ANNEX 4.4

BILL OF QUANTITIES - BUCAL GROUND WATER SUPPLY

Line No.	Description	Qty	Unit	Unit Cost	Total Cost
1	Prewired Distributed Controller (DC) Panel, metal powder coated, wall-mounted indoor type, complete with: 1 unit DC Main CPU with Serial and Ethernet communication ports with Achilles Level 1 Cybersecurity Certification 1 unit DC Module, 16 Points Digital input 1 unit DC Module, 8 Points Digital output 1 unit DC Module, 4 Channels Analog Input 1 unit 24Vdc power supply, 10Amp, 100-240Vac input 1 unit 24Vdc UPS System, 10Amp, 10 minutes backup storage time, DIN rail mounted 1 unit Potential transformer, 500VA, 460/230Vac, 1 phase 2 units Miniature Circuit Breaker, DIN rail mounted, 2 pole, 6Amp 8 unitInterposing relays, 24Vdc, 1 Pole 1 lot Control wire and wiring accessories	1	assy		
2	Network switch, Industrial type, 8 x Gigabit port, 2 x Gigabit RJ-45 / SFP shared ports for Fiber Optic	1	unit		
3	Butterfly control valve, On/Off, Electrically operated, 230Vac, 1 phase, 2 inches, A216-WCB, with contact status ouput (open/close)	4	units		
4	Submersible Hydrostatic Level Transmitter, 4-20mA, 0-10Bars, 25 meters Suspension Cable PE complete with Remote display	1	set		
5	Analytical Water Turbidity Transmitter, 0 - 4000 NTU, 4-20mA output, with Indicator complete with Stainless steel Turbity probe sensor with 10 meters sensor cable.	1	set		
6	IP Camera, Bullet, Outdoor type	2	units		
7	Equipment and electrical grounding system - complete with ground bar, bare cable and grounding rod	1	set		
8	Low potential/signal communication grounding system - complete with ground bar, bare cable and grounding rod	1	set		
9	Cable and conduit from Hydrostatic Level sensor to DC Panel - Instrumentation Cable, Single Twisted pair, 1.0mm sq. Stranded Copper wire, Shielded with drain wire, PVC Insulated in 3/4" diameter Conduit	40	lm		

BILL OF QUANTITIES - BUCAL GROUND WATER SUPPLY

Line No.	Description	Qty	Unit	Unit Cost	Total Cost
10	Cable and conduit from Turbity Sensor to DC Panel - Instrumentation Cable, Single Twisted pair, 1.0mm sq. Stranded Copper wire, Shielded with drain wire, PVC Insulated in 3/4" diameter Conduit	40	lm		
11	Cable and conduit from existing flowmeter Sensor to DC Panel - Instrumentation Cable, Single Twisted pair, 1.0mm sq. Stranded Copper wire, Shielded with drain wire, PVC Insulated in 3/4" diameter Conduit	80	lm		
12	Cable and conduit from existing UV sensor to DC Panel - Instrumentation Cable, Single Twisted pair, 1.0mm sq. Stranded Copper wire, Shielded with drain wire, PVC Insulated in 3/4" diameter Conduit	45	lm		
13	Cable and conduit from On/off valve to DC Panel - Control Cable, 7Cx1.0mm sq + G, Stranded Copper Wire, PVC Insulated in 3/4" diameter Conduit	180	lm		
14	Cable and conduit from IP camera to DC Panel - Ethernet Copper Cable, CAT5e, Outdoor Type in 3/4" diameter conduit	60	lm		
15	Cable and conduit from existing VFD to DC Panel - RS485 cable, Single Twisted pair, 1.0mm sq. Stranded Copper wire, Shielded with drain wire, PVC Insulated in 3/4" diameter Conduit	10	lm		
16	Labor which includes: 1. Detailed engineering and design 2. Site mobilization and demobilization 3. Mounting and installation of Distributed Control panel 4. Mounting and installation of field instruments 5. CCTV camera installation 6. Cable and conduit installation 7 DC CPU, VFD and Network Swicth programming 9. Testing and commissioning 10. Project turn-over	1	lot		
17				**SUB-TOTAL**	-