

# **WEST BENGAL TRANSPORT CORPORATION LIMITED**

(GOVT. OF WEST BENGAL UNDERTAKING)  
12, R. N. MUKHERJEE ROAD, KOLKATA – 700 001.

EOI No.: WBTC/EOI-04/08/2018-19

Date : 09<sup>th</sup> August 2018

Expression of interest is invited from the reputed, resourceful, financially sound and experienced Contractor / Company / Firm / Public Sector Undertaking / Govt. Company for the work **“Fabrication, supply, installation and commissioning of 250 LPH Water Kiosk / Water ATM for providing safe drinking water at the specified Bus Terminus of WBTC.”**

## **SCOPE OF THE WORK:**

1. The concept of the Water Kiosk coupled with State Machine will be similar to the Water ATMs but there should be not less than three nos. of dispensing outlets as they will be installed in high density public places.
2. Designing a Water Kiosk coupled with State Machine having capacity of 250 litres per hour using an environment friendly technology as specified in the Technical Specifications.
3. The Water Kiosk coupled with State Machine should be stable and sturdy and the treated water tank with the filtration unit and the chilling unit with all its components should be incorporated in such a manner that the entire machine is one single unit. The approximate size of the Plant should be 8.0 ft X 8.0 ft. X 8.5 ft. (HT)
4. The successful tenderer / agency would have to arrange for testing the input water quality as exist at each location and submit a report to this end prior to installation of the water Kiosk.
5. The successful tenderer / agency will be permitted to install only 1 Kiosk per location. Also he has to arrange for erecting proper signage indicating the location of the Kiosk at each Terminus.
6. Water Kiosk coupled with State Machine should have a Heavy Duty MS Rolling Shutter for secured access to the filtration unit of the plant. The Kiosk should only have the Dispensing taps visible in the front.
7. The Water Kiosk coupled with State Machine should be capable of treating the water from a maximum level of contamination namely – 4.5 mg/ltr of Iron and 0.5 mg/ltr for Arsenic in the raw water source available at site and be able to purify it the specified standards namely – Iron < 0.3 mg/ltr and Arsenic < 0.01 mg/ltr as per the guidelines laid down by the BIS Standard.
8. The Water Kiosk coupled with State Machine should be able to treat bacteriological contamination and remove bacteriological micro-organisms before storing water in a treated water tank. The said contamination shall be in line with the prevailing Indian / International Standard.

9. The Water Kiosk coupled with State Machine should be have a storage capacity of up to 200 / 250 litres with the Treated Water Tank manufactured in a way such as to eliminate the growth of bacteria while the water is being stored. The Treated Water Tank should be intended to dispense fresh water at all times.
10. The Water Kiosk coupled with State Machine should be incorporated with a pumping mechanism to draw raw water for treatment and dispensing from the existing tank / reservoir available within 5 meters from the proposed site.
11. The Water Kiosk coupled with State Machine should have hassle free operation and minimal maintenance. **The vendor should provide 2 (two) year on site warranty including free maintenance from the date of operation of the Kiosk.**
12. The Water Kiosk coupled with State Machine should be engineered in such a way so as to provide periodic back wash and that all spillage / backwash water shall be drained out without affecting the functioning of the plant. All such spillage / backwash water will be drained in the nearby local drainage system.
13. The Water Kiosk coupled with State Machine should incorporate a dispensing system to enable minimum wastage of purified drinking water. The Water Kiosk should be able to integrate a Pay-Per-Use concept as per norms set by this Company. Accordingly necessary space provisions should be ensured in the Kiosk. The Kiosk will be manned by this Company.
14. The Water Kiosk coupled with State Machine should ensure space provision for coin based water vending system within the plant such as to dispense a set amount of water against receipt of the currency coins.
15. The Water Kiosk coupled with State Machine should be installed with temperature controlled chilling unit to regulate temperature of water between 18 Degree Centigrade to 28 Degree Centigrade such as to dispense ambient drinking water for all seasons.
16. The Water Kiosk coupled with State Machine should be designed in a manner such as to ensure space provision for installation of the Reverse Osmosis Treatment Plant of 250 LPH capacity in case the available source of raw water quality needs such a treatment.
17. The Water Kiosk coupled with State Machine should have space provisions for dispensing water using card swiping or card punching machine / technology, as specified in the Annexure I.
18. The Water Kiosk coupled with State Machine should have provisions for testing of dispensed water in a quarterly basis (every three months) for parameters such as Arsenic, Iron and Bacteriological Contamination, other parameters may be included and tested for if required.
19. The Water Kiosk coupled with State Machine should come equipped with a smart phone / PC enabled water quality monitoring application which should be used by the water quality monitoring entity to digitally store not only the results of water quality testing but also the GPS pin pointed location of the kiosk along with a completed set of location description data based on IOT (Internet of Things).

20. The Water Kiosk coupled with State Machine should come equipped with an online 'Water Quality Monitoring Dashboard' which ingrates the test result data from the smart phone application and projects the same in a detailed and comprehensive manner.
21. The Water Kiosk coupled with State Machine should come equipped with an online 'Water Quality cum Usage Monitoring Dashboard' which ingrates the data from both the smart phone applications and projects the same in a detailed and comprehensive manner. Information provided by the Dashboard includes but is not limited to the quality of water dispensed, GPS location of the Kiosk, Usage in litres, number of users, revenue generated. The proposed centralized information system would be implemented at the Head Office of this Company at Paribahan Bhawan, 12, R. N. Mukherjee Road, Kolkata – 700 001.

**EARNEST MONEY TO BE DEPOSITED:**

The bidder has to submit the **Earnest Money Deposit Rs. 2,00,000** by **Demand Draft / Pay Order payable to West Bengal Transport Corporation Limited**. The original is to be submitted in a sealed envelop super scribing the EOI No. and Name & Address of the agency to The Chief Accounts Officer of this Company. The copy of the same must have to be uploaded in e-tendering mode.

**DATE OF COMPLETION:**

60 Days from the date of issue of Work Order.

**RATE TO BE QUOTED:**

The bidder must quote his rate in the prescribed format as uploaded in the e-tender. The bidder must go through the specifications, terms & conditions as given in Annexure I and Annexure II prior to quoting of his rate. The bidder must quote the rate in the prescribed format on-line (in e-tender mode). GST, as applicable, would be effected separately.

**Special Note : The bidder must have to fill up Annexure II and III by downloading the pages and then it is to be uploaded after filling up the format duly signed and providing seal of the company.**

TECHNICAL SPECIFICATIONS & PROCESS DESCRIPTION

1. Fabrication, supply, installation & commissioning of 250 LPH Automatic Water Treatment Machine (Water Kiosk) coupled with State Machine including arrangement of necessary water purification system for Iron, Arsenic and Bacteria by Iron removal Filter, Arsenic Removal Filter Activated Carbon Filter, Ultra Violet Purification system with water temperature control facility to deliver drinking water at ambient temperature for all seasons.

The different components of this water ATM should meet the specifications as mentioned below:

- a) The structure of the Water Kiosk should be made out of hollow steel section (for frame work) and the panel made of galvanized steel sheet 50 mm thick (with two sheets of 0.4 mm and 0.5 mm) filled with PUF of density 40 Kg / M<sup>3</sup> for proper insulation along with prefabricated deck flooring, the roofing structure made of GI sheet with premium quality roofing and cement board flooring. The Kiosk should be aesthetically attractive and robust modular unit.
  - b) Overall dimensions of the Water Kiosk shall be 8.0 Ft (L) X 8.0 ft (W) X 8.5 ft (H).
  - c) A service area should be provided within the Kiosk with sufficient space so that all the equipments can be conveniently taken inside for fitting and repair as also the sitting arrangement of one manpower.
  - d) Dispensing Mechanism having proper Piping and fitting with flow control faucets. There should be 3 stainless steel dispensers and product water tank for rust resistance (grade 304).
  - e) Filtration Unit consists of Oxidation Filter and attachments (with Manganese Dioxide), Iron Removal Filter and attachments, Arsenic Removal Filter, Activated Carbon Filter (with silver impregnated Activated Carbon) and UV System for disinfection.
  - f) Each unit should conform to coin / card operated (option for denomination of Rs. 1, 2, 5 coins) with programmable quantity selector (between 200 ml to 10 Ltr).
  - g) Temperature controlled chilling unit to regulate temperature of water between 18° C to 28° C such as to dispense ambient drinking water for all seasons.
  - h) Automation Unit with Multi Port Valves, two way valves, Sensors, Pump and Control units.
  - i) Electrical Panel connectivity with ancillary parts.
2. Testing of water dispensed by 'Onsite Mobile Analysis System' for parameters such as Arsenic, Iron and Bacteriological Contamination. The quality of water is to be tested after every 3 months at each location. Necessary remedial action would have to taken by the agency according to the testing report.
  3. Smart Phone application enabled with GPS for uploading location and water test result data to an online dashboard.
  4. 'Online Water Quality Monitoring Dashboard' for comprehensive viewing of water quality test results.

**Jt. MANAGING DIRECTOR**

**This part will be filled up by the Bidder by downloading and it is to be uploaded after filling up and signing with seal.**

<b>Technical Specification for Water Treatment Plant</b>		
<b>Sl. No.</b>	<b>Description of Parameter</b>	<b>To be filled up by the Bidder</b>
1.	No. of Treatment Unit	
2.	Capacity of Oxidation Filter	
3.	Dimension (H X Dia) in mm	
4.	Media of Oxidation Filter	
5.	Backwash mechanism	
6.	Capacity of Iron Removal Filter	
7.	Dimension (H X Dia) in mm	
8.	Media of Iron Removal Filter	
9.	Backwash mechanism of Iron Removal Filter	
10.	Backwashing provision available or not	
11.	Capacity of Arsenic Removal Filter	
12.	Dimension (H X Dia) in mm	
13.	Media of Arsenic Removal Filter	
14.	Technology for Arsenic Removal	
15.	Approvals / Certification from external agencies	
16.	Backwashing provision available or not	
17.	Capacity of Activated Carbon Filter	
18.	Dimension (H X Dia) in mm	
19.	Media of Activated Carbon Filter	
20.	Backwash Mechanism of Activated Filter	
21.	Capacity of UV disinfection equipment	
22.	Dimension (Operating length, total length & Dia) in mm	
23.	Power voltage	
24.	Current	

25.	Power Connection	
26.	Control Methodology	
27.	Provision for recirculation	
28.	Kiosk Enclosure Material	
29.	Dimension of Kiosk	
30.	Thickness of material for Kiosk	
31.	Method of painting of Kiosk	
32.	Colour code of paint	
33.	Surface finish mechanism	
34.	Type of raw water storage	
35.	Capacity of raw water storage	
36.	Type of Ventilation	
37.	No. of Fans employed	
38.	Type of illumination	
39.	No. of Luminaries	
40.	Capacity of product Tank	
41.	Material of product tank	
42.	Communication protocol with server	

Signature of Bidder with date

Seal of the Company

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<b>Technical Specification for Water Chiller</b>		
<b>Sl. No.</b>	<b>Description of Parameter</b>	<b>To be filled up by the Bidder</b>
1.	Capacity of Chiller	
2.	Make	
3.	Model No.	
4.	Dimension (HxWxD) in mm	
5.	Weight (without water)	
6.	Power supply voltage	
7.	Current consumption	
8.	No. of cold water outlets	
9.	Compressor type	
10.	Refrigerant	
11.	Type of Condenser Fan	
12.	Type of Control & sensor material	
13.	Water connection	
14.	Drain	
15.	Frequency of preventive maintenance	
16.	Method of carrying out maintenance	

Signature of Bidder with date

Seal of the Company