OFFICE OF THE EXECUTIVE ENGINEER (PROJECT)W-VIII
DELHI JAL BOARD ,GOVT OF NCT OF DELHI
A-BUILDING JHANDEWALAN ,KAROL BAGH,NEW DELHI 1100O5

NIT NO 03 (12-13)

Expression of Intrest

Sealed offers are invited from suitable operator(s) to Setup - decentralized drinking water pilot plants in Sawda Ghevra and other areas from operators having expertise and experience in decentralized drinking water plants .The scope of work comprises of, testing a solution that can provide regular, safe drinking water in Sawda Ghevra. The DJB would have discretion to award 5 more pilot project in other similar locations in Delhi based on performance, on same terms and conditions. In case the DJB so allows, the operator would be obliged to cover those areas within 4 months

Last date & time for tender download : 25.06.12 up to 3.00 PM
Last date & time for submission of tender : 25.06.12 up to 3.00 PM
Date & Time of opening of Technical Bid : 25.06.12 at 3.05 PM
Date & Time of opening of Financial Bid : will be intimated later on.
Date and Time for pre bid meeting : 08.06.12 at 3.00 PM
Place of pre bid meeting : Office of SE (Projects)W-II, Room no 507 Jhandewalan, Karol bagh, New delhi

S.No	Name of work	Earnest Money Rs
1	Setting Up Decentralized drinking water pilot plants in Sawda Ghevra and other areas of Delhi	25000/-

NOTE: Validity of tender is 90 days from the date of receipt of tender. NIT along with all the terms & conditions is available on Web Site www.delhijalboard.nic.in . Agencies may contact the office of EE (Proj)W-VIII for additional information/any clarification.

Sd/-
EXECUTIVE ENGINEER (Proj)W-VIII

NO/DJB/EE(PROJ)W-VIII/F-2( ) /2012/ DATE:

Copy to:-
1. Secy to CEO/M(A)/M(F) /Mem.(WS) /M(Dr)/ CVO. for kind information.
2. C.E.(Projects)W/East/Central/South/West
3. Dir. (F&A)/S.E (Project) W-I/II/(P)W
4. Dy. A & FO (W), ACA (Proj.)/ Acctt. (Proj.)W-II/Jr. Accountant (Proj.) W-VIII.
5. EE(P)W-II/(Project)-I,II,III,IV,V,VI,VII,IX
6. Notice Board, Varunalaya Ph. I & II Jhandewalan.
7. D/M-III to put up the justification with help of AEIII
8. Contractors welfare Association (Regd.) 20, FF, LSC, BQ Block, DDA Market, Shalimar Bagh,Delhi – 88
9. PRO(Water) with spare copies to publish the NIT in leading news papers.

EXECUTIVE ENGINEER (Proj)W-VIII

DELHI JAL BOARD

TENDER DOCUMENT

Name of work: Setting Up Decentralized drinking water pilot plants in Sawda Ghevra and other areas of Delhi

Issued by:-

EXECUTIVE ENGINEER (PROJECT)W-VIII
DELHI JAL BOARD ,GOVT OF NCT OF DELHI
A-BUILDING JHANDEWALAN ,KAROL BAGH,
NEW DELHI 1100O5

ADDITIONAL INFORMATION OF NIT

Subject: Special information regarding eligibility criteria and other requirement for the work listed in NIT- 03 (2012-13) of EE(Proj) W-VIII.

Firms specialized in the field of such works shall be eligible subject to the conditions that the firms and its associates together should have at least 2

years of experience in successfully working with decentralized drinking water plants of capacity greater than or equal to 500 litres per hour (LPH)

Key criteria that the bidders should satisfy:

- At least 2 years of existence in water sector
- At least 2 years of satisfactory experience working with decentralized drinking water plants
- At least 10 decentralized drinking water plants with capacity of not less than 500 LPH established over the last 5 years
- At least 2 years of experience in the water/sanitation sector in low-income communities, either by providing decentralized drinking water or by providing household water/sanitation connections

In support of eligibility the proper documents be provided duly certified not below the rank of Executive Engineer or equivalent in Govt Deptt/public undertaking/local public body.

The tenderer must be fully conversant with the documents to form part of contract agreement i.e. information for operators, data sheet and standard forms, financial proposal forms, terms of reference (T.O.R.), conditions of contract.

The tenderer shall submit the offer under two bid system i.e. on Bid part-A (Technical) & bid Part-B(Financial).

- Bid part-A should contain documents giving details of Earnest Money and Eligibility Criteria.

S.No.	DOCUMENTS TO BE SUBMITTED
i	SIMILAR NATURE OF WORKING PROJECTS
ii	Name and short CV"s of principal officers/engineers
iii	Name, office address and facsimiles number of operator
iv	UNDERTAKING ON A PRESCRIBED FORMAT THAT THEY HAVE NOT BEEN DEBARRED/BLACKLISTED AS ON DATE IN ANY DEPARTMENT.
v	BIDDER SHOULD DISCLOSE IF ANY CLOSE RELATIVE OF THE EMPLOYEE OF DJB, IS ENGAGED WITH THE OPERATOR
vi	EMD in the shape of DD/Pay order in favour of Delhi Jal Board payable at Delhi.
vii	Details of pending civil suits \litigation\arbitration arising of contract during the last five years.

ii) Proof of having submitted the latest service tax/Income tax returns as applicable.

iii). 100% earnest money shall stand forfeited in case: A). If operator withdraws the offer with in the validity period of bid. B). the operator who neither executes the

MOU within stipulated period as stated in letter of approval nor takes up the execution of work even after lapse of date of start mentioned in the letter of approval.

vi) Bids submitted without the exact amount of EMD and the requirements prescribed above shall be liable for rejection.

3. Bid Part-B tender shall consist of financial proposal.

4.Tenders will be received in the office of undersigned only in the sealed cover comprising one sealed envelop containing part A(mentioned on the face of envelop "PART-A"), and separate envelop containing part B(mentioned on the face of envelop "PART-B") and both these envelops in one sealed envelop with name of work and name of bidder up to 3.00 PM on dated . Technical Bids shall be opened on the same day at 3.05 PM for further scrutiny. Financial Bid shall be opened only for those bidders who fulfill the eligibility criteria/the required documents if found in order under technical bid, other wise the same shall not be opened and returned to the bidder . The date of opening of financial bid (Part -B) will be informed to participating bidders.If any of the above date happens to be holiday, the next working day will be considered for all purposes. Conditional tender shall not be considered.

Tender shall be valid for 90 days form the date of opening of Bid Part-B. The DJB reserves the right to reject any or all tenders without assigning any reason.

Executive Engineer (Project) W-VIII

UNDERTAKING

Format for the undertaking to be submitted by bidder that they have not been debarred / blacklisted as on date in any department:-

"IT IS HEREBY CERTIFED THAT WE HAVE NOT BEEN DEBARRED/BLACKLISTED IN ANY OF THE DEPARTMENT AS ON……."

SIGNATURE

SPECIAL CONDITIONS

1. The operator will be allowed to use the land allotted by government only for the purpose as mentioned in bid document. The right to use the land shall exists only till such time that operator extends satisfactory service acceptable to DJB.
2. If any violation of conditions noticed, DJB has the right to revoke the agreement and to take any suitable measures to supply water to the beneficiaries.
3. Director (T&QC) or his representative can collect the sample from site any time and can give directions to operator to supply water as per applicable water quality norms enforced in DJB's direct supply. Quality norms may further be upgraded if so decided by government.

4. The water so produced will be allowed to be sold for domestic purpose in the specified area and not for commercial use.

5. The operator will ensure payment of minimum wages and will follow all labor/safety laws as applicable in Delhi.

6. The operator will comply with the local laws of Delhi and will be be liable to pay all taxes applicable in Delhi to the concerned authorities.

7. For any accident/mishappening/loss of life only operator will be responsible, and DJB will not own any responsibility of any type what so ever.

8. DJB will have the right to visit the similar functional projects mentioned in the part A, to access the performance of the same.

9. The operator should use the packaged food grade superior cans with taps of 20 liters capacity with standard thickness confirming to relevant IS standards and keep ready at plant location to collect by the house holds by paying a fixed amount of Rs 150/-. The quality of the treated water shall not be affected when filled up in the cans.

10. The duration of the contract to construct shelter, manufacture, supply, install and commissioning & operation of the plant shall be ten (10) years from the date of entering in to agreement.

11. In addition to and not in derogation or substitution of any of the obligations set out elsewhere in the agreement, the parties have to agree and undertake as under:

    a. Investigate, study, design ,supply ,install the RO Plants and construct standard shelter, operate and maintain the RO Plant in accordance with the provisions of the agreement , good industry practice and applicable laws .

    b. Provide all assistance to DJB, they may reasonably require for the performance of their duties and services under the agreement.

    c. Be responsible for safety, soundness and durability of the project facility.

    d. Ensure that the project site remains free from all environmental or any other pollutions that may arise from time to time.

    e. Operate and maintain the project at all times during the contract period in conformity with the agreement.

f. The operator shall conspicuously display the tariff at the shelter at an appropriate place.

g. The operator shall not levy and collect any tariff until it has received completion certificate or provisional certificate from the concerned Executive Engineer of DJB.

12. No part of their contract shall be sublet nor transfer be made without written permission of Chief Engineer of DJB.

13. Any disputes arose of this contract; the Bidder may intimate the Chief Engineer, D.J.B. and the decision of the Chief Engineer shall be final.

14.It is an expression of condition of this Agreement that no suit in regard to any matter whatsoever arising out of this Agreement and the orders issued in pursuance thereof by various order shall be instituted in any court except in a Court of Competent Jurisdiction at Delhi only.

15. The handing over process of project asset shall be initiated at least one month prior to the expiry of the tender period. The Bidder shall intimate in writing to the DJB joint inspection who will intimate the list of work to be attended for removal of any deficiency, if any, by the Bidder to bring to the Project to the prescribed level of service condition for further maintenance by DJB from the date of expiry of the Tender period.

16.Upon the expiry of the Tender period by efflux of time and in the normal course, the Bidder shall at end of the Tender Agreement Period, hand over vacant and peaceful possession of the Project Asset including Project Site/Facility at no cost to DJB for further maintenance. The operator shall obtain the Certificate of Handing over of Project Asset, from concerned Executive Engineer.

17. The project will be owned by DJB, the operator will function as licensee on payment of user charges by public and no payment will be made by DJB.

18. All clearances will be taken by DJB for installation of bore well.

19. The DJB will provide the land free of cost and the operator will install a bore well at his own cost including trial bore if any.

20. The water from the bore well will be extracted only for the use of plant and not for any other use. The capacity of plant will be decided as per yield of bore well and demand of water in the specified area.

21. The operator will establish a suitable public redressal mechanism to attend the grievances of consumer/public.

22. The land for installation of the plant is to be allotted by DUSIB and it will be binding on the operator to abide by the conditions if any enforced by DUSIB.

Executive Engineer (Project) W-VIII

DJB SAFETY CODE

(Over AND ABOVE BIS SAFETY CODES)

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ to 1 (¼ horizontal and 1 vertical.)

2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor, or platform of such scaffolding or staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded; should have adequate width and should be suitably fastened as described in (2) above.

4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.).

5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (3Oft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11-1/2") for ladder up to and including 3 m. (10 ft.) in length. For longer ladders this width should be increased at least ¼" for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person.

6. Excavation and Trenching - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft of the edges of the trench or half of the depth of. the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

7. Demolition - Before any demolition work is commenced and also during the progress of the work,

i) All roads and open areas adjacent to the work site shall either be closed or suitably protected

ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.

iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned:- The following safety equipment shall invariably be provided.

i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.

iii) Those engaged in welding works shall be-provided with welder’s protective eye shields.

iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public, in addition, the contractor shall ensure that the following safety measure are adhered to

a. Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.

b. At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.

c. Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.

d. Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

e. Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

f. The area should be barricaded or cordoned of by suitable means to avoid mishaps of any kind. Proper warming signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

g. No smoking or open flames shall be allowed near the blocked manhole being cleaned.

h. The malba / Silt obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba / silt.

i. Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

j. Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

k. Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapor proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

l. The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole

m. The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with

barrier cream for anointing the limbs before working inside the sewer lines.

n. Workmen descending a manhole shall try each ladder stop or rung careful before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

o. If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

p. The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.

vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken

a. No paint containing lead or lead products shall be used except in the form of paste or ready made paint.

b. Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scraped.

c. Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.

9. As an additional clause (viii) (i) of C.P.W.D. / D.J.B. safety code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:

i) White lead, sulphate of lead or product containing this pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.

ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of paint in the form of spray.

iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping

iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.

v) Overall shall be worn by working painters during the whole of working period.

vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.

vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of DJB / C.P.W.D. / P.W.D. (D.A.).

viii) DJB / C.P.W.D. / P.W.D. (D.A.) may require, when necessary medical examination of workers.

ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.

11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions

i)a These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.

b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent detects.

ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.

iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe

working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-charge. As regards contractors machines the contractors shall notify the safe working load of the machine to the Engineer-in-charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, Insulating mats, wearing apparel, such as. Loves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.

16. Notwithstanding the above clauses from (1) to (15) there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force In the Republic of India.

Ex. Engineer (Project) W-VIII

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TECHNICAL PROPOSAL SUBMISSION FORM

LOCATION **DATE**

FROM(Name of firm) **TO: Executive Engineer(Pr)W-VIII**

Subject: Setting up Decentralized drinking water pilot plants in Sawda Ghevra and other areas of Delhi

Sir,

We undersigned, offer to setting up - decentralized drinking water pilot plants in Sawda Ghevra and other areas of Delhi, in accordance with your request for proposal. We are hereby submitting our technical proposal .If negotiations / discussions are held during the validity period we undertake to negotiate on the basis of this offer. Our offer is binding upon us and subjected to the modifications resulting from negotiations/ discussions.

Our financial proposal shall be binding upon us, up to expiry of the validity period of the proposal.

We understand you are not bound to accept any proposal you receive.

Yours Sincerely

Authorized Signature

Name and title of signatory

FINANCIAL PROPOSAL SUBMISSION FORM

LOCATION **DATE**

FROM(Name of firm) **TO: Executive Engineer(Pr)W-VIII**

Subject: Setting up Decentralized drinking water pilot plants in Sawda Ghevra and other areas of Delhi

Sir,

We undersigned, offer to to implement - decentralized drinking water pilot plants in Sawda Ghevra and other areas of Delhi, in accordance with your request for proposal, Our financial proposal is **RS _____per20 litre** (Amount in word and figures). This amount is inclusive of the applicable taxes. Our financial proposal shall be binding upon us, up to expiry of the validity period of the proposal i.e.(date)

We understand you are not bound to accept any proposal you receive.

Yours Sincerely

Authorized Signature

Name and title of signatory

Delhi Jal Board (DJB)

Evaluation Criteria for decentralized water plants

Objective of document

- Delhi Jal Board (DJB) is interested to find suitable operator(s) to implement - decentralized drinking water pilots plants in Sawda Ghevra and other areas. Monitor Inclusive Markets (MIM) has assisted DJB in this process.
- This document aims to capture the key *non-technical* criteria that the DJB would consider while evaluating the pilot plant proposals.

Definitions for the purpose of this document

- BIS: 10500 desirable standards – These are the standard specifications for potable water as defined by the Bureau of Indian Standards (BIS-10500-1991). The BIS drinking water specification (IS 10500:1991) was drawn up in 1983 and its most recent revision dates back to July 2010 (Amendment No. 3)
- DJB – DJB refers to the Delhi Jal Board. The Delhi Jal Board is the body responsible for provision of drinking water in the National Capital Territory of Delhi
- DISCOMS – This refers to a power distribution company operating in Delhi. For the context of this document, the DISCOM will be the company that provides electricity access to the decentralized drinking water plant
- GNCTD – Government of National Capital Territory of Delhi. For the context of this document, this refers to the entity that will provide permissions to use land for the purpose of the decentralized drinking water plant
- LPH – Liters Per Hour. This refers to the capacity of output water that a treatment plant can produce in an hour
- Operator / Bidder - Operator for the purpose of this document and the terms, conditions and evaluation criteria mentioned herein is defined to mean the entity that responds to this request for specifications and submits the same. Joint venture of maximum two players would be permitted. Selected Bidder(s) would be called operator(s)

This document consists of two sections.

- The first section specifies the non-technical evaluation criteria to be considered during evaluation of the individual applications.
- The second section is the actual application to be submitted by the interested applicants. Potential applicants are strongly encouraged to carefully read the scope of the project outlined and seek clarifications on the scope or any part of the application before proceeding to submit the application
- The final application should consist of relevant information against each of the aspects mentioned in Section 2 and in the order specified therein
- **Non-Technical Criteria for evaluation for Reference**

Metric for evaluating proposals	**Description**
User Fee/ Bid parameter	• **The user fee in Rs per 20 liters of drinking water sold to a consumer will be the bidding parameter as long as the other criteria are met satisfactorily.** • The user fee should be affordable for low-income customers • As on April 1 of each FY, the user fee will not be increased by more than WPI index declared by RBI (Reserve Bank of India),as per the following formula Fee(revised) =Fee(base)x WPI(rev)/WPI(base). Note: If Operator foregoes tariff increase in a particular year, it will not be allowed to benefit from the same in future years i.e. increase has to be on the rate of last year ,sudden jumps would not be allowed
Initial Time period	• **10 years and further extendable by two years on DJB's discretion if the performance of the Operator is found satisfactory.**

Prior experience of decentralized water plants and of working with low-income communities	• The Operator and its associates together should have at least 2 years of experience in successfully working with decentralized drinking water plants of capacity greater than or equal to 500 litres per hour (LPH)
	• Key criteria that the bidders should satisfy:
	  • At least 2 years of existence in water sector
	  • At least 2 years of satisfactory experience working with decentralized drinking water plants
	  • At least 10 decentralized drinking water plants with capacity of not less than 500 LPH established over the last 5 years
	  • At least 2 years of experience in the water/sanitation sector in low-income communities, either by providing decentralized drinking water or by providing household water/sanitation connections

Social Marketing Plan	• It is crucial for customers to understand the importance of safe drinking water and purchase it from the plant, both from the end-user and plant viability perspective. Hence, bidders should have the ability to market to and work with low-income communities to achieve the goal of maximizing provision of safe drinking water from the plant
	• Key elements of the social marketing plan to be undertaken in project area.
	  • The overall social marketing strategy
	  • Social marketing efforts should occur before the plant opens
	  • Marketing efforts should continue on at least a monthly basis after the plant is open for the first 12 months of operation

	• At least once before the plant opens, at least 30% of the population within the plant vicinity (at least 500 metres or reasonable walking distance) of the plant should be contacted • At least twice in the first 9 months, at least 60% of the population within plant vicinity (as described above) of the plant should be contacted

Local governance and monitoring plans to ensure optimal plant performance	• The Operator would need to put in place strong governance and monitoring mechanisms to ensure the plant is managed and operated correctly
	• It would need to deploy appropriate and relevant local resources to ensure the same
	• Key elements of the governance mechanism:
	  • Measures to ensure that the quality of drinking water meets the norms of BIS:10500 standard
	  • Measures to ensure that no customers are turned away from the plant for capacity/other constraints - Operator would be expected to make available treated water supply at more locations, or in greater quantity at the existing locations, if the average demand rises to 80% of total plant output capacity
	  • Operator is expected to provide water quality test reports and sales logs of the plant to the DJB once a month
	  • On a weekly basis, the operator would do TDS level testing and record the data. This data would be available to the DJB on request
	  • Once every month, the operator would conduct output water quality tests covering all BIS:10500 parameters. This would be submitted to the DJB every month and results of the tests would also be displayed at the plant in a clearly legible and visible manner to the customers
	  • The operator should attempt to address the concerns and questions raised by customers to the best of its ability
	  • In case of **scheduled maintenance**, it is preferable that the operator does it during non-operating hours. However, in case **scheduled maintenance** occurs during operating hours, the operator must ensure that water supply at the plant does not get impacted for more than 6 hours. In case of technical equipment failure (requiring **unscheduled maintenance** actions), the operators must ensure that the plant downtime does not exceed 1 day (24 hours) and water supply at the plant does not get impacted for more than 6 hours
	  • If the interruption in water supply due to unscheduled downtime is more than 6 hours, the operator is responsible for making provision for supply of drinking water to the community
	  • In order to meet this responsibility, the operator has the option of purchasing drinking water from the DJB **OR** make other suitable provisions to supply the same to the community
	  • Operators must ensure that unscheduled downtime events on account of technical failures **does not occur more than once per quarter**

Ability to replicate the concept to other parts of Delhi	• The operator should have the financial and operational potential to launch at least 10 more plants in other slums in Delhi. DJB reserves the right to extend the scope of operator to offer such services in 5 other similar locations.
	• The DJB will look at the following key parameters
	  • Financial capacity of the organization (annual funding budget for the last 3 years in the case of NGOs; audited annual turnover for the last 3 years in the case of for-profit companies)
	  • The ability to generate funds for expansion, such as by showing a history of ability to generate funds to open 10 decentralized plants
	  • Management team capacity to enable and supervise scaling up of operations, including at least 2 examples of successful project completion (in the water/sanitation sector if the bidder is operating in the same or other sector) with low income communities. These information may be submitted as part of the application

Operator"s Remuneration	• Operator"s revenue will comprise exclusively of the user fee levied by it in accordance with DJB approval

Specifications for a decentralized drinking water plant in Delhi

I. Overall Objectives

1. **Overall Objective of the Project**

    a. The overall objective of this project is to provide regular, safe drinking water in Sawda Ghevra

b. This will be done through the construction of 1 decentralized drinking water plant. The operator has the option to sell water at 2-3 access points[1] in Sawda Ghevra

c. The end-user price for purified water must be the same at all water access points

d. The individual plant must be of at least 1000 LPH capacity

e. The DJB would have discretion to award 5 more pilot project (consisting of 1 or more plants) based on performance & the requirement. In case the DJB so allows, the operator would be obliged to provide the same within 4 months

2. **Key Service Conditions for the Implementing organization(s)**

a. The plants must supply regular drinking water that conforms to BIS:10500 desirable drinking standards

b. **The operator must provide water to all residents of Sawda Ghevra; the plants must not turn any willing customer away for capacity/other reasons**

c. In case the average plant sales reach 80% of plant output capacity, the implementer must be willing to increase the capacity of the plant through one/more of the following options to ensure that no customers are turned away

i. Increase the capacity of the storage tanks

ii. Increase the number of working hours within a reasonable limit

iii. Upgrade the plant technology in-situ to increase capacity

iv. Build a new plant (this would however depend on whether GNCTD is in a position to provide more land)

d. The operators must conduct water quality tests on a monthly basis and maintain daily sales logs

i. On a weekly basis, the operator would do TDS level testing and record the data. This data would be available to the DJB on request

ii. Once every month, the operator would conduct output water quality tests covering all BIS:10500 parameters. This would be submitted to the DJB every month and results of the tests would also be displayed at the plant in a clearly legible and visible manner to the customers

iii. The operator should attempt to address the concerns and questions raised by customers to the best of its ability

e. In case of **scheduled maintenance**, it is preferable that the operator do it during non-operating hours. However, in case **scheduled maintenance** occurs during operating hours, the operator must ensure that water supply at the plant does not get effected for

1 Access Point – Point of distribution at a distance from the plant at which people can purchase water that has been purified at the plant

more than 6 hours. In case of technical equipment failure (requiring **unscheduled maintenance** actions), the operators must ensure that the plant downtime does not exceed 1 day (24 hours[2]) and water supply at the plant does not get effected for more than 6 hours

i. If the interruption in water supply due to unscheduled downtime is more than 6 hours, the operator is responsible for making provision for supply of drinking water to the community

ii. In order to meet this responsibility, the operator has the option of purchasing drinking water from the DJB at cost **OR** can make suitable provisions to supply the same to the community

iii. In the event of any technical failure and resultant downtime, it is the responsibility of the operator to inform the relevant DJB authority on a priority basis, whether they purchase water from the DJB or supply it independently

iv. Operators must ensure that unscheduled downtime events on account of technical failures does not occur more than once per quarter

f. If the operator does not fulfill the terms of the final agreement with the DJB, then the DJB can revoke the right to operate the plant

3. **Role of the Delhi Jal Board and other government organizations**

a. For the water plant in this project, the DJB is willing to consider provision of the following inputs:

i. Right to use 1,000 sq feet of rent-free land for the period of operations , for a 10-year tenure (DJB will coordinate with GNCTD to make the land available)

ii. Access to a groundwater source(Permission from DC(Revenue) will be taken by DJB)

iii. Request power DISCOMs to enable operator to take electricity connection, with operator paying for usage at commercial rates

b. The DJB would be willing to collect and test specific water samples from aquifers that the operator identify as possible sources of input water. The DJB is willing to bear the cost of testing these samples. The exact number of samples that the DJB would be willing to test to find an aquifer for a single plant would have to be discussed by the operator with the DJB. Based on the results of the testing, the operator would need to finalize the aquifer for the plant's input water source. While making the choice of an aquifer, the operator would need to take into account the possible TDS levels in the waste water.

c. The DJB may also monitor, directly or through third parties, the performance and uptake of the plants among the local community

2 Operating + non-operating hours

d. DJB may at any time collect and test output water samples to monitor the quality of plant operations

e. Drainage management is to be done by the Slum Board. However, incase the Slum Board is unable to provide drainage management, the operator may have to implement their own solution.

f. The role of the DJB and other entities mentioned herein would be restricted as defined above. In particular, DJB and other entities would not be responsible for provision of any direct or indirect financing support unless explicitly mentioned in this document.

II. Expectations from this document

1. This document provides the profile of the site and the input water quality in Sawda Ghevra
2. The bidders are expected to provide the details required in this document in the context of Sawda Ghevra and the input water quality testing results given in Appendix 1 and 2 respectively annexed to the end of this document[3]
3. The technical plan for the final plant can vary based on the actual quality of the input water from the selected input water source

III. Details required from the bidders

1. **Organizational background**

a. History of organization and main areas of work(In case of joint venture details would need to furnished for both the bidders)

b. Profiles of key personnel

c. Profiles of members on the board

2. **Credentials of organization for proposed project**

a. Outline key skills relevant to setting up decentralized water plants in slums (e.g., related areas of work such as sanitation and community mobilization as well as experience with decentralized plants in rural areas)

b. Prior experience in running decentralized water plants of capacity equal or greater than 500 LPH

i. No of years of experience in running decentralized drinking water plants

ii. Total no of plants set up (rural and urban)

iii. No of plants set up in the last 2 years

3 The DJB may request the operator to ultimately open a plant in a different slum but requests that this proposal address the specific situation in Sawda Ghevra.

iv. Average number of users in a plant (no of households using water regularly)

c. Prior experience working in the water/sanitation sector in low-income communities, either by providing decentralized drinking water or by providing household water/sanitation connections

i. No of years of experience working in the water/sanitation sector in low-income communities

ii. No of households reached through decentralized drinking water plants or no of households provided water/sanitation connections

- For(b)&(c) here produce performance certificate from the district administration .

d. If one of these plants is urban and has handled input TDS levels greater than 1,000ppm, please describe how wastewater was managed

e. Please provide a profile of one or more of your plant installations (in rural, semi-urban or urban areas) that you would like to highlight. Please bring out the following in this profile:

i. Location and slum population

ii. Months the plant been operational

iii. Plant capacity and technology used

iv. TDS levels of input water, product water and wastewater

v. Wastewater management technique

vi. Average sales/day

vii. Filtration fee charged to users (p/L)

viii. Role/s of your organization/s (e.g., financing, operating, maintenance, etc.)

ix. If any other partners were involved, describe their roles

x. Anything else about the plant you would like to highlight

3. **Technical Solution and Requirements for Physical Resources** *(Please provide an indicative technical solution for the site and input water quality requirements given below; for the actual plants a survey of groundwater at the site would be required to select suitable aquifers and design the solution)*

a. Overview of purification technology

b. Plant capacity (LPH)

c. Storage tank capacity used (L)

d. Detailed maintenance requirements for individual components (including frequency and cost of replacement)

e. Water usage efficiency (%)

f. Land required (sq ft)

g. Type of electricity connection required (1/3 phase)

4. **Product features**

a. Filtration user fee (p/L) *(including future escalation for inflation)*

b. Volume options available (L)

c. Provision of delivery (Yes/No)

d. Fee for delivery (p/L)

5. **Overview of Operating Roles and Responsibilities** (please cover all aspects, like plant provision, day-to-day operations, awareness creation/demand generation etc)

a. Lead/your organization

b. Other organizations involved in the project

6. **Overview of Financial Structure and Roles** (please cover all aspects, like amount and provision of upfront capital, plant ownership, right to revenues etc)

a. Lead/your organization

b. Other organizations involved in the project

7. **Suggested Approach to Sales and Distribution**

8. **Suggested Approach to Social Marketing**

a. Social Marketing Strategy (individual conversations, group activities, distribution of pamphlets etc)

b. Proportion of people to be targeted who live within 500m of the plant site

c. Frequency of interactions/social marketing efforts

9. **Brief suggested approaches to manage wastewater (given that the site has no drainage system)**

a. Amount and quality (including TDS level) of wastewater produced daily

b. How would waste water be managed?

10. **Approach to Plant Maintenance and Quality Control** (including vendor plans if outsourced)

11. **Measures to provide adequate governance** (to ensure plant is meeting its social objectives and is financially sustainable)

a. Methods to ensure governance (surprise visits, water quality testing, maintain sales logs etc)

12. **Indicative Project timelines** (please indicate time to construct, plant ownership tenure, time to scale up penetration to steady state levels, steady state sales volumes etc)

13. **Would your organization have the organizational and funding capabilities to be able to scale up this model to multiple other locations in Delhi in the future with the same operating and financial model?**

    a. Financial capacity of organization (annual funding budget or expenditures for the last 3 years in case of NGOs/annual revenues for the last 3 years in case of private organizations)

    b. Sources of funding

14. **Other features about the product/technology/your organization that you would like to highlight**

IV. Details of the site: These details of sample are indicative only. The operator will collect the sample of ground water from site at his cost before designing and installing of plant

1. **Appendix I: Results of Groundwater Quality Testing in Sawda Ghevra (Only indicative)**

Sl.	Tests	Desirable Limit	Permissible Limits	Sample Details
I.	**Essential Characteristics**			
1	Colour (Hazen Units)	5 Max.	25 Max.	30
2	Odour	Un-objectionable	---	Un-Objectionable
3	Taste	Agreeable	---	Un-Agreeable
4	Turbidity, NTU	5 Max.	10 Max.	70
5	pH	6.5 to 8.5	No Relaxation	7.9
6	Total Hardness as $CaCO_3$, mg/l	300 Max.	600 Max.	380
7	Iron as Fe, mg/l	0.3 Max.	1.0 Max.	0.9
8	Chlorides as Cl, mg/l	250 Max.	1000 Max.	220
9	Residual free, Chlorine, mg/l	0.2 Min. (If Chlorinated)		Nil
II.	**Desirable Characteristics**			
1	Dissolved Solids, mg/l	500 Max.	2000 Max.	1280
2	Calcium as Ca, mg/l	75 Max.	200 Max.	64
3	Magnesium as Mg, mg/l	30 Max.	100 Max.	54
4	Copper as Cu, mg/l	0.05 Max.	1.5 Max.	0.02
5	Manganese as Mn, mg/l	0.1 Max.	0.3 Max.	0.07
6	Sulphate as SO_4, mg/l	200 Max.	400 Max.	281
7	Nitrate as NO_3, mg/l	45 Max.	No Relaxation	44
8	Fluoride as F, mg/l	1.0 Max.	1.5 Max.	1.4
9	Phenolic Compounds as C_6H_5OH, mg/l	0.001 Max.	0.002 Max.	<0.001
10	Mercury as Hg, mg/l	0.001 Max.	No Relaxation	<0.001

11	Cadmium as Cd, mg/l	0.01 Max.	No Relaxation	<0.01
12	Selenium as Se, mg/l	0.01 Max.	No Relaxation	<0.01
13	Arsenic as As, mg/l	0.01 Max.	No Relaxation	<0.01
14	Cyanide as CN, mg/l	0.05 Max.	No Relaxation	<0.01
15	Lead as Pb , mg/l	0.05 Max.	No Relaxation	<0.01
16	Zinc as Zn, mg/l	5 Max.	15 Max.	<0.01
17	Anionic Detergents as MBAS, mg/l	0.2 Max.	1.0 Max.	<0.02
18	Chromium as $Cr6^{+}$, mg/l	0.05 Max.	No Relaxation	<0.01
19	Mineral Oil, mg/l	0.01 Max.	0.03 Max.	Absent
20	Alkalinity , mg/l	200 Max.	600 Max.	360
21	Aluminium as Al, mg/l	0.03 Max.	0.2 Max.	0.15
22	Boron as B, mg/l	1 Max.	5 Max.	0.25
23	Ammonia as NH_3, mg/l	---	---	Nil
24	PAH, mg/l	---	---	Not Detected
25	Pesticides, mg/l	Absent	0.001 Max	Absent

2. **Appendix II: Sawda Ghevra Site Profile:**