



Bid Documents For
Rajkot Municipal Corporation.
AUGMENTATION OF ELECTRO- MECHANICAL & INSTRUMENTATION WORKS
FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC

SEPTEMBER-2023

Volume-III

Price Bid

::Milestonedatesof e-Tendering::	
1 Downloading of e-Tender documents	Dt.13.09.2023 to Dt.03.10.2023 up to 17:00 Hrs.
2.Pre-bid Meeting in Office of the City Engineer, RMC at West Zone Office	Dt.22.09.2023 at 11:00 hr At Central Zone, Room no-5 (If bidder have any query mail on hpparmar@rmc.gov.in before 21.09.2023 upto 11:00 Hrs.)
3.Online submission of e-Tender	Dt.03.10.2023 up to 18:00 Hrs.
4.Submission of EMD, Tender fee, Documents required for pre-qualification and other necessary documents by Hand Delivery/Regd. Post.A.D./ Speed Post.	Dt.06.10.2023 up to 18:00 Hrs.
5.Opening of online Primary Bid (Technical Bid)	Dt.06.10.2023 at 18:00 Hrs. (If Possible)
6.Verification of submitted documents (EMD, Tender fee, Documents required for pre-qualification and other necessary)	Dt.07.10.2023 to Dt.10.10.2023 up to 18:00 Hrs. (If Possible)
7.Opening of online Commercial Bid (Price Bid) for technically qualified bidder only.	Dt.11.10.2023 at 10:30 Hrs. onwards (If Possible)
8.Bid Validity	One eighty (180) calendar days

**CITY ENGINEER DRAINAGEPROJECT
DEPARTMENT RAJKOT
MUNICIPALCORPORATION
SHRIHARISINHJI GOHIL ZONALOFFICE
WESTZONE,ROOMNO.3(G.F.),150FE
ET RING ROAD, RAJKOT- 360005**

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC		
S U M M A R Y		
SR. NO.	ITEM DESCRIPTION	AMOUNT
A.	MECHANICAL & INST. WORK	1,63,59,265.00
B.	ELECTRICAL WORK	94,20,394.00
C	OFFICE FURNITURE AND TEST EQUIPMENTS (SCHEDULE-B1)	1,12,500.00
I	TOTAL CAPITAL COST	2,58,92,159.00
D	Comprehensive O&M for 2 years	28,15,431.00
T	Total Tender Amount	2,87,07,590.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1.1.1	MECHANICAL WORK HORIZONTAL CENTRIFUGAL END SUCTION NON CLOG PUMPMOTOR SET Supply, installation, testing and commissioning of Back Pull Out Type, Horizontal Non Clog Centrifugal Pump for sewage, having 2% NCI casing, CF8M impeller, shaft of AISI 410, stuffing box packed and coupled with Horizontal foot mounted squirrel cage induction IE3 Motor of min. following rating or higher as recommended by pump manufacturer, having max. 1500 RPM speed, suitable for 3 Phase, 415 V, 50 Hz, AC supply with TEFC enclosure, Class F insulation (temp. rise limited to Class B) and as per specification with all required accessories viz. CI/MSEP drain rim type base plate, Spacer type Flex. Jaw coupling of reqd. Spacer length, coupling guard, foundation bolts, min. 1" dia. G.I./uPVC drain pipe upto drain channel, etc. and as per specification and complete in all respect. Main Pump Capacity : 1100 m ³ / hr., Head : 17 m Motor Rating: 90 kW min. (or higher rating as reco. by pump manufacturer) Pump efficiency : mini. 75 % (Note: The work to be carried out in existing MPS and with Minimum Shut-down.)	7	Set	13,79,241	96,54,687
1.1.2	SUBMERSIBLE DRY MOTOR DREDGING PUMP PUMP-MOTOR SET Main Pump Capacity : 50 m ³ / hr., Head : 15m	1	set	331,327	331,327
2.1.1	VALVES Supply, installation, testing and commissioning of CI Double Flanged, rising spindle type, Sluice Valve conforming to IS 14846 PN 1.0 with SS 304 seat rings and SS spindle with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets, & fixing of valve etc. and as per specifications. The scope also includes providing required valve support . Size: 500 mm NB (Ele. actuator gear operated valve)	7	nos.	335,671	23,49,697
2.1.2	Item description as per Sr.No.-2.1.1 for SITC of Size: 500 mm NB (Manually gear operated valve at Suction of each HNC pump)	7	nos.	160,671	1,124,697
2.2.1	Supply, installation, testing & commissioning of Non slam, flanged, single door, swing type Non Return Valve conforming to IS 5312, Part 1 having pressure rating PN 1.0, having CI body and door, CF8M seat rings along with all hot dipped galvanised hardwares, bolts, nuts & washers, gaskets & fixing of valve etc. and as per specifications. The scope also includes providing required valve support. Size : 500 mm NB (at Delivery side of each HNC pump)	7	nos.	60,113	420,791

3.1.1	DI PIPE AND SPECIALS Supply, installation, testing, commissioning of double flanged DI Pipes confirming to IS 8329-2000, class K9 with connections complete for suction, delivery and header lines and as per specifications. The scope also includes connection with main header. Size: 350 mm and above	2000	kg	145	290,000
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SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
3.2.1	Supply, installation, connection with suction, delivery & header testing and commissioning of Flanged DI Fittings and Specials like 90 deg. Bend, Drilled / Blind Flanges, Reducer / enlarger, TEE, etc. as required to complete the piping and connection of pumps conforming to IS 9523. Size: 350 mm and above	3800	kg	145	551,000
3.3.1	Supply, Fabrication, laying, welding, testing and commissioning of MS pipe Electric Resistance welded (ERW) having beveled ends plate confirming to IS 3589-2001 or its latest revision / ammendment& MS specials conforming to IS 1239 / 3589, fabricated from MS.plate with necessary supports & anchoring and including required internal & external painting of two coats of red oxide primer and two coats of epoxy over it and as per IS and as per specifications.	7	m	4,811	33,677
3.3.2	Item Description as per 3.3.1 and of following size complete in all respect. Size : 500 mm NB X 6.3 mm thk (for HNC pump delivery line as require)	7	m	6,071	42,497
3.3.3	Item Description as per 3.3.1 and of following size complete in all respect. Size : 900 mm NB X 10 mm thk (for Header line)	6	m	16,346	98,076
3.4.1	Supply, cutting, machining,drilling, welding,etc. and installation, testing, and commissioning of M.S. flanges of following sizes, conforming to IS 6392/1538, PN 1.0 with flat face, off center bolt holes as required and including painting of two coats of red oxide primer as per specifications. Size: 400 mm NB-Drilled-approx. 32 kg (or as per actual HNC pump delivery flange)	1	no.	2,560	2,560
3.4.2	Item Description as per 3.4.1 and of following size complete in all respect. Size : 400 mm NB - Drilled - approx. 32 kg (or as per actual HNC pump Suction flange)	1	no.	2,560	2,560
3.4.3	Item Description as per 3.4.1 and of following size complete in all respect. Size : 500 mm NB - Drilled - approx. 47 kg	1	no.	3,760	3,760

3.4.4	Item Description as per 3.4.1 and of following size complete in all respect. Size : 900 mm NB - Drilled - approx. 150 kg (for HNC pump header if require)	1	no.	12,000	12,000
3.4.5	Item Description as per 3.4.1 and of following size complete in all respect. Size : 900 mm NB - Blind - approx. 430 kg	1	no.	34,400	34,400
3.5.1	Flanged Joints of DI / CI / MS Pipes, Fittings and Specials Supply, Installation, Making of Flanged Joints of DI/CI/MS Pipes, Fittings and Specials with all jointing materials, rubber packing, nut bolts, labour etc. for minimum following sizes or as per site requirement for complete connection. Size : 400 mm dia (or as per actual HNC Pump Suc.)	7	Joints	71	497
3.5.2	Item Description as per 3.5.1 and of following size complete in all respect. Size : 400 mm dia (or as per actual HNC Pump del.)	7	Joints	71	497
3.5.3	Item Description as per 3.5.1 and of following size complete in all respect. Size : 500 mm dia	21	Joints	82	1,722
3.5.4	Item Description as per 3.5.1 and of following size complete in all respect. Size : 900 mm dia	3	Joints	148	444

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
4.1.1	Supply, installation, testing and commissioning of Flange ends Expansion Bellow (PN 1.0) as per EJMA standards and as per specs. and complete in all respect. Size : 500 mm dia. x 300 mm (L) (On Suction & Delivery of each HNC pump)	14	nos.	23,933	3,35,062
5.1.1	PORTABLE DEWATERING FOR DRYWELL Supply and testing of Submersible non clog Portable Dewatering Pumpset with C.I. casing & CF8M impeller, 30 m flexible PVC delivery hose pipe of pump delivery size, rated for 6.0 kg / cm ² pressure, 15 mtr SS lifting chain, 20m pair of cable for motor to starter panel, suitable for 3Phase, 415 V, 50 Hz AC supply and min. motor rating as indicated here below, Switch-Starter panel with PMU suitable inter lock for winding protection, moisture controller for fault detection and auto stop facility, with built-in level switch for dry run protection and auto stop facility, 20 m suitable size power supply cable to starter panel, GI/CI pump stool and other required accessories for wet well. Capacity : 25 m ³ / hr. Head : 20 m Motor Rating: Mini. 5.5 kW (or higher rating as reco. by pump manufacturer)	1	NO.	179,562	179,562

5.2.1	Providing, Supply of Structure Steel at site of work with freight, loading, unloading carting, etc. including all taxes and duties complete such as joints, channels, angles, Iron Rails, ISA/ISM/ISMB/MS flat, Plates, MS Grill, Chequered plates (below 10mm thickness) for cable trench etc. required for support structure of all Electro-mechanical equipment, piping, etc. for support on floor / wall / beam / brackets etc. as per tender and IS.	1000	kg.	65.01	65,010.00
5.2.2	Labour Charges for lowering, laying, Fixing with fabrication various size section of MS such as joints, Grill, channels, angles, Iron Rails, ISA/ISM/ISMB/MS flat, Plates, Chequered plates, for cable trench etc Complete with two coats of red oxide and two coats of approved colour shade of epoxy paint as per relevant IS and as per specification.	1000	kg.	12.18	12,180.00
6.1.1	PRESSURE MEASURING SYSTEM Supply, installation, testing & commissioning of Diaphragm Type pressure guage having 150 mm dial with necessary fittings/accessories in SS 316, manifold valve, snubber, nipples etc. complete. Range :0 - 4 Kg/cm2 (at each HNC pump's delivery side)	7	NOS.	6,387.00	44,709.00
7.1.1	MISCELLANEOUS WORK Dismantling existing electro-mechanical equipments like pump-motor sets, Electric motors, valves, dismantaling joints / expansion bellows, suction- delivery pipes & specials etc. from its place carefully without damaging them and taking away scrap from pump house / compound as directed by Engg. In. of Charge of RMC complete in all respects and to permit the installation of new pump sets, other electro-mech equipment including instrument items and other associated items of this tender scope / BOQ.	1	Lot	43,200	43,200

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SR. NO.	ITEM DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7.1.2	Dismantling of all existing Pump foundation (6 Nos.) in dry well / pump house, support structure of pipes, valves and other equipments as existing at site for dry well as well as on top of wet well slab or at other units of pumping station as applicable including breaking, removing & carting of debris and various material for carrying out necessary electro-mechanical upgrdation / refurbishment work and for constructing new foundations/supports complete in all respect and as required for installation and satisfactory operation of all electro-mech equipment and instrument items as per the tender scope / BOQ.	1	Lot	54,000	54,000
7.1.3	Constructing/casting New RCC Foundation block work for New Pump-Motor Set as per manufacturer's recommendation including cement, sand, grit, kapachi, water, steel bars, scaffolding materials, curing, finishing, plastering, epoxy painting & complete in all respect.	7	NO S.	10,000	70,000

7.1.4	All miscellaneous Civil Work including modification / minor repairing / finishing works / providing cut-outs etc. providing RCC support of valves, pipes & fittings, grouting work, Required civil works including modification in existing pump house flooring, etc. in pump house and any other unforeseen / emergency work during dismantling of existing pumps & during installation in existing pump house etc. and all other as required to complete the work in all respects and as required for installation and satisfactory operation of all electro-mech. equipment's and instruments items as per the tender scope / BOQ.	1	Lot	75,000	75,000
8.1	Ultrasonic Type Level Transmitter with Integral Display : Design, Supply, Installation, Testing and Commissioning of Non Contact Ultrasonic Type Level Transmitter with Integral Display. Sensor with Head Mounted Transmitter: The sensor should be non contact type, field mounting type, housing shall have minimum IP65 protection, PP/ PVC Sensor MOC, Microprocessor based indicator with LED / LCD digital display, panel/ wall mounting type, power supply shall be 110- 240 Vac or 15 to 36 Vdc, 50 Hz \pm 10 %. Accessories: Mounting bracket, nut, bolts etc as per system requirement and Hook up diagram of the Instruments. Level Transmitter shall be suitable for following Range. (0 to 15 m)	2	No.	70,473.00	1,40,946.00
8.2	ELECTROMAGNETIC FLOWMETER Supply, installation, testing and commissioning of remote type Full Bore Electromagnetic flowmeter comprising of IP-68 Sensor, IP-65/66 remote transmitter with 20m cable between sensor and transmitter along with hall mounting accessories, hardware, etc. complete in all respects and as per specification and shall have following size and measurement range. The scope also includes necessary connection with header pipe. DC pulsed type, IP 68 Protection, Flanged process connection as per IS 1538 or equivalent standard, SS304/ Metallic Alloy Flow Tube, SS316/ SS 316 L/ Hastelloy Sensor, SS316/ Hastelloy Grounding Ring/ Inbuilt Grounding Electrode, Neoprene/ Polyurethane/ Hard Rubber/ Rilsan lining, SS304/ Die Cast Aluminium/ Carbon steel with Anticorrosive Paint Coil Housing with Junction Box, CS flanges Meter Size: 900mm (For Header for 7 nos. pump) Pipe size: 700mm Material: DI	1	Nos.	3,84,711	3,84,711
A	TOTAL OF MECHANICAL & INST. WORKS				1,63,59,265.00

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Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
1.1	ELECTRICAL WORK 11kV SWITCHYARD/TWO POLE (DP) STRUCTURE: Supply, Installation, Testing and Commissioning of 11 kV, 3 Phase, 50 Hz, Two Pole Structure made of 6" X 3" T section girder having min. 9mtr. length, 4" X 2" M.S. channels, angles, clamps, hardware etc. suitable for erection of following / indicated accessories duly connected with ACSR conductor as per approved drawings & in compliance with requirements of IS/IEC (without earthing & copper plate) (a) 11kV 200amps DO (dropout) fuses with S.R.B.P. tube carries (03nos.) (b) 11kV G.O.D. switch complete with insulators, operating handle with galvanized pipe, square bar etc. 400 amperes (01set) (c) 11kV lightning arrestors with clamps (03nos.) (d) 11kV shackle (Disc/Pin/Post) as required insulators (06nos.) (e) ACSR Dog Conductor (mini. 30Mt.) (f) 11kV fiber operating rod (g) required foundation etc. and to be painted with two coat of red oxide and final two coat of Aluminium paint at site as per IS, Specification.	1	Set	1,42,383.00	1,42,383.00
1.2	H.T. INDOOR SWITCHGEAR PANEL SITC of 11 kV, 500 MVA, 630A, Indoor, Extensible type, Horizontal draw out, Motorised spring charging mechanism, 3 breaker Vacuum Circuit Breaker Panel (1No. Incomer+ 2Nos. outgoing), with EC grade copper busbars along with required Resin cast CT Dual primary & secondary, CT: 0.5/5P10, 15VA, Digital MFM with RS 485 with 3 Line Display, Class-0.5s and PT (dual secondary) CT: 0.5/3P, min 200VA or higher for metering and protection, 110V DC power pack for individual incoming and outgoing feeder, Annunciator, Hooter, Indicating lamps, Numerical Protection relay (current & Voltage Based) with RS 485 with combined protection for 3O/C+IE/F, S/C, Under & Over Voltage, Tfr. Protection Aux. relay etc. High speed tripping relay, Trip ckt supervision relay, Fuse failure relay, Digital Power factor meter, Ammeter, Voltmeter (Only I/C), A/M switch suitable for PLC/SCADA etc. complete in all respects as per IS, Specification.	1	Set	11,25,830.00	11,25,830.00
1.3	SITC of H.V. CABLES SITC of 11kV (E), 3C x 240sq.mm., Aluminium, extruded inner sheath, Armoured, XLPE, H.V. Cables as per IS 7098 (part 2) and Tech. Specification. (DP Structure to HT panel, HT panel to TFR 1&2)	180	Mtr.	1,104.00	1,98,720.00
1.4	SITC of the Indoor Heat Shrinkable Termination: SITC of Indoor H.T. cable end terminations Kit for 11 kV (E), 3C x 240 sq.mm. XLPE armoured cable with all accessories as required.	5	Nos.	5,662.00	28,310.00
1.5	SITC of the Outdoor Heat Shrinkable Termination: SITC of Outdoor H.T. cable end terminations Kit for 11 kV (E), 3C x 240 sq.mm. XLPE armoured cable.	1	No.	7,980.00	7,980.00

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Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
2.1	DISTRIBUTION TRANSFORMER SITC of 400kVA, 11/0.433kV, Outdoor Transformer continuously rated, 3-phase, 50Hz, OCTC, ONAN cooled, copper double wound core type, vector group Dyn11, Delta (HT)/Star (LT), Oil immersed winding with temperature rise in oil/winding 40/45 deg. C above design temperature with neutral brought out to connect to separate earthing including Terminal arrangement bushing/cable Box on HT side and cable box on LT side, first fill of oil along with Fittings & accessories as per Energy Efficiency level-2 of IS: 1180 (Part-1): 2014 and its latest amendments etc. and Tender Specification. Note: Transformer shall be suitable for parallel operation. Minimum requirements shall be as below: Both transformers shall have "Identical X/R ratio, phase angle shift, polarity, phase sequence, frequency, position of tap changer. Turns ratio & voltage ratio".	2	Nos.	8,28,459.0	16,56,918.00
2.2	Transformer temp. rise/Heat run test charges @ manufacturers works.	1	No.	39,020.0	39,020.00
2.3	Transformer Total Losses (W) Testing at ERDA Laboratory to confirm Guaranteed losses as per energy efficiency level-2 of IS: 1180-2014.	1	No.	1,09,240.0	1,09,240.00
2.4	Supply and levelling of Transformer yard & switch yard using gravel, fines sand and other required filling material, marked for the Transformer yard including removing of trees or boulders etc. if any. The general level of the yard shall be at a convenient level for movement of man and material and it should match with FGL and as per Specification and Drg.	110	Sq.m.	400.0	44,000.00
2.5	Supply and Installation of GI Chain link fencing frames with Langle/Channel post around Transformer yard etc. as per Specification and Drg.	50	RMt.	1,250.0	62,500.00
2.6	SITC of 3.0mtr wide gate with GI chain link as per Specification and Drg.	3	Nos.	12,500.0	37,500.00
2.7	Transformer new RCC foundation work & design suitable for 500kVA new transformer full weight load capacity and shall be as per Transformer vendor recommendation, requirements and foundation drawings. Top of transformer foundations shall be mini. 600mm above finished ground level. New transformer locations shall be as per directed by Engg.-in-charge of RMC.	2	Nos.	17,250.0	34,500.00

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Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
3.1	<p>LOW VOLTAGE (LT) PANEL BOARD (PMCC): SITC of PMCC Panel (50kA), compartmentalized, floor mounted, operating height maximum 1800/1900 mm, Extensible on both ends, suitable for Manual & Auto operation - Local & through PLC/SCADA operation as per site conditions complete in all respects as per Tender SLD / Specification / IS and including following as minimum: (1) INCOMER 1&2: FP, 800A, 50 KA Microprocessor EDO ACB LSIG with inbuilt RS485 MODBUS communication with Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5, 10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push button etc., with electrical & mechanical interlocking between Incomers and bus coupler. (1.1) Surge protection device, 3P + N, Type 2 for lightning/surge protection. Load sensing CT in Incomer & Busbar for APFC panel along with 2 nos. Resin cast Summation CT 5A+5A/5A, Cl.- 0.5. Constant voltage/control voltage transformer 1500VA, 415V/230V AC, with tapping +/-5% in steps of 2.5%, 16 ADP MCB & 18A Power contactor. (2) DG Incomer: FP, 800A, 50 KA Microprocessor EDO ACB LSIG with inbuilt RS485 MODBUS communication with Digital Voltmeter with VSS, Digital PF Meter, Digital Ammeter with ASS, Resin Cast CT- Cl : 0.5, 10VA, MFM Cl. 0.5, Breaker Control Switch (TNC), A/M, L/R switch, Indicating lamps, Push buttons etc., with electrical & mechanical interlocking between Incomers of transformers & DG (3) BUS-COUPLER: One no. FP 800A ACB (same as per Incomer) (2.1) 800 ATPN, EC grade AL Main busbars. (Busbars size as per 50KA fault level and Temperature rise with Minimum current density 0.8A/Sq.mm) (4) TRANSFORMER FIXED COMPENSATION FEEDER (20 KVAR): 2 Sets: Each comprising of 63A FP Thermal magnetic MCCB, Ind. Lamp, with Capacitor duty contactor, ON Delay timer, individual MCCB/ MCB as per Tender SLD. (5) SOFT STARTER FOR 75 KW MOTOR: 7 NOS Each feeder comprising of Soft Starter with Internal/External bypass contactor for 75 kW Motor or higher as per pump manufacturer reco. with soft starter rating minimum (181A @ 50deg C) with suitable derating with detachable type door mounted display key pad and with 250A TPN microprocessor MCCB LSIG, 250AAC3 duty Line contactor, Semiconductor fuse, MFM, Digital Ammeter, ASS, Resin Cast CT Cl: 0.5, Temperature Scanner with RS-485, Space Heater, SPP, A/M, L/R switch, Indicating lamps, Push button etc. (6) 105 KVAR APFC POWER FEEDER: 2 NOS: Each feeder comprising of 250A TPN MP MCCB, 50kA (LSIG) with Digital Ammeter, ASS, CT, Indicating lamp, etc. complete in all respects. (7) 63 ATPN TM MCCB FEEDER: 4 Nos. (2 nos. Spare, 2 nos. PDB) Each feeder comprising of 63 ATPN Thermal Magnetic (TM) MCCB, with indicating lamp etc. (8) 32 ATPN TM MCCB FEEDER: 3 Nos. (2 nos. spare, 1 no. Portable Dewatering Pump) Each feeder comprising of 32 ATPN Thermal Magnetic (TM) MCCB, with indicating lamp etc. (9) 63 ATPN TM MCCB FEEDER FOR ALL MCB FEEDERS: 2 sets: Incomer: 63 ATPN Thermal Magnetic (TM) MCCB, with indicating lamp etc. 9.1) 5 nos. 32A 'C' curve 4 P MCB feeders (for 1 no. Ind LDB, 2 nos for DG sensing & Charging, 2 nos. spare feeders) 9.2) 1 nos. 32A 'C' curve 4 P MCB with Time switch, 32A contactor 4P, ON lamp feeders (for Outdoor LDB) 9.3) 4 nos. 16 ADP MCB feeders (for single phase supply for 2 nos. X'mer marshaling box, HTP Panel & Spare.) (10) Multiplication relays as required for dry run protection of pumps. NOTE: 1). All MCCB shall be 50KA, Ics = 100% Icu, inbuilt protection with adj O/L and Adj. S/c (LSIG for MP MCCB), Extended rotary handle, Terminals spreader, Auxiliary Changeover contact and trip contact as required. 2) All MFM, ACB, Soft Starter, Temp. Scanner etc shall be within built RS485.</p>	1	Set	29,20,000.00	29,20,000.00

rate incl
in above price

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Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
3.2	<p>SITC of 105 KVAR at 415V, APFC Panel, compartmentalised, Floor mounted, extensible type on both sides with Horizontal bus bar arrangement as per site requirement & complete in all respects as per SLD / Specification / IS and including following as minimum:</p> <p>(1) INCOMER:</p> <p>1.1 250A, TPN, 50 KA TM MCCB LSIG with Digital Voltmeter with VSS, Digital Ammeter with ASS, Resin Cast CT- CI : 1.0, 10VA, A/M, L/R switch, Indicating lamps, Push button etc.</p> <p>1.2 Microprocessor based APFC Relay, 144sq.mm, 10 STEP with RS 485 with minimum operating current 10mA.</p> <p>2. OUTGOING CAPACITOR FEEDER:</p> <p>Capacitor feeder of following rating comprising of TP MCCB/MCB, Capacitor duty contactor, 415V Heavy duty MPP/gas filled capacitor unit, A/MSwitch, ON Delay timer, ON / OFF Push button, ON Indication lamp etc. as per Tender SLD & Specification</p> <p>2.1 25KVAR FEEDER: 3 NOS</p> <p>2.2 10KVAR FEEDER: 2 NOS</p> <p>2.3 5KVAR FEEDER: 2 NOS</p> <p>2.4 Two nos. Vacant feeders suitable for 1-25KV Ar and 1-10KV Ar to be provided.</p> <p>NOTE: 1. Heavy duty 8" cooling/exhaust fan: 2 nos Minimum or higher as required at the top of the panel with canopy/hood.</p>	2	Set	2,50,839.05	5,01,678.00
3.3	<p>SITC of Lighting Distribution Board (LDB) as under:</p> <p>SITC of 3 Phase 4 Wire 4P, double door Prewired LDB each for Indoor Lighting & Outdoor Lighting suitable for house:</p> <p>Incoming: 32AFP, ELMCB (30mA)</p> <p>Outgoing: 20 ASPMCB (9nos.) & 16 ASPMCB (9nos.)</p>	2	Nos.	7,640.00	15,280.00
3.4	<p>3 Phase 4 Wire TPN, 6 way Pre-wired-MOG / MOV / Aux. PDB for Auxiliary accessories Load power supply (For 7 nos. MOV on Pump Delivery, For 1 no. EOT Crane at P.H., For 1 no. WR-DB at P.H. & etc, rest spare)</p> <p>Incoming: 63A 4P, MCB 'C'</p> <p>Curve Outgoing: 6nos. 32A 4P MCB 'C' Curve</p>	2	Nos.	7,330.00	14,660.00
3.5	<p>SITC of LCS push button station ON & OFF (E-stop) set complete with Enclosure, necessary mounting/ fixing arrangement on wall / pipe support etc. to be installed near motors for remote operation, etc. as per IS and specifications. (including structural steel) (For 7 nos. Pump)</p>	7	Nos.	2,822.00	19,754.00
4.1	<p>LOW VOLTAGE (LT) CABLES</p> <p>Supply, laying, testing and commissioning of 1.1kV, A2XFY(X)/2XWY(X) XLPE insulated (IS 7098) AL / Cu stranded conductor, Extruded inner sheath cables as per specification & IS.</p> <p>The cable when laid outside the building shall be laid underground in trench with brick & sand protection / in DWCP pipes as per specified method and shall be laid in prepared trench / on cable tray when laid inside the building.</p> <p>SITC of 3.5C x 300 sq. mm. A2XFY(X) Cable (3 Runs/ incomer -TFR to PMCC Panel, 3 runs from DG set control panel to DG set)</p>	400	Mtr.	1,007.04	4,02,800.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT TRAIYA OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
4.2	3.5C x 185sq.mm. A2XFY Cable (1 run for PMCC Panel to 2 nos. APFC panel)	60	Mtr.	658.0	39,480.00
4.3	3C x 50sq.mm. 2XFY XLPE insulated armoured copper Cable (1 run for PMCC to 7 nos. 75k WHNC pump)	220	Mtr.	990.00	2,17,800.00
4.4	4C x 10sq.mm. A2XFY Cable (For 2 nos. PDB)	60	Mtr.	103.0	6,180.00
4.5	4C x 6 sq. mm. A2XFY(X) Cable (For 1 nos. Indoor LDB, Outdoor LDB, 1 no. Portable Dewatering Pump, WR-DB with TPN MCB at Pump House & for 6 nos. streetlight)	310	Mtr.	83.0	25,730.00
4.6	4C x 2.5 sq. mm. 2XWY/2XFY(X) Cable (For 1 no. TPN MCB for EOT at Pump House, 7 nos. MOV on Pump Delivery, 1 no. ICP, for DG sensing & charging)	400	Mtr.	78.0	31,200.00
4.7	2C x 2.5sq. mm. Multi strand 2XWY(X) Cable (For HT Panel, for 2 nos. APFC CT & X'mer marshaling box Single Phase Supply, 7 nos. space heater)	300	Mtr.	78.0	23,400.00
4.8	10C x 1.5sq.mm. 2XWY(X) Cable (2 Run Tr. to HT Panel control cable)	140	Mtr.	300.0	42,000.00
4.9	5C x 1.5sq.mm. 2XWY(X) Cable (For 7 nos. Pump LCS)	250	Mtr.	160.0	40,000.00
4.10	10 Triad x 1.0sq.mm. individual triad and overall shielded with aluminum mylar tape Signal Cable for RTD (winding & Bearing) of motor. (for 7 nos. 90kW motor)	220	Mtr.	580.0	1,27,600.00
5.1	CABLE END TERMINATION AND CONNECTION: SITC of Double compression Ni-Plated brass cable glands and crimping type Bimetallic lugs / sockets with necessary tools and equipments as specified in specifications and IS. The glands and lugs / sockets shall be suitable for cable size and type mentioned below & as per specifications. 1) Earthing the glands and armoring with earthing clamp and jumper and also connecting to common earth bar. 2) The job also includes, if necessary, supply & fixing of extension busbar of same material on MCCB or panel board terminal / connector to connect more than one no. of parallel cables or to connect higher size cable to lower size unit. The job also includes earthing the glands and armor of the cable with common earth bar or flexible copper mesh. (Cable termination qty. shall be as per site requirement) (3.5C x 300sq.mm. A2XFY(X) Cable (3 Runs/incomer-TFR to PMCC Panel, 3 runs from DG set control panel to DG set)	18	Nos.	1,151.0	20,718.00
5.2	3.5C x 185sq.mm. A2XFY Cable (1 run for PMCC Panel to 2 nos. APFC panel)	4	Nos.	701.0	2,804.00
5.3	3C x 185sq.mm. XLPE Cable (1 run for PMCC to 7 nos. 90k WHNC pump)	14	Nos.	1204.0	16,856.00
5.4	4C x 10sq.mm. A2XFY(X) Cable (For 2 nos. PDB)	4	Nos.	152.0	608.00
5.5	4C x 6 sq. mm. A2XFY(X) Cable (For 1 nos. Indoor LDB, Outdoor LDB, 1 no. Portable Dewatering Pump, WR-DB with TPN MCB at Pump House & for 6 nos. streetlight)	20	Nos.	131.0	2,620.00
5.6	4C x 2.5 sq. mm. 2XWY/2XFY(X) Cable (For 1 no. TPN MCB for EOT at Pump House, 7 nos. MOV on Pump Delivery, 1 no. ICP, for DG sensing & charging)	22	Nos.	110.0	2,420.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION T OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RM C					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
5.7	2C x 2.5sq. mm. Multi strand 2XWY(X) Cable (For HT Panel, for 2 nos. APFCCT & X'mer marshaling box Single Phase Supply, 7 nos. space heater)	24	Nos.	98.0	2,352.00
5.8	10C x 1.5sq. mm. 2XWY(X) Cable (2 Run Tr. to HT Panel control cable)	8	Nos.	250.0	2,000.00
5.9	5C x 1.5sq. mm. 2XWY(X) Cable (For 7 nos. Pump LCS)	14	Nos.	150.0	2,100.00
5.10	10 Triad x 1.0 sq. mm. individual triad and overall shielded with aluminum mylar tape Signal Cable for RTD (winding & Bearing) of motor. (for 7 nos. 90 kW motor)	14	Nos.	290.0	4,060.00
6.1	CABLE TRAY SITC of G.I. (hot dip galvanised) Ladder type medium duty (2mm thick) Cable Tray with necessary bends, tees, reducers, covers and clamps for fixing. All materials shall be Hot dip galvanised as per Specification. And including all accessories. 750x75mm-Ladder type	30	Mtr.	644.0	19,320.00
6.2	450x75mm-Ladder type	60	Mtr.	518.0	31,080.00
6.3	300x75mm-Ladder type	70	Mtr.	458.0	32,060.00
6.4	150x50mm-Ladder type	120	Mtr.	396.0	47,520.00
7.1	Supply, laying and erection of 125 mm (ID) approved make Double Walled Corrugated pipes (DWC) of polyethylene (confirming to IS-14930 II) with necessary connecting accessories of same material at required depth for laying of cable below ground / road surface for enclosing cable and back filling the same to make ground as per original. (For HT cable from HT panel to each Tr. etc.).	30	Mtr.	360.0	10,800.00
7.2	Supply, laying and erection of 75mm ID approved make Double Walled Corrugated pipes (DWC) of polyethylene (confirming to IS-14930 II) with necessary connecting accessories of same material at required depth for laying of cable below ground / road surface for enclosing cable and back filling the same to make ground as per original. (LT cable from Transformer to PMCC panel / road crossing etc)	50	Mtr.	160.0	8,000.00
7.3	Making Trench/excavation in soft soil of suitable width and of depth (minimum 750mm depth (LT) & 1000mm for HT) for laying cable/ DWC pipe and back filling the same and making the surface as normal ground as per IS & Tender Specification/Drg. (For laying of HT/LT cable)	200	Mtr.	40.0	8,000.00
7.4	Cable Protection/ Covering in Trench: Cable Covering with second class bricks or cement tiles laid over the cable (top) & also on both sides with sand bedding/cushioning of 75mm. & covering of 150mm Layer of sand above cable (16 bricks per meter.) as per IS & Tender Drg/ Specification. (For HT/LT cable protection) complete in all respects as instructed by EIC.	20	Mtr.	130.0	2,600.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RM C					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
8.1	CHEMICAL EARTHING SYSTEM SITC of Maintenance free chemical earthing (copper) with earth pit of minimum bore size dia. 225mm Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS-3043:1987 /Tech spec. made of corrosion free Pipes having Outer pipe dia of 48 mm having 250 Micron copper plating, Inner corrosion free Hot dip galvanised (80 to 100 micron) pipe dia of 26 mm with copper flat strip type connection terminal 14mm dia with constant ohmic value surrounded by highly conductive corrosion resistant chemical compound with high charge dissipation suitable for electrical installation & of 3Mtr. length of Pipe with two nos. 25Kg. bag of Back filling compound.. (2 nos. for LA of DP structure, 2 nos HT Panel & 2 nos. Each for neutral of Tr.-1 & 2) NOTE: Earthing Resistance value & dates shall be painted on the chamber cover.	8	Set	16,500.00	1,32,000.00
8.2	SITC of Maintenance free chemical earthing with earth pit of minimum bore size dia. 225mm Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS-3043:1987 /Tech spec. made of corrosion free Hot dip Galvanised (min 150 Microns) Pipes having Outer pipe dia of 76 mm , Inner corrosion free Hot dip galvanised (80 to 100 micron) pipe dia of 26 mm with copper flat strip type connection terminal 14mm dia with constant ohmic value surrounded by highly conductive corrosion resistant chemical compound with high charge dissipation suitable for electrical installation & 3Mtr. length of Pipe with two nos. 25Kg. bag of Back filling compound. (2 nos. for DP Structure Body earthing, 2 nos. Each for Tr.1 & Tr. 2 Body, PMCC & all elect. Equipments) NOTE: Earthing Resistance value & dates shall be painted on the chamber cover.	10	Set	11,050.00	1,10,500.00
8.3	SITC of pipe type earthing having 150 cms long and 2.5 cms dia. Galvanised iron pipe with coupling and buried in specially prepared earth pit complete with necessary 8 SWG earth wire (For 2 nos. Gate light & 6 nos. street light pole earthing)	8	Nos.	430.00	3,440.00
8.4(a)	SITC of 50mm(w) x 6mm(T) etc. sizes as required, HOT dip galvanized GI Strip including supply & fixing using GI spacers, saddles when laid inside the building and inclusive of excavation & refilling of earth when laid outside the building & interconnection with earth pit & all electro-mechanical equipments. (50X6G.I Strip wt. 2.3kg/m, 2.3x150Mt.=345kg.)	345	Kg.	90.00	31,050.00
8.4(b)	Supply, laying and erection of 25mm(w) x 3mm(T) etc. sizes as required, HOT dip galvanized GI Strip including supply & fixing using GI spacers, saddles when laid inside the building and inclusive of excavation & refilling of earth when laid outside the building & interconnection with earth pit & all electro-mechanical equipments. (25X3G.I Strip, 0.6Kg/m, 0.6x80Mt.=48Kg.)	48	Kg.	90.00	4,320.00
8.4(c)	Supply, laying and erection of 40mm(w) x 6mm(T) etc. sizes Copper Strip including supply & fixing of bolts, saddles when laid inside the building and inclusive of excavation & refilling of earth when laid outside the building & interconnection with earth pit & Tr. neutral. (40X6 Cu. Strip, 1.88 Kg/m, 1.88 x100mtr.=188Kg.) Copper Bolt, Nuts, Washers shall be used for Connecting Earth electrode to individual eq p. Bitumens shall be used at the place of joint/welding.	188	Kg.	710.00	1,33,480.00
8.4(d)	SITC of HOT Dip Galvanized iron strip wire 8SWG (For LDB, LCS, etc.) (8SWG G.I Strip, 0.103Kg/m, 0.103x 150Mt.=16Kg.)	16	Kg.	90.00	1,440.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT TRAIYA OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
9.1	INTERNAL WIRING SITC of Mains & outlet points wiring with 1.1 kV grade FRLS PVC insulated ISI marked flexible stranded copper conductor wires with medium class min. 25mm.dia. Electrical grade PVC pipe and accessories to be erected concealed in / to be run on surface / wall / ceiling with following sizes as mentioned below. The unit rate wiring shall be with connector, PVC junction box, wires, holder, ceiling rose, angle holder, switch, sockets, switch board, brass chromium / cadmium plated machine screws, phase and neutral wires, green Earth continuity wires etc. as required to complete wiring from LDB panel to the final outlet termination points. The wiring shall be as per IS: 732, IS: 4648 and as per tender specification / IS. (a) SITC of Mains wiring with 3 wire 1.5 sq. mm.	200	Mtr.	80.0	16,000.00
9.2	As per Sr. No.-9.1 (b) SITC of Mains wiring with 3 wire 2.5 sq. mm as per tender specification & IS.	150	Mtr.	100.0	15,000.00
9.3	As per Sr. No.-9.1 (c) SITC of Mains wiring with 4 wire 1.5 sq. mm as per tender specification & IS.	120	Mtr.	90.0	10,800.00
9.4	As per Sr. No.-9.1 (d) SITC of Mains wiring with 4 wire 2.5 sq. mm as per tender specification & IS.	100	Mtr.	125.0	12,500.00
9.5	SITC of Point wiring for Light / fan / Bell / Primary Point with 2nos. 1.5 sq. mm & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 kv grade FRLS PVC insulated multistrand copper wires, pipe to be erected concealed in flush on wall / ceiling, complete with 6A Tisino Type ISI marked flush type switch / bell push & accessories erected on metal / PVC Box covered with 3 mm thick PC (Polycarbonate) / Acrylic sheet with necessary lamp holder / ceiling Rose / H. D. connector as directed with medium class Rigid PVC pipe & accessories.	34	Nos.	330.0	11,220.00
9.6	SITC of 6A independent Plug with 2nos. 1.5 sq. mm Cu. Mains size wiring & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires with medium class Rigid PVC pipe and accessories to be erected on wall / ceiling, complete with ISI marked 3 / 5 Pin socket and Tisino type switch erected with earth continuity connection erected on Metal / PVC box covered with 3 mm thick PC (Polycarbonate) / Acrylic sheet. (1 no. HT Room, 2 nos. LT Room cum Pump House)	3	Nos.	290.0	870.00
9.7	SITC of One 300/380 mm dia. Ex fan 16A independent Plug point near Ex. Fan with 2nos. 4 sq. mm Cu. Mains size wiring & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multistrand copper wires with medium class Rigid PVC pipe and accessories to be erected on wall / ceiling, complete with ISI marked 3 Pin socket and Tisino type switch erected with earth continuity connection erected on Metal / PVC box covered with 3 mm thick PC (Polycarbonate) / Acrylic sheet. Plug point shall be near Ex. Fan. (3 nos. LT Room cum Pump House)	3	Nos.	465.0	1,395.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAJYA OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
9.8	SITC of 6/16A independent Plug with 2nos. 4 sq.mm Cu. Mains size wiring & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires with medium class Rigid PVC pipe and accessories to be erected on wall / ceiling, complete with ISI marked 3 / 5 Pin socket and tinsino type switch erected with earth continuity connection erected on Metal / PVC box covered with 3 mm thick PC (Polycarbonet) / Acrylic sheet. (1 no. HT Room, 2 nos. LT Room cum Pump House)	3	Nos.	570.0	1,710.00
9.9	SITC of Single Phase 20A 3 Pin Metal clad Industrial Type Socket with plug top and 20A SP MCB , suitable for flush mounting, in 16 SWG MS box of suitable size and covered with 3 mm thick electrical grade hylam sheet or equivalent ISI marked Electrical grade Bakelite sheet and earthing with 2.5 sq.mm insulated copper wire run inside the conduit including interconnections etc. complete as required. (2 nos. LT Room cum Pump House)	2	Nos.	960.0	1,920.00
9.10	SITC of Sheets steel powder coated weather proof enclosure with One no. 32A, 415V 4P MCB for Motor & Inductive load (C Curve) having 10 KA breaking capacity & confirms to IS: 8828. (1 no. WR DB TPN MCB at P.H., 1 no. for EOT at P.H., 1 no. for Portable Dewatering Pump)	3	Nos.	775.0	2,325.00
10.1	LED LIGHT FIXTURES & LIGHTING: SITC of Indoor wall mounting 20 Watt or up to 25% higher wattage LED 4 feet Tube Light indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA polyester powder coated and high U.V. & corrosion resistance with diffuser and/or Polycarbonate optics with company mark/name 120 to 300V, Power Factor more than 0.9, THD < 20%, CCT 4000 K to 6500 K, Uniformity ratio > 0.7, Luminaires efficacy > 85 lumens/watt, LED driver efficiency > 85% (Each fitting required LM-79 & LM-80 Certificates) Tube Light with integral/non-integral driver, Surge-4KV, IP-20, 4 feet, Cat-III (For 3 nos. HT Room, 8 nos. at LT Room cum Pump House, 2 nos. for spare room)	25	Nos.	594.0	14,850.00
10.2	Item description as per Sr. No. 10.1 SITC of 3 watts LED Lamps integral type, cool white with PC diffuser suitable for B22 LAMP holder (1 no. HT Room, 2 nos. LT Room cum Pump House).	3	Nos.	141.0	423.00
10.3	SITC of 380 mm sweep 1400 R.P. Mexhaust fan, capacitor type, having double ball bearing, M.S. blades, mounting frame, forearms, suitable to operate on 230V, 50 HZ AC supply conforming to IS: 2312. Fan shall be painted with epoxy grey colour controlled by one 6 A flush type switch on board and 6A plug point near Ex. fan. (3 nos. LT Room cum Pump House)	3	Nos.	3,600.0	10,800.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
10.4	SITC of 40W LED Surface / Wall mounted LED Flood Light fittings with High power White LED wattage of 1 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/lenses with company mark/ name engraved or embossed 120 to 300 V, Power Factor more than 0.95, THD < 20 %, CCT 5000 K to 5700K, Uniformity ratio > 0.45, Luminaires efficacy > 85 lumens/watt. LED driver efficiency > 85 %. (Each fitting requires LM-79 & LM-80 certificates) (IP-65), Surge-4KV For Indoor use: (8 nos. at LT Room cum P.H.)	15	Nos.	8,370.00	1,25,550.00
10.5	SITC of B' class galvanized iron pipe 32mm outside dia 45cms long duly welded on 20 cms x 20 cms x 3 mm thick M.S. base plate, erected on wall or corner for mounting luminaires with necessary hardware materials duly painted for wall mounting indoor flood light fixtures on Wall of Buildings & post top lantern.	18	Nos.	650.00	11,700.00
10.6	1200mm sweep ceiling fan, capacitor type, having double ball bearing 450mm down rod, canopies, shackle, rubber bush, blades, electronic speed regulator, suitable to operate on 230V, 50Hz AC supply conforming to IS: 374/1979. Fans shall be painted with white colour. (2 nos. at LT Room cum P.H.)	2	Set	1,700.00	3,400.00
11.1	EXTERNAL LIGHTING (Flood Light): SITC of 70W LED Wall mounted LED Flood Light fittings with High power White LED wattage of 1 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/lenses with company mark/ name engraved or embossed 120 to 300 V, Power Factor more than 0.95, THD < 20 %, CCT 5000 K to 5700K, Uniformity ratio > 0.45, Luminaires efficacy > 85 lumens/watt. LED driver efficiency > 85 %. (Each fitting requires LM-79 & LM-80 certificates) (IP-65), Surge-4KV Cat-III For Outdoor use: (8 nos. for area lighting)	8	Nos.	9,800.00	78,400.00
11.2	SITC of 40 watt, Cat-III Post Top Lantern LED fitting comprises of 650MM TOP Diameter, 120 degree beam angle with 3 Nos. Supporting Ribs and with 0.5mt. G.I. fitting pipe (for Gate light)	2	Nos.	7,780.00	15,560.00
11.3	EXTERNAL LIGHTING (STREET LIGHT): SITC of Street Light Pole , steel tubular swaged type, 7.5 meter long with single arm & M.S. base plate with pipe cap and over hung 1.5 m long having dia to suit the socket of 240V LED street light fixtures. Street light pole unit rate shall be with (i) IP 65 SMC box of size 20 x 15 x 15 cms. with MCB & terminal strip inside the box with hinged/sliding door (ii) 50mm dia, B class GI pipe bracket min. 1.5mtr long for incoming & outgoing cable (iii) MSC Cable Clamp of 25x3mm (iv) SITC of 1.5 Mtr. single Arm bracket of medium duty MS pipe of 4.2 cms. Outside dia complete with suitable sleeve tubing 45 cms. long of required size of pole top etc. and having spread of 1.5mtr. length with 110 deg. (v) Complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint for Pole, Arm, pipe etc.	6	Nos.	11,485.00	68,910.00

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
11.4	SITC of 70W LED Street light fittings with High power White LEDs wattage of 1 Watt and above assembled on single MCPCB, efficiency more than 130lm/w and corrosion free High pressure die cast aluminium housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/lenses with company mark/name engraved or embossed 120 to 300 V, Power Factor more than 0.95, THD < 20 %, CCT 5000 K to 5700K, Uniformity ratio > 0.45, Luminaires efficacy > 85 lumens/watt. LED driver efficiency > 85 %. (Each fittings required LM-79 & LM-80 certificates) Street Light (IP-65), Surge-4KV, 70 watt Cat-III	6	Nos.	9,620.00	57,720.00
11.5	SITC of M-20/1:2:4 cement concrete foundation for Street light pole & 70% PCC from bottom including excavation for the pole of size 60x60x120 cms. Deep in below ground level with plinth of 45 cms x 45 cms (or 45 cms dia x 45 cms) high upper ground level with necessary curing and finishing in approved manner.	6	Nos.	1,300.00	7,800.00
12.1	SAFETY ACCESSORIES SITC of following safety accessories complete with necessary fixing brackets, other accessories and tool set etc. as required to complete the job. Supply & Erecting carbon dioxide (CO2) fire extinguisher of 6.5kg capacity with necessary clamps made from 50x6mm M.S. Flat with nut & bolts grouted in wall complete. (For 2 nos. X'mer-1 & 2, 1 no. at DP structure, 1 no. HT Room, 1 no. for LT Room cum P.H.)	5	Nos.	10,130.00	50,650.00
12.2	Supplying of standard first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, guage bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, scissors, antiseptic solution (Savlon or similar) etc. (All above contents shall be of standard makes) (For 1 no. For LT Room cum P.H.)	1	No.	350.00	350.00
12.3	Supply & fixing of printed instruction (First Aid) Chart both in English and Gujarati and duly framed with front glasses, for treatment of persons suffering from electric shock. (For 1 no. For LT Room cum P.H.)	1	No.	150.00	150.00
12.4	Supplying & fixing of floor mounting stand for keeping four nos. of FIRE buckets comprising 1500mm in length, 900mm height frame made out of 30mm X 30mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of approved enamelled silver paint. (For HT Panel, Tr. 1 & 2, 1 no. for DP structure)	4	Nos.	2,100.00	8,400.00
12.5	Supply and fixing of 20W fluorescent lamp operated demergency light with maintenance free battery for 3 hours operation during mains power failure. (For 1 no. LT Room)	1	No.	3,000.00	3,000.00
12.7	Supply and laying of Synthetic Insulating Mat of Class - B of min. thickness 2.5mm as per IS: 15652 and with good electrical insulation property for 11kV/2.2KV as per site requirement. (For HT Panel)	3	Sq.mtr	2,000.00	6,000.00
12.8	Supply and laying of Synthetic Insulating Mat of Class - A of min. thickness 2mm as per IS: 15652 and with good electrical insulation property for 1.1KV/3.3KV as per site requirement. (For LT Panel, APFC Panel)	15	Sq.mtr	990.00	14,850.00
12.9	Providing pair of rubber hand gloves ISI make suitable for working on 22 KV supply	2	Nos.	255.00	510.00

RAJKOT MUNICIPAL CORPORATION

SCHEDULE OF QUANTITIES AND RATES OF AUGMENTATION OF ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR EXISTING MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
Sr. No.	Item Description	Qty.	Unit	Unit Rate, Rs.	Amount, Rs.
13.1	Dismantling of Existing working Transformer, DP Structure, HT cable & shifting of Tr. to new location as directed by Eng. in charge of RMC. Dismantling of Existing working PMCC, APFC, etc. Panels, Power & control cables, tray, fixtures & shifting at location directed by Enng. in charge of RMC. All necessary cable trench civil rectification / modification work required for installation of new HT Panel, PMCC, APFC etc. Panels & required for power & control cables installation as per existing room size / location / condition requirements & as per statutory requirements as per instruction of Enng. in charge of RMC.	1	Lot	100,000.0	100,000.00
13.2	Construction of RCC Trench in M25 grade Concrete including PCC M-15, RCC Base Slab and wall including TMT Fe-500 Reinforced Concrete including structural steel cable trench cover etc complete of size (1mx1m)	20	Mtr.	9,801.0	1,96,020.00
14.0	LIASONING CHARGES FOR OBTAINING NOC Power Liasoning Charges for obtaining N.O.C from Electrical Inspector / Statutory authority for Power / Ele. Installation. / Strengthening of existing HT supply (Fees shall be paid by tenderer for obtaining N.O.C. from Electrical Inspector / Statutory authority on behalf of client and shall be reimbursed on submission of original receipt to Client). Liasoning Charges shall include preparing required attested documents & drawing for obtaining NOC on behalf of client (Applicable Fees/deposit shall be reimbursed by Client).	1	Ls.	25,000.0	25,000.00
15.0	ELECTROMAGNETIC FLOW METER Supply, installation, testing and commissioning of remote type Full Bore Electromagnetic flow meter comprising of P-68 Sensor, IP-65/66 remote transmitter with 20m cable between sensor and transmitter along with all mounting accessories, hardware, etc. complete in all respect and as per specification and shall have following size and measurement range. The scope also includes necessary connection with header pipe. Meter Size : 500 mm (For Header for 6 nos. pump) Pipe size: 500mm Flow Measurement Range: 1045-4180 M ³ /hr. Pipe Material: DI	1	nos	3,280,42.0	3,280,42.00
B	TOTAL OF ELECTRICAL WORKS				9420394.00
	SAY				9420394.00
Note:- 1) Proposed HT Panel to be located in existing room to the left of LT Room cum Pump house. 2) RCC Cable Trench of 1000mm(W)x1000mm(D) with required cutouts for cable to be provided in Existing room for HT Panel. 3) Transformer sizing based on considering 100% of plant working load. Tr. 1W+1S (100% standby) 4) On no. in comer (same as per Tr. In comer) considered in PMCC Panel for existing DG set. Incoming cable for DG in comer also considered in above estimate.					

RAJKOT MUNICIPAL CORPORATION

SCHEDULE OF QUANTITIES AND RATES ELECTRO-MECHANICAL & INSTRUMENTATION WORKS FOR MAIN SEWAGE PUMPING STATION AT RAIYA OF RMC					
SCHEDULE-B1					
ITEM NO.	DESCRIPTION	QTY.	UNIT	RATE	AMOUNT
1.1	LADDER Ladders shall be made out of light aluminium alloy of good strength. They shall be of step ladder, foldable, self-supporting type with spreader of metallic angles or high strength. (i) 3 Meter long	1	No	6000.00	6000.00
2.1	OFFICE FURNITURE Office Table of size 1200mm length X 600mm width	2	No	2000.00	4000.00
3.1	Steel Office chair	4	No	1000.00	4000.00
3.2	Steel cupboard (6 feet H x 3.5 feet W x 1.0 feet 4 inch D)	1	No	15000.00	15000.00
3.3	All in one office desktop with minimum config (i3 10 th generation 24 inch-8GB RAM-512GB SSD windows 11 and wireless keyboard mouse set) and all in one A4 size printer.	1	No	83500.00	83500
C	TOTAL OF TOOLS, TEST EQUIPMENTS & SPARE PARTS				1,12,500.00
Note: Above items shall be handed over to RMC for MAIN SEWAGE PUMPING STATION AT RAIYA					

RAJKOT MUNICIPAL CORPORATION

RAJKOT MUNICIPAL CORPORATION DRAINAGE PROJECT						
Name of Work:- Comprehensive Operation & Maintenance of Raiya MPS Old Sewage Pumping Station for Period 02 Years.						
Sr. No.	No	Desription				
			Rate	Unit	Total Amt in Rs.	Remark
1	3	Plant / Pump Operator Semi Skilled person. (1 person x 3 Shift = 3 Person per day)	462.00	Shift	1,386.00	Minimum Wages as per the Order No: RMC/Esta/ 15 Dt.05.04.2023
2	3	Helper / Mali / Sweeper Un Skilled. (1 person x 3 Shift = 3 Person per day)	452.00	Shift	1,356.00	
3	1	General Labour For screen cleaning Un Skilled. (1 person General Shift = 1 Person per day)	452.00	Shift	452.00	
		Total Manpower cost for 1 Day of entire package			3,194.00	
		Total cost for 365 day's			11,65,810.00	
		Insurance / P.F / E.S.I / Labour liscence / Labour cess / Levie etc. Approx @15% of - A			1,74,871.50	
A		Total amount for 1st Year			13,40,681.50	
		Price escalation in min wages & O&M cost approx @ 10% for 2nd year			1,34,068.15	Price escalation 10% taken on amount of Remarks "A"
B		Total amount for 2nd Year			14,74,749.65	
		Total (A+B)			28,15,431.15	
		(Say)			28,15,431.00	
Rs. Twenty Eight Lacs Fifteen Thousand four Hundred thirty one Only						

RAJKOT MUNICIPAL CORPORATION

PAYMENT SCHEDULE

(For EMI Works)

Schedule of Payment % Break-up of payment for each component of the Pumping Machinery during Supply, Installation, Trial Run & Commissioning.

Sr.No.	Break-Up	% of quoted Amount
1.	On supply of equipment at site	65%
2.	On erection of equipment	15%
3.	On testing and commissioning	15%
4.	After satisfactory running of plant/machinery & start of O&M	02%
5.	After three months of successful trial run & O&M	03%
	TOTAL	100%

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