Protection	FRP Motor Cover
Make	A1/Akash/ Beta / Airvak
9. MBR MODULE	
Quantity	1 No.
Capacity	30 m3
MOC of Frame	PVDF
Design Flux	30'

Tentative Area per Module	490'
Product water Turbidity	<1 NTU
Membrane	SUBMERGED Reinforced Hollow Fiber MBR MEMBRANE MODULE
Type	Spiral wound
Make	Qua/Dow/Imemflow/W360
10. MBR ACTUATED VALVE	
Quantity	1 Lot
Size	As required
Type	Actuated Type
Make	Belimo / Leader / W360
11. MBR CHAIN PULLEY WITH MS SKID	
Quantity	1 No.
Capacity	As per MBR Manufacturer recommendation
12. MBR BACK PULSE PUMPS	
Quantity	1 No. (1W)
Capacity	3 m ³ /hr
Head	20 Mtr
MOC	CI Casing CI Impeller & CS Shaft
Type	Centrifugal
Protection	FRP Motor Cover
Make	Kirloskar/CNP/Willo/Lubi
13. MBR BACK PULSE TANKS	
Quantity	1 No.
Capacity	200 Ltr
MOC	LDPE
Make	Sintex
14. CHLORINE DOSING SYSTEM	
Quantity	1 Set (Pump - 1 No. / Tank - 1 No.)
DOSING PUMP	
Capacity	0 - 12 LPH
MOC	PP
Type	Metering Dosing Pump
Protection	FRP Motor Cover
Make	Asia LMI / Grundfos
DOSING TANK	
Quantity	1 No.
Capacity	200 ltr
Special Feature	MS Skid Mounted
Make	Sintex
15. ACID DOSING SYSTEM	

Quantity	1 Set (Pump - 1 No. / Tank - 1 No.)
DOSING PUMP	
Capacity	0 - 12 LPH
MOC	PP
Type	Metering Dosing Pump
Protection	FRP Motor Cover
Make	Asia LMI / Grundfos
DOSING TANK	
Quantity	1 No.
Capacity	200 ltr
Special Feature	MS Skid Mounted
Make	Sintex
16. COARSE BUBBLE DIFFUSERS	
Quantity	1 Lot
Size	200 mm Dia
Type	Disc
MOC of Membrane	Silicon
Make	Techpro / Scozen
17. FINE BUBBLE DIFFUSERS	
Quantity	1 Lot
Size	63 mm Dia x 600 mm Long
Type	Tubular
MOC of Membrane	Silicon
Make	Techpro / Scozen
18. SLUDGE RECIRCULATION PUMPS	
Quantity	2 Nos. (1W + 1S)
Capacity	3.0 m ³ /hr
Head	10 M
MOC	CI Casing CI Impeller & CS Shaft
Type	Self Priming Pump
Protection	FRP Motor Cover
Make	Kirloskar/CNP/Willo/Lubi
19. MBR PERMEATE PUMPS	
Quantity	2 Nos. (1W + 1S)
Capacity	1.5 m ³ /hr
Head	25 - 30 m
MOC	CI Casing CI Impeller & CS Shaft
Make	Kirloskar/CNP/Willo/Lubi
20. CHLORINE DOSING SYSTEM	
Quantity	1 Set (Pump - 1 No. / Tank - 1 No.)
DOSING PUMP	

Capacity	0 - 12 LPH
MOC	PP
Type	Metering Dosing Pump
Protection	FRP Motor Cover
Make	Asia LMI / Grundfos
DOSING TANK	
Quantity	1 No.
Capacity	200 ltr
Special Feature	MS Skid Mounted
Make	Sintex
21. FILTER PRESS FEED PUMPS	
Quantity	2 Nos. (1W + 1S)
Capacity	2 m ³ /hr
Head	30 m
MOC	CI Casing CI Impeller & CS Shaft
Protection	FRP Motor Cover
Make	Kirloskar/CNP/Willo/Lubi
22. FILTER PRESS	
Quantity	1 No.
Capacity	18 x 18 " + 18 Nos Plates
MOC	CI/MS
Make	Universal/W360/Pharmatech
23. POLY DOSING SYSTEM	
Quantity	1 Set (Pump - 1 No. / Tank - 1 No.)
DOSING PUMP	
Capacity	0 - 12 LPH
MOC	PP
Type	Metering Dosing Pump
Protection	FRP Motor Cover
Make	Asia LMI / Grundfos
DOSING TANK	
Quantity	1 No.
Capacity	200 ltr
Special Feature	MS Skid Mounted
Make	Sintex g
AGITATOR FOR POLY DOSING TANK	
Type	Central Driven
MOC	SS304
Make	Environ
24. TREATED WATER TRANSFER PUMPS	
Quantity	2 Nos. (1W + 1S)
Capacity	2 m ³ /hr

Head	30 Mtr
Protection	FRP Motor Cover
MOC	CI Casing CI Impeller & CS Shaft
Make	Kirloskar/CNP/Willo/Lubi
25. PLUMBING	
Piping & Valves	uPVC/MS - Epoxy as per requirement
Air Grid in EQT & Aeration	uPVC/
Air Grid in Gardening & Flushing Water Tank	uPVC
26. FLOW METER	
Quantity	2 Nos. (Inlet & Outlet)
Line Size	As per Design
Make	UPC / Forbes Marshall
27. TURBIDITY METER	
Quantity	1 No.
Line Size	As per Design
Make	UPC / Aster / Forbes Marshall
28. ELECTRICALS (ELECTRICAL PANEL)	
DOL / Starters for Dosing Pumps + Float Switch, Energy Meter	
Electrical Wiring & Cable Tray	
Quantity	1 Lot
Make of Control Panel	CPRI Approved vendor with wiring & Cabling from National /Equivalent
Cable Tray MOC	GI Perforated
Automation Feature for Pumps	Through Float type level controller
Automation Feature for root Air Blowers	Timer based Interlocking
29. Designing, Commissioning & Consultancy including Supervision & Management of the Project	