

PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS
On Plot bearing CTS No. 11A/4, Chandivali, Sangharsha Nagar, Kurla 400072

SUMMARY - PHE PUMPS, WTP, RO, ETP & STP

Sr. No.	Description	Amount(Rs.)	Total
		Supply	Amount(Rs.)
A)	PHE PUMPS	₹ 1,31,81,338.40	₹ 1,31,81,339.00
B)	WTP	₹ 41,00,000.00	₹ 41,00,000.00
C)	RO	₹ 33,12,665.40	₹ 33,12,666.00
D)	STP & ETP	₹ 3,22,14,000.00	₹ 3,22,14,000.00
GRAND TOTAL			₹ 5,28,08,005.00

MUNICIPAL CORPORATION OF GREATER MUMBAI

**PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS
On Plot bearing CTS No. 11A/4,Chandivali, Sangharsha Nagar, Kurla 400072**

BILL OF QUANTITIES - PLUMBING PUMPS

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
1	FAIR ITEM	Domestic water: UG TO OH Pump (Hospital Building) Supplying, Fixing testing & commissioning vritical inline pump set capable of delivering 500 LPM at 80 M head due to all causes with TEFC squirrel cage induction motor of 2900 RPM, foundation bolts, bracket, etc. complete (2W+1S)	1.00	Set	3,50,000.00	3,50,000.00
2	FAIR ITEM	Flushing water: STP TO OH Pump (Hospital Building) Supplying, Fixing testing & commissioning vritical inline pump set capable of delivering 300 LPM at 80 M head due to all causes with TEFC squirrel cage induction motor of 2900 RPM, foundation bolts, bracket, etc. complete (1W+1S)	1.00	Set	2,50,000.00	2,50,000.00
3	FAIR ITEM	DOMESTIC water: UG TO OH Pump (Residential Building) Supplying, Fixing testing & commissioning vritical inline pump set capable of delivering 250 LPM at 60 M head due to all causes with TEFC squirrel cage induction motor of 2900 RPM, foundation bolts, bracket, etc. complete (1W+1S)	1.00	Set	2,50,000.00	2,50,000.00
4	FAIR ITEM	Flushing water: STP TO OH Pump (Residential Building) Supplying, Fixing testing & commissioning vritical inline pump set capable of delivering 200 LPM at 80 M head due to all causes with TEFC squirrel cage induction motor of 2900 RPM, foundation bolts, bracket, etc. complete (1W+1S)	1.00	Set	2,50,000.00	2,50,000.00
5	RBH18-FF-FA- 36	Supplying, Erecting, Testing Commissioning Fully automatic control panel for 2 water supply pumps with high and low level controls. Complete with all intergral wiring using Coper PVC insulated/ Tapped and colour coded wires/flats of adequate size for all power/control connections inclusive of necessary terminals, etc. Complete.	2.00	Nos	63,858.00	1,27,716.00
6	R2-ME-6-4-t	Monoblock pumpsets: 5 H. P. three phase motor, with head of (36-52 mtr.) giving discharge of (4.1 – 2 lps) (50 x 40mm). Pump body: Cast Iron, Impeller: Bronze, Shaft SS410 [(1W+1S) Rain Water To Fire]	2.00	NOS	43,197.00	86,394.00

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
7	RBH18-FF-FA- 39	SUMP PUMP FOR BASEMENT & PUMP ROOM DRAIN: Supplying, fixing, Testing & commissioning vertical foot mounted fully Submersible dewatering non clog sump pump of cast iron construction having bronze impeller, suitable for 1500 MM deep sump, capable of delevering 500 LPM at 15 M head motor 2900 RPM	7.00	Nos	1,05,529.20	7,38,704.40
8	BAH-PL-FA-03	Designing, Supplying, Installation, testing & Commissioning of ORGANIC WASTE CONVERTER of 10HP with Automated In- vessel compost system 1500KG Organic Waste per day.	1.00	Nos	66,02,224.00	66,02,224.00
9	FAIR ITEM	Supply, Installation, Testing, & Commissioning of a pre-engineered, factory fabricated, assembled & tested, fully integrated In-build PI controller, highly efficient pump, IE5 permanent magnet synchronous motors suitable for operation on a 380V - 500V/3 Ph /50Hz voltage supply, skid mounted, complete ready-to-connect packaged variable speed pressure boosting system. Should be a single unit with MS CED coated suction ,delivery manifolds and base frame; isolation ball valves on suction and discharge of each in-line, vertical multi-stage pump; non return valve on discharge side of each pump; and diaphragm pressure vessel with suitable PN rating .The controller of each pump shall be able to function without a need of external controller to alternating time, alternating energy, cascade control in master slave mode.The controller must incorporate an energy saving function, (LOW FLOW STOP), that allows the system to stop all the pumps when there is no or very little consumption.The control unit shall ensure soft start of systems with for instance empty pipework (PIPE FILLING FUNCTION). The pipework shall slowly fill with water in an empty pipework, when the pressure sensor of the system detects the pipework has been filled with water, the pressure is increased until it reaches the setpoint. The system should be provided with two pressure transmitters for redundancy.The pump set is fully assembled and tested at factory works prior to delivery to site.				

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
		<p>Pump in built controller programming (field adjustable) shall include as a minimum the following:</p> <p>Constant pressure Start/Stop Maximum speed Minimum speed Set point influence Operating indication (system status and individual pump status) Fault indication Pump Run/Alarm/System Fault Bus communication to BMS / SCADA systems*E.</p> <p>The system must be able to provide information about:</p> <p>i. Operation setpoint of the system ii. Speed of individual pumps iii. Power consumption of individual pumps iv. Energy consumption of individual pumps v. Running hours of individual pumps vi. Operation mode of the system vii. Control mode of the system viii. Process value and set point of the system ix. Power consumption of the complete system</p>				
		Domestic water supply (Booster Pump)	4.00	Set	3,00,000.00	12,00,000.00
		Nos.of Pumps : 2 (1W+1S)				
		Water Flow Rate : 200 LPM each				
		Head :25 M				
		<p>LV Cables of following sizes to be laid buried in ground/ laid in cable trays in ready made trenches, cables shall be fitted on wall / ceiling by the means of saddle & spacers. Miscellaneous items such as cable dressing accessories like nylon tie, Aluminium clamps, GI cleats, cable tags etc. are included in the scope. Removal of empty drums, cartoons and making the site normal as instructed by Purchaser client is included in scope. 1.1 kV grade stranded Cu conductor, XLPE insulated, extruded PVC inner and outer sheathed FRLSHZ, galvanised steel round or strip armoured cables (SP-ME-TS- 6)</p>				
10	R2-ME-2-3a-a	2C x 1.5 Sq.mm	10.00	Mtr	87.00	870.00
11	R2-ME-2-3a-b	3C x 1.5 Sq.mm	10.00	Mtr	106.00	1,060.00
12	R2-ME-2-3a-c	4C x 1.5 Sq.mm	10.00	Mtr	126.00	1,260.00

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
13	R2-ME-2-3a-g	4C x 2.5 Sq.mm	10.00	Mtr	178.00	1,780.00
14	R2-ME-2-3a-k	4C x 4 Sq.mm	250.00	Mtr	273.00	68,250.00
15	R2-ME-2-3a-o	4C x 6 Sq.mm	10.00	Mtr	337.00	3,370.00
16	R2-ME-2-3a-s	4C x 10 Sq.mm	10.00	Mtr	597.00	5,970.00
17	R2-ME-2-3a-u	4C x 16 Sq.mm	100.00	Mtr	863.00	86,300.00
18	R2-ME-2-3a-v	4C x 25 Sq.mm	350.00	Mtr	1,450.00	5,07,500.00
19	R2-ME-2-3a-w	3.5C x 35 Sq.mm	100.00	Mtr	1,740.00	1,74,000.00
20	R2-ME-2-3a-x	3.5C x 50 Sq.mm	50.00	Mtr	2,416.00	1,20,800.00
21	R2-ME-2-3a-y	3.5C x 70 Sq.mm	100.00	Mtr	3,419.00	3,41,900.00
22	R2-ME-2-3a-z	3.5C x 95 Sq.mm	10.00	Mtr	4,923.00	49,230.00
23	R2-ME-2-3a-aa	3.5C x 120 Sq.mm	200.00	Mtr	6,309.00	12,61,800.00
24	R2-ME-2-3a-ab	3.5C x 150 Sq.mm	10.00	Mtr	7,624.00	76,240.00
25	R2-ME-2-3a-ac	3.5C x 185 Sq.mm	10.00	Mtr	9,510.00	95,100.00
26	R2-ME-2-3a-ad	3.5C x 240 Sq.mm	10.00	Mtr	12,215.00	1,22,150.00
27	R2-ME-2-3a-ae	3.5C x 300 Sq.mm	10.00	Mtr	15,216.00	1,52,160.00
28	R2-ME-2-3a-af	3.5C x 400 Sq.mm	10.00	Mtr	19,796.00	1,97,960.00
		LV Cables of following sizes to be laid buried in ground/ laid in cable trays in ready made trenches, cables shall be fitted on wall / ceiling by the means of saddle & spacers. Miscellaneous items such as cable dressing accessories like nylon tie, Aluminium clamps, GI cleats, cable tags etc. are included in the scope. Removal of empty drums, cartoons and making the site normal as instructed by Purchaser client is included in scope. 1.1 kV grade stranded Cu conductor, PVC insulated, extruded PVC inner and outer sheathed, with Flexible Submersible flat cables (SP-ME-TS- 6)				
29	R2-ME-2-5-a	3C x 1.5 Sq.mm	50.00	Mtr	66.00	3,300.00
30	R2-ME-2-5-b	4C x 1.5 Sq.mm	50.00	Mtr	144.00	7,200.00
31	R2-ME-2-5-e	4C x 2.5 Sq.mm	100.00	Mtr	203.00	20,300.00
32	R2-ME-2-5-h	4C x 4 Sq.mm	100.00	Mtr	278.00	27,800.00
		TOTAL AMOUNT PLMBING PUMPS (In Rs.)				1,31,81,338.40
			Say			1,31,81,339.00

MUNICIPAL CORPORATION OF GREATER MUMBAI

**PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS
On Plot bearing CTS No. 11A/4,Chandivali, Sangharsha Nagar, Kurla 400072**

BILL OF QUANTITIES - WTP

SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
1	FA-BMH-21-06	WATER TREATMENT PLANT				
		Supply, installation, testing and commissioning of dual media, deep bed vertical down flow pressure filter consisting of Stainless steel vertical Self Supporting type pressure vessel with Supporting Media frontal pipe(MS/GI) work and valves, differential pressure gauges and all required accessories.				
		Flow- 60 m3/hr				
		Filtration Velocity-15 m3/m2/Hr				
		Shell/Dish Thickness - 6/6 Thickness				
		Internal arrangement - Plate with PP Strainer with Box pipe support				
		Media- Sand, Pebbles,Etc.				
		Opearting Pressure-3.5 kg/cm2				
		Testing Pressure-5 kg/cm2				
		Make- PTBr				
		Supply, installation, testing and commissioning of Activated Carbon Filter , media, deep bed vertical down flow pressure filter consisting of Stainless steel vertical Self Supporting type Activated Carbon filter with carbon and supporting media, frontal pipe(MS/GI) work and valves, differential pressure gauges and all required accessories.				
		Flow- 60 m3/hr				
		Filtration Velocity-15 m3/m2/Hr				
		Shell/Dish Thickness - 6/6 Thickness				
		Internal arrangement - Plate with PP Strainer with Box pipe support				

		Media- Supporting sand and Carbon				
		Operating Pressure-3.5 kg/cm2				
		Testing Pressure-5 kg/cm2				
		Make - PTBr				
		Sodium silicate chlorine dosing system consisting of 20 lts capacity polyethylene tank mounted with adjustable flow electronic metering pump suitable for dosing 2.5 lph at 3.5 kg/cm2 pressure, complete with connecting pipe, foot valve and strainer, level tube, level switch, cable, non return valve and all accessories				
		Make- Asia LMI				
		WTP feed pump for rain water treatment Fixed speed In-line, vertical multistage, centrifugal clear water pumps, speed upto 2900 rpm, with CI body, S.S 304 impeller and SS-304/410 shaft, C.I. Base with epoxy coating , connected to a TEFC motor (with mechanical seal) suitable for 380 / 440 volts,				
		For feeding raw water to water treatment plant and store in soft / treated domestic water tank Capacity/Flow Rate - 500LPM VERTICAL INLINE PUMP Head - 50.00 MWC 1 Set = 3 Nos. Pump (2 Working + 1 Standby) 8hr working Location - PUMP ROOM Suction head - Positive suction				
		Make- Wilo/Kirloskar/eq				

		Electrical Starter panel composite for one set of pumps complete with individual pump isolators, contactors, control contactors,O/L Relay with Single phasing preventer , earth leakage relay, dry run trip relay, ON-OFF and Trip Indicating lamps, automatic Set of accessories such as G.I headers for suction and discharge, control valves, non return valves, Flow switches, pressure switches, pressure gauge, inter connecting power and control cabling etc.and all required instrumentation complete shall be include				
		Make of Panel- PTBr				
		TOTAL AMOUNT WTP (In Rs.)				41,00,000.00

MUNICIPAL CORPORATION OF GREATER MUMBAI

**PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS
On Plot bearing CTS No. 11A/4,Chandivali, Sangharsha Nagar, Kurla 400072**

BILL OF QUANTITIES - RO SYSTEM

SR.NO	REF. CODE	DESCRIPTION	UNIT	QTY	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
1	FAIR ITEM	RO SYSTEM - Model PROMISE AQUA Capacity 500 LPH	Set	4.00	3,13,272.30	12,53,089.20
		Capacity: Inlet flow - 1.6 m ³ /hr, Outlet flow - 0.5 m ³ /hr				
		Make of Membranes: Ion Exchange				
		High Pressure Pump: 1				
		Make: Grudfos				
		MOC - SS304				
2	FAIR ITEM	Dosing Pump: 0-6 LPH	Set	4.00	22,833.36	91,333.44
		Make: Ion Exchange				
		Dosing Tank: 100 lts				
		Make: Simplex/ Equivalent				
		MOC - PVC Tank				
		Description: Inlet TDS: 500-1000 ppm , Outlet< 100 ppm System Complete with Feed pump, Backwash system, associated dosing system to achieve desired parameters mounted on ms Painted Skid. Treatment Unit complete MS. All Piping in Treatment Unit is UPVC Piping. RO Membrane Housing is FRP material. RO Skid with Rotameter and Pressure Gauges.				
		RO Control Panel - Digital Microprocessor Based Control Panel with Manual and Auto Operation facility Shall be Included in the RO Plant. No separate item.				
		Note:- 1. Vendor Should finalize the RO system capacity as per the Water Inlet Parameters at Site and the Final Outlet parameters will meet the best value as per water properties.				
		2. Vendor Shall evaluate the head required as per the final Shop drawings and submit for the approval along the TDS of all the items.				
3	FAIR ITEM	Raw Water Pumps = 2-Nos (1 Working + 1 Standby) - as per below	Set	4.00	37,876.41	1,51,505.64
		Capacity: 2.0 m ³ /hr @ 25m head				
		MOC: Stainless Steel SS304				
		Horizontal Centrifugal Monobloc type Pump.				
		Make - CNP				
4	FAIR ITEM	Pressure Sand Filter - as per below	Nos	4.00	23,026.41	92,105.64
		MOC: FRP				
		Valve: Multiport Valve Manual Operated Imported Runxin				
		FRP pressure vessel, with frontal piping and valves and Sand filtration media				

		Vessel Size - 1354				
5	FAIR ITEM	Activated Carbon Filter - as per below	Nos	4.00	31,502.79	1,26,011.16
		MOC: FRP				
		Valve: Multiport Valve Manual Operated Imported Runxin				
		FRP pressure vessel, with frontal piping and valves and Carbon media				
		Vessel Size - 1354				
6	FAIR ITEM	Water Softener - as per below	Nos	4.00	66,825.00	2,67,300.00
		MOC: FRP				
		Valve: Multiport Valve Manual Operated Imported Runxin				
		FRP pressure vessel, with frontal piping and valves and Resin media				
		Vessel Size - 1354				
7	FAIR ITEM	Micron Cartridge Filter - as per below	Nos	4.00	82,233.36	3,28,933.44
		5 microns, 20 inches				
		PP Housing 20 inches				
8	FAIR ITEM	Chlorine Dosing System - as per below	Set	4.00	22,833.36	91,333.44
		0-6 LPH Pump(1No.s) ; Make: Ion Exchange				
		50 Ltrs dosing Tank; Make: Ion Exchange				
9	FAIR ITEM	SMBS Dosing System - as per below	Set	4.00	22,833.36	91,333.44
		0-6 LPH Pump(1No.s) ; Make: Asia LMI/Edose				
		50 Ltrs dosing Tank; Make: Sintex				
10	FAIR ITEM	CIP System - as per below	Set	4.00	56,430.00	2,25,720.00
		PVC Tank 250 Ltr along with Pump & Cartridge				
11	FAIR ITEM	STIC Imported UPVC Piping from RO Plant to RO Storage Tank approx. 10 Meters with its fittings,accessories,saddling & necessary works.	Set	4.00	51,975.00	2,07,900.00
12	FAIR ITEM	Design, fabrication, assembling, wiring, supply, installation, testing and commissioning of motor control centre shall be fabricated out of 14 gauge CRCA sheet steel in form in 3b formation with reinforcement of suitable size angle iron, channel 'T' sections irons and/or flats wherever necessary. Cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved shade of powder coated paint. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall also be provided in case of large panels. Approval shall be taken for each panel before fabrication. Cadmium Plated hardware shall be used in fabrication of panels.Along with Supplying & laying of required 1100 volt grade PVC sheathed copper conductor armoured cables as per specification in existing trenches, cable trays, ducts over bed of sand, clamped to wall with suitable clamps, saddles fixing bolts including connecting testing and commissioning with Cable terminations & Earthing System.	Lot	4.00	59,400.00	2,37,600.00

13	FAIR ITEM	Supply, installation, testing and commissioning of Cabling complete with all necessary etc.	Lot	4.00	37,125.00	1,48,500.00
		TOTAL AMOUNT RO-SYSTEM (In Rs.)				33,12,665.40
			Say			33,12,666.00

MUNICIPAL CORPORATION OF GREATER MUMBAI						
PROPOSED BMC GENERAL HOSPITAL & STAFF QUARTERS						
On Plot bearing CTS No. 11A/4,Chandivali, Sangharsha Nagar, Kurla 400072						
BILL OF QUANTITIES - STP & ETP PLANT						
SR.NO	REF. CODE	DESCRIPTION	QTY	UNIT	S/I/T/C RATE	S/I/T/C TOTAL AMOUNT
		STP-400KLD & ETP-115KLD				
1	FAIR-PMM-STP-2019	STP & ETP Capacity 515 cum/day (STP Cap400 KLD, ETP Cap.115 KLD) MBR process STP of cap.515 CUM/DAY with all Necessary Equipments listed below 2 nos SS 304 Bar screne. Punched hole screen of 2mm size,2 nos. Sewage lift pump SS construction,2 nos. Twin lobe Air blower,4 nos. sludge pumps,2 nos. Filter feed pumps,2 nos. Treated water transfer pump,Control panel,Membrane removing & reinstallation.,Ozone / UV Dosing arrangement,Necessary multiport valve filters,Filter Press / Centrifuge,NECESSARY PIPING OF UPVC SCH 80 or HDPE except Air Blower WHICH WILL BE IN GI/MS, Membrane porosities of 0.035 microns: GE / Siemens	1	Nos	3,22,14,000.00	3,22,14,000.00
		INLET WATER QUALITY QUARTERS -ETP (Cap - 115cum.) BOD-500 PPM,COD-1000 PPM,TSS-300 PPM,OIL&GREASE-50 PPM,PH-5 to 8				
		INLET WATER QUALITY QUARTERS-STP (Cap-400cum.) BOD-300PPM,COD-600PPM,TSS-200 PPM OIL&GREASE-50PPM,PH-5 to 8,TREATED WATER QUALITY,BOD<5,COD<30,TSS<2,OIL&GREASE-50PPM,PH 6.5to 8,				
		TREATED WATER QUALITY BOD < 5, COD < 30, TSS < 2, OIL & GREASE < 2, PH- 6.5 TO 8, ODOUR – Unobjectionable, COLI FORM < 01				
		(all RCC work including pump foundations will be done by the Civil Contractor). Lab Test Report for total parameters as per IS 10500 for First 3 months each & at 6th and 12th Month. As per detail specification and directed by engineer-in charge. (as per drawing)				
		TOTAL AMOUNT GRAND TOTAL FOR STP, ETP PLANT WITH ALL MECHANICAL & ELECTRICAL WORKS (In Rs.)				3,22,14,000