

PIPING AND ANCILLARY WORKS

Sl. No.	Specification of item of works	Unit	Quantities	Rate in Rs.		Amount (in Rs.)
				(In Figures)	(In Words)	
1	SITC of pressure guage 0-150 PSI range, 3/8" BSP bottom entry 6" dial weather proof with stainless steel internals, siphon tube amd gate valve including fittings, etc. complete as required	Nos.	10			
2	SITC of industrial type pressure switch having 1/4" BSP(F) connection IP:32 enclosure protection, phosphor bronze bellows as sensing element, SDPT contact system, switch rating 6A Inductive/10A resistive 380 V AC, 0.2A Inductive/10A resistive 250V DC suitable for maximum pressure range of 230 PSI with isolation cock and interconnecting cables using copper conductor between pressure switch and panels completed as required.	Nos.	10			

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3	Supply, Erection, Testing & commissioning of Air Vessel made of 10 mm M.S. Sheet size 200 x 1000 mm including supply & fixing of Gun metal 32 mm dia Air release Valve, 32 mm dia Gun Metal gate valve, 40 mm dia gun metal gate valve including 2Mts of M.S 40 mm dia G. I (Heavy pipe for drainage and 1 no. 65 mm dia Butterfly valve with all necessary accessories as per IS 2825	Nos.	3			
4	PIPING ABOVE GROUND Supply, Erection, Testing & commissioning of M.S pipe medium ISI marked 1239-part-1 and ISI : 3589 including cutting, welding/threading with accessories like tees, elbows, flanged joints, reducers, rubber gaskets, nuts & bolts including fixing the pipe with suitable clamps/bracket, complete as required including painting of one coat of red oxide & 2 coats of P.O. red paint a) 200 mm dia	Mtr.	6			

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5	Supply, Erection, Testing & commissioning of water type butterfly valves Suitable for fitting between pipe flanges, with body of cast iron, body lining of black nitrilerubber, disc of S.G. iron, coated with nylon, with flow control lever. PN-16 rating. a)200 mm dia	nos.	1			
	b) 150 mm dia	nos.	16			
	c) 100 mm dia	nos.	6			
6	Supply, Erection, Testing & commissioning of non return valve (CIDF) conforming to IS 5312with flanges, Gasket, nut, bolts & Washers a) 200 mm dia	nos.	1			
	b) 150 mm dia	nos.	10			
	c) 100 mm dia	nos.	4			

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7	Supply, Erection, Testing & commissioning of Foot valve strainer with Gun metal, nuts, bolts, washers & 5mm thick rubber gasket etc. as per ISI 3582 a) 150 mm dia	nos.	3			
8	Supply, Erection, Testing & commissioning of Draw Out connection with CI foot valve 100 mm dia (for fire tank) and 3 Meter G.I. 100 mm dia (H) pipe, nuts, bolts, washers & 5mm thick rubber gasket etc.	nos.	1			
9	CABLES AND CABLING Supply and laying of following sizes of XLPE insulated PVC sheathed, Aluminium conductor armoured power cable of 1.1 KV grade conforming to IS 1554-1 amended upto date. a) 3.5 Core x 300 sq.mm	mtr.	50			
	b) 3 Core x 16 sq.mm	mtr.	40			

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	c) 3 Core x 50 sq.mm	mtr.	60			
	d) 10 Core x 2 sq.mm	mtr.	60			
10	CABLE TRAY FOR PUMP HOUSE a)300mm X 3 mters	nos.	36			
11	SITC of Terrace Pump Panel (Small)	nos.	2			

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				(In Figures)	(In Words)	
12	Sump Pump with Sensor for Automatic in operation.	nos.	1			
13	Main Fire Pump Panel Fabricating, supplying, erection, testing and commissioning of cubicle type floor mounted panel made from 14 CRCA Sheet complete with contactors,Auxillary contacts , indicating lamps,Ammeters with selector switches, voltmeters with selector switches,fuses, automatic delta type motor starter including connections complete as required for 1 No Fire hydrant and sprinkler pump, 1 No. Jockey pump, 1 No Battery charger and 1 Set of Battery complete in all respect including neccessary control wiring as per the details given below: Incoming 1) 500 Amps MCB - 1 No. 2) Voltmeter (0-500) V (size 96mm x 96mm) -1 No. 3) Voltmeter Selector Switch -1 No. 4) Indication Lamps (LED type) -1 sets (1 set of 03 Nos.RYB) 5) Ammeters(0-200A) -1 No.					

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14	Outgoing 1)200 Amps MCB , -2 Nos 2) 100 Amps MCB - 1 No 3) Fully Automatic delta starter (60 hp) with LED illuminated ON-OFF push button - 2Nos. 4) Fully Automatic delta starter (15hp) with LED illuminated ON-OFF push button - 1 No. 5)Auxillary contactors for main, sprinkler and jockey pumps 6) Auto/ manual selector switch with control wiring for main, sprinkler and jockey pump 7) Annunciator with hooter, accept/ reset push button with control wiring 8) Current Transformer (200/5A) --6 Nos 9) Current Transformer (100/5A) --3 Nos 10) Ammeter 0-150 --3 Nos 11) Volt Meter 0-500--3 Nos 12) Single phase preventer--3 Nos	set				

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	Control Panel Engine a) 15 Amp Battery charges with trickle and boost facility b) 0-32 volts/ meter--1 No c) 0-15 Amps ammeter--1 No d) Auto Starting contractor with relay e) Auto/ Manual selector switch with push button for manual start--1 No f) 63 MCB - 1No g) Buzzer--1 NO h) Indication Lamp--3 No I) Push Button--2 No SITC of Main Panel for Pump House 60HPX2,15HPX2,12VDG FOR AUTOMATIC IN OPERATION	nos.	1			
	MOTOR DRIVEN MAIN PIMP					
15	Supply, Erection, Testing & commissioning of Electrical Motor Driven Pump centrifugal end section type pump complete with bronze impeller, mechanical seal capable of delivering 2280 liters/minute against a total head of 70 metres, induction motor suitable for 415V, 50 Hz, AC supply min. 60 HP with speed of 2900 RPM , TEFC type conforming to IP: 55, flexible coupling, coupling guard. Common bedplate fabricated from mild steel channel, vibration pads, isolation arrangement & RCC foundation.	set	1			

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16	DIESEL ENGINE DRIVEN FIRE PUMP: Supply, Erection, Testing & commissioning of Diesel Engine Driven Pump Horizontal end section, centrifugal type pump complete with bronze impeller, mechanical seal capable of delivering 2280 liters/minute against a total head of 70 metres, Diesel Engine Min.Cap. of 93 BHP with speed of 1800 RPM, flexible coupling, coupling guard. Common bed plate fabricated from mild steel channel, starter motor, batteries, battery charger & cabling, fuel piping, instrumental panel, exhaust piping with residential type silencer, cooling arrangements including 200 Litres Diesel Tank Complete, vibration pads, isolation arrangement, heat exchanger & RCC foundation.	set	1			

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17	JOCKEY PUMPS: Supply, Erection, Testing & commissioning of Jockey Pump Horizontal end section single stage centrifugal type pump complete with bronze impeller, mechanical seal capable of delivering 180 liters/minute against a total head of 70 metres, induction motor suitable for 415V, 50 Hz, Min 15 HP with 2900 RPM, TEFC type conforming to IP: 55, flexible coupling, coupling guard. Common bedplate fabricated from mild steel channel, vibration pads, isolation arrangement & RCC foundation.	set	1			
18	TERRACE PUMP Supply, Erection, Testing & commissioning of Terrace Pump Horizontal end section single stage centrifugal type pump complete with bronze impeller, capable of delivering capacity 30 m3/hr ltrs against a total head of 30 metres, Min 5.5 kw, 7.5 HP with 2900 RPM, flexible coupling, coupling guard. Common bedplate fabricated from mild steel channel, vibration pads, isolation arrangement & RCC foundation.	set	2			
					.=Rs.	-

1. Fire Fighting works.

= Rs.

2. Piping & Ancillary works

= Rs.

Total = Rs.
