RAJKOT MUNICIPAL CORPORATION

e - Tender No. RMC/WMU/CZ/2025-26/01(Retender)

CONSTRUCTION OF 24.19 ML CAPACITY RCC GROUND SERVICE RESERVOIR, PUMPING STATION WITH ALL ELECTRICAL-MECHANICAL WORK AND 3 ML CAPACITY 24.0 MT. STAGING HEIGHT RCC ESR AND OTHER MISCELLANEOUS WORK INCLUDING COMPREHENSIVE OPERATION & MAINTENANCE FOR 2 YEARS AT MADHAPAR IN RMC AREA

Volume-II
Technical Specifications & Drawings

	Milestone Dates for e-tendering is as under	
1.	Downloading of e-Tender documents	01/07/2025 To 18/07/2025 up to 17:00 Hrs.
2.	Pre-bid meeting	05/07/2025 at 11:30 hrs. Onwards at Central Zone office RMC
3.	Online submission of e - Tender	18/07/2025 up to 18:00 Hrs.
4.	Physical submission of EMD, Tender fee and other document required as per Financial and Experience criteria by Regd. Post. A.D. / Speed Post (By Indian Post Department only)	Up to 28/07/2025 18:00 Hrs.
5.	Opening of online primary bid(Technical bid)	29/07/2025 at 11:00 Hours onwards
6.	Verification of submitted documents (EMD, e - Tender fee, etc.)	30/07/2025 at 11:00 Hours onwards
7.	Agency to remain present in person along with original documents for verification	31/07/2025 between 11:00 to 18:00 Hours
8.	Opening of online Commercial Bid (Price Bid) for Technically qualified bidders only	02/08/2025 at 11:00 Hours onwards (If Possible)
9.	Bid Validity	120(One Hundred Twenty)Calendar Days
For further details, pre-qualification criteria etc. visit www.rmc.nprocure.com		

2025-26

ADD. CITY ENGINEER (I/C)
WATER MANAGEMENT UNIT
RAJKOT MUNICIPAL CORPORATION
DR. AMBEDKAR BHAVAN,
DHEBARBHAI ROAD, RAJKOT

:: TECHNICAL SPECIFICATIONS ::

A. GENERAL

1. SCOPE OF CONTRACT :

The scope of work under this Single Responsibility Contract includes construction of all works as described in subsequent paras to achieve the objective to construct Water distribution station and ESR with Electrical Mechanical work & Miscellaneous work as per good and acceptable engineering practices and workmanship manner.

The R.L. of ground level is as indicated in enclosed survey map for indicative reference of bidder. All levels are shown in R.L with respect to GTS benchmark. The scope also includes level survey & geotechnical survey of plot to derive soil bearing capacity, strata classification and details of water table etc. However, bidders to note that all tender drawings and data are indicative for bidder's guidance only and RMC shall not be held responsible for the correctness of same and bidder shall be responsible to obtain all required data on their own prior to bidding.

The site is having highly undulating ground levels on site, (bidder to refer contour survey / carry out site visit) and bidder shall note that required dewatering / diversion work as required as per site condition is included in the scope of bidder in order to smoothly carry out the construction activities at site without affecting the progress / time of completion of project.

2.2 MAJOR COMPONENT OF WORK

The major scope of work for this work shall be as under :

- Inter Connection between existing Chlorination Tank to proposed Sump by providing and laying MS pipe of 711 mm dia. With inside lining and outside coating as mentioned in Schedule B with specials and Providing and fixing sluice valve with expansion bellows, valve chamber, thrust block etc. complete.
- Construction of 241.9 Lac litre capacity underground sump and pump house. **(The construction of underground sump and pump house shall be strictly as per GAD attached in the tender). The structural design of underground sump and pump house shall be as per latest IS Revision. structures shall be designed for uplift in empty conditions with no live load. Water tablel to be considered up to ground level while designing the structure for uplift. Rock anchors shall be allowed to resist the uplift pressure for which no extra payment shall be made.**
- The RCC Underground sump shall be in RCC M-30 grade concrete.
- Even though its mentioned in Point no 4 of Volume-III Price bid, The reinforcement shall be CRS type TMT Fe-500 only no TMT bar shall be allowed in water retaining structure.

- 100 mm thick P C C levelling course in M -15, Refilling the pit with proper soil and disposing of the surplus stuff at all lead including 20 mm thick cement plaster in CM 1·2 With approved water proofing compound to all over inside container (i.e. walls, base, top slab/dome bottom etc. all) including all types of labour and material charges of lowering, laying, erecting / hosting and jointing of pipe assembly to inlet, outlet overflow, washout and bye pass arrangement as per hydraulic design Providing and fixing accessories, Cl Manhole frame and cover water level indicator, adequate cowl type ventilators or lantern type ventilator with stainless steel jail RCC chambers for valves Providing and applying three coats of cement paint/snowcem to the out side face of structure It also includes satisfactory water tightness test as per relevant IS code and painting name of scheme and capacity on the tank as per direction of engineer in charge.
- DI pipes and special shall only be used if type IS not specified in tender.
- The rate shall include cost of dewatering during excavation making all arrangement when water table meets Within depth
- RCC railing shall be provided along the RCC staircase inside the sump.
- RCC staircase/RCC Steps should be provided from GL to sump top slab.
- Appearance of structure should be aesthetically good looking acceptable to authority
- Pump house shall be RCC Frame structure in M 25 grade concrete with Kota Stone flooring, Door, Window with mosquito net, China mosaic tiles on terrace including inside Plastic Paint 2 Coat with Base Coat and Birla Putty and outside Weather shield Exterior Paint 2 Coat with base coat. paint as per approved GAD by RMC and as directed by engineer in charge.
- Outside plaster shall be 20 mm thick sand faced plaster in two coats (first coat 12 mm thick in cement mortar 1:3 and second coat 8 mm thick in cement mortar 1:2)
- Inside Plaster shall be 15 mm thick in cement mortar 1:3 in pump house or any other building in the headwork
- Construction of HT Room (Min. 5 mt. x 5 mt.) and Security cabin (Min. 3 mt. x 3 mt.), office 5 m. x 3 m. in RCC Frame structure in M 25 grade concrete with Kota stone flooring, Aluminium Extruded Door/ Window Section with inside inside Plastic Paint 2 Coat with Base Coat and Birla Putty and outside Weather shield Exterior Paint 2 Coat with base coat. with China mosaic on terrace with all electrical wiring and fixtures as per approved GAD and as directed by Engineer in charge.
- Construction of Transformer yard and D. G. Set, Cholorination Shed, Scrubber Otta etc., in RCC M 25 grade concrete. Corrugated sheet for ceiling work with Iron purline and ridge with oil paint should be provided above foundation.
- Construction of toilet block (Min. Size 6.0 mt. x 3.0 mt.) in RCC frame structure in M 25 grade concrete with all necessary plumbing items and 1000 litre HDPE storage tank above toilet block and inspection chamber as per requirement.
- Construction of 3.0 ML ESR with 24 mt St. Height in RCC M-30 grade concrete shall be on RCC shaft type only. No other type of ESR structural design shall be permitted. From Sump to ESR the rising main line shall be of Both Side Flange ended DI pipe K-9 Grade with relevant fixing materials

- In head work all RCC / steel structural design shall be as per Seismic Zone – IV
- In head work campus excavation for all lines shall be upto to 2.0 mt. depth with minimum 200 mm thickness sand bedding. As per ISI 3370 minimum grade of PCC in water tank structure shall be in M-20.
- All scour chambers shall be design for easy removal of silt from GSR. GSR top shall be covered with IPS as per IS.
- Design and construction of 30 lac. Lit. capacity 24 m. st. ht. ESR with inlet, outlet, overflow & washout MS pipe as per Schedule B with valve, valve chamber, flowmeter chamber, bypass line etc. complete. GAD attached.
- All inside surfaces of ESR shaft and inside bottom of vessel shall be applied appropriate plaster and color as per relevant BIS. Also top surface of top slab of ESR shall be covered with IPS as per relevant BIS.
- In ESR all duct foot band shall be designed with structural support for easy repairing in case of water leakages.
- ESR central shaft shall be designed and extended up to terrace of ESR.
- Agency shall have to install standard brand 24 x 7 working, equipped with the latest technology – 4k high resolution , motion detection , nigh vision type 3 nos of camera with recording facilities of 3 month storage, during whole construction period. The camera shall have facility for 24 x 7 live telecast broadcasting.
- In all scour chamber there shall be provision of flange ended close plate after valve.
- Inside ESR shaft well there shall be provision of well finished PCC type 150 mm thick bottom flooring.
- ESR supply main line shall have provision of bye pass line with same dia of additional valve with DJ before flow meter for easy maintenance work.
- ESR wash line shall be connected with GSR scour open trench up to the nearest water way or storm water connection.
- All sump shall need to provide air vent window individually in each sump top cover slab.
- Agency shall have to provide decent – detailed model of Madhapar head works to keep that model in office.
- The design, development and implementation of head works construction shall be very ideal and of top quality of workmanship.
- Design Conditions for Elevated Service Reservoir.
  (i) The foundation depth shall be minimum 4 (Four) meter or up to hard rock strata whichever is more.
  (ii) In case of supporting structure as a shaft, the minimum diameter of the shaft shall be 12 mt. and tolerance limit in the diameter will be ± 0.5%. The thickness of the shaft shall not be less than 350 mm and grade of concrete for shaft and foundation shall be M-30.
  (iii) The minimum thickness of components of container will be as under:
    a) Bottom dome 300 mm
    b) Conical dome 600 mm
    c) Cylindrical wall 300 mm
    d) Top dome 200 mm
- Construction of compound wall with retaining wall in M-30 grade concrete, gate, transformer yard with wire fencing, D G set, foundation, toilet block (GAD attached), scrubber otta, chlorination system shed & other miscellaneous work at Madhapar Head work.
- READY MIX CONCRETE shall be allowed from locally available plant, approved by PMC consultants & Engineer in charge with submission of necessary documents of quality control.

- The outside plaster will be from the top of raft upto top of GSR
- Plinth protection to be provided in all buildings / structures as required (Along with ESR / GSR). No extra cost will be paid. All the building shall be provided with 1000mm wide plinth protection of 75 mm thick CC 1:2:4 laid over 150 mm consolidated rubble soling.
- SS pipe railing is not required above GSR even if height is more than 1.5 m. Contractor to quote accordingly.
- The compartment wall of GSR will be paid extra as per actual quantity executed at site during execution.
- Bypass system for the outflow supply pipe of ESR shall be provided.
- An expansion bellow of 900 mm NB / 300 mm length should be provided as per requirement.

LIST OF APPROVED VENDORS FOR CIVIL WORKS:

ITEMS	**Approved Brands / Quality**
CEMENT	Ultra Tech, Ambuja, ACC, Sanghi, Siddhi, Hathi,TATA
Steel	CRS Fe 500 or higher grade steel procured from approved manufacturer like TISCO [TATA] , SAIL, VIZAG , Electrotherm, JSW , Essar
TILES	Somany, Kajaria, Jonson, Asian , Simpolo, Varmora
Plastic Paint	Dulux / Asian
EXTERIOR WEATHER PROOF EMULSION PAINT	Dulux /Asian
Oil Paint	Dulux /Asian / Jotun/ Indigo/ Global
SANITARY WARE	Cera / Hindware / Parryware/ Kohler/ jaguar/ Simpolo
CAST IRON PIPES and FITTINGS.	TATA, SAIL, ESSAR , ESPAT AND JINDAL [JSW],RATNAMANI
CAST IRON Gate Valve/ SLUICE / BUTTER FLY VALVES/Air Valve i.e. all type of valve.	[PROCURE OF ANY OF BRAND, VALVE SHALL BE WITH ISI MARK ONLY] KIRLOSHKAR Fouress Engineering (India) VAG Valves (India) Private Limited Bharat Engineering Works, Dhrangadhra K.P. Mondal- Hawrah Jupiter Engineering Co- Hawrah HAWA ENGINEERS LTD- Ahmedabad Veeson Valves Pvt. Ltd.- Jalandhar Sachdeva Metal Works- Jalandhar G M ENGINEERING PVT. LTD.- Rajkot Zoloto Industries, Jalandhar R & D MULTIPES PVT. LTD. (Plant-2 , Valsad) G. M. Dalui & Sons Pvt. Ltd-