

Government of Jammu & Kashmir
Office of the Executive Engineer, Jal Shakti (PHE) Mechanical Division (North) Sopore
Website: phekashmir.com Email ID : phe.mdns@gmail.com

No.: PHE/MDNS/DB/ 4005-12
Dated: 25 - 09 - 023.

M/s H. R. Builders and General Suppliers
Boulevard Road, Nehru Park, Srinagar-190001
GST No: 01AAEFH4219A1ZA
Cell No: 9906598626

Adv. Cost:	Rs 134.394 Lacs
Allotted Cost:	Rs 133.912 Lacs

Subject: Electrical and mechanical works to be carried at WSS Wadoora Nathipora Stage 1st and Stage 2nd A and Stage 2nd B under JJM.

- Reference: 1. This office e-NIT No.: e-NIT No. 37 of 2022-23, S. No. 03¹ issued under endorsement No.: PHE/MDNS/DB/5443-55, dated: 07-01-2023 and this office corrigendum No. PHE/MDNS/DB/5847-49, dated 28-01-2023.
2. Authorization awarded by Member Secretary DJJM Superintending Engineer Jal Shakti (PHE) Hydraulic Circle Baramulla/Bandipore HQ at Sopore issued vide No. SE/Hyd/DB/4365-78, dated: 17-07-2023.

Dear Sir,

For and on behalf of Lt. Governor of J&K U.T contract for execution of "Electrical and mechanical works to be carried at WSS Wadoora Nathipora Stage 1st and Stage 2nd A and Stage 2nd B under JJM" is hereby awarded to your firm on the quoted/negotiated rates, as per 'General Terms & Conditions' and 'Schedule of cost and quantities' annexed herewith as under:

Annexure A: General Terms & Conditions.

Annexure B: Schedule of cost and quantities.

Incl. leaves

Executive Engineer
Jal Shakti PHE Mechanical Division (North)
Sopore

Copy to the:

- Chief Engineer Jal Shakti (PHE) Department Kashmir, Srinagar for favour of information.
 - District Development Commissioner _____, for favour of information.
 - Superintending Engineer Jal Shakti (PHE) Mechanical Circle (North) Srinagar, for favour of information.
 - Superintending Engineer Jal Shakti (PHE) Hydraulic Circle _____ HQ at _____, for favour of information.
 - Executive Engineer Jal Shakti (PHE) Division _____, for favour of information.
Provisional Head, TPIA JJM Kashmir, (WAPCOS Limited) Corporate Office 76-C Institutional Sector-18 Gurugram-122015 (Haryana) for favour of information.
 - Assistant Executive Engineer Jal Shakti (PHE) Mechanical Sub-Division _____ for information necessary action.
- File concerned.

Line of work: Electrical and mechanical works to be carried at WSS Wadoora Nathipora Stage 1st and Stage 2nd A and Stage 2nd B under JJM

NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
	Stage 1st				
01	<p>Design, supply, providing, installation, successful testing and commissioning of vertical turbine pumping unit as per IS 1710 driven by VT motor for pumping water at Stage 1st of following parameters:</p> <ul style="list-style-type: none"> • Site Condition Altitude = 1580 Meters/Greater (AMSL) Ambient Temperature = +40°C to - 15°C Relative Humidity = 60% • Type of water = Raw water having specific gravity of unity average. • Quality of water = Raw water with silt having medium to coarse sand. • Sump/liner Bed Level = 8m/otherwise specified below from Machine floor level • Water column in liner/sump = 2 m/as specified otherwise above from sump/liner bed level <p>A.PUMP</p> <p>Discharge of the Pump = 15000 GPH</p> <p>Dynamic Head = 30 M</p> <p>Speed = 1450 RPM</p> <p>Working Voltage = 415 ± 15 V, 03 phase</p> <p>Efficiency = Not less than 50%</p>	2	job	5,36,250.00	10,72,500.00
	<p>Length of each line shaft = 1 m maximum</p> <p>Total length of line shaft = 10 m/as specified (excluding Head shaft)</p> <p>Impeller shaft = Stainless steel</p> <p>Line shaft bearing = Cut less rubber/ Neoprene rubber</p> <p>Line shaft coupling = Stainless steel</p> <p>Suction Strainer = MS fabricated</p> <p>Suction Bowl/Bell mouth= Cast Iron</p> <p>Pump Bowl = Cast iron</p> <p>Column pipe = Mild Steel of wall thickness not less than 8mm flanged type in assorted lengths</p> <p>VT Pump to be designed with minimum number of stages.</p> <p>B.Prime Mover</p> <ol style="list-style-type: none"> Type = Vertical hollow shaft, AC squirrel cage induction motor Rating = Corresponding to the head and discharge not less than 15 HP Power Supply = 03 Phase, 415V+ 15% AC Frequency = 50Hz + 3% RPM = 1450 Synchronous Efficiency = Not less than 90% HP = As per requirement Class of insulation = F or above Type of duty = Continuous Type of rotor = suitable among single squirrel cage / double squirrel cage , single or double skewed squirrel cage. GD2 = suitable for above parameters. Motor thrust bearing = Anti friction ball /roller bearing Method of starting = star/delta <p>The motor should be able to withstand stand fluctuations in voltage and should be conforming to latest IS specifications.</p> <p>C.Accessories</p> <p>Each pump unit shall be provided with suitable discharge head with proper stiffening box arrangement, non-reverse ratchet, coupling etc as per standard specification besides all other accessories required for satisfactory performance and mechanical works required for installation of pumping unit at site are included in the job.</p> <p>Note: Providing of test certificate & Characteristic Curve of pumping equipment is compulsory. The pumping unit is to be approved from the concerned authority before procuring.</p>				

S NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate
	<p>Providing/supplying and fitting of 100 mm dia G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, Class C (Heavy) conforming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16). The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make.</p> <p>Flanges (as per IS 6392/1997 Table:17)</p> <p>Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint.</p> <p>Welding Electrode</p> <p>Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class-C conforming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make.</p> <p>Size : 100</p> <p>Class: C (Heavy)</p> <p>Flanges (as per IS 6392/1997 Table:17)</p> <p>Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint.</p> <p>Welding Electrode</p> <p>DC Arc Welding using welding electrode having diameter not less than 4mm.</p> <p>Nuts and Bolts</p> <p>Nuts and Bolts (conforming to IS:1363 Part 1st)</p> <p>Rubber Insertion Gaskets</p> <p>Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p> <p>DC Arc Welding using welding electrode having diameter not less than 4mm.</p> <p><u>Nuts and Bolts</u></p>	30	Meters	2,189.00
1.02	<p>Cutting of hot dip galvanized 100mm dia G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p>	20	Job	1,544.00
1.03	<p>Fabrication, Providing and fitting of 100mm dia Y- junction having 1m length (Approx.) of each arm to be fabricated out of hot dip galvanized G.I, C-Class pipe. The job also includes Providing and welding of M.S flanges to the ends of each arm. The Thickness of flange shall conform to IS 6392 Part 1st Table-17 fastened with weld joints on three ends. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	1	Job	9,500.00
1.04	<p>Providing and fitting of DN100 Ductile Iron double flanged PN 1.6/16, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units .</p> <p>The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions</p> <p>It shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	3	No	19,094.00
1.05	<p>Providing and fitting of 100mm dia Ductile Iron double flanged PN:1.6/16, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water). The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions.</p> <p>It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	2	No	20,581.00

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
1.06	Fabrication, providing and fitting of 100mm dia 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.	7	job	3,614.00	25,298.00
1.07	Fabrication, providing and fitting of washout Tee 100mm with arm length 1.2 feet each (Approx.). The Tee shall be fabricated out of G.I C-class pipe with M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) fastened with weld joints on three ends.	1	Job	5,122.00	5,122.00
1.08	<p>Creation of pole mounted, outdoor type 100KVA Level II Electric Sub Station as per the technical specifications given here under -</p> <p>Specifications conforming to IS: 1180 (Part 1) 2014 with latest amendments.</p> <p>Type: HT/LT Transformer</p> <p>Type of cooling: ONAN.</p> <p>Operating conditions:</p> <p>Input =11000 volts</p> <p>Output =433 volts AC supply in 3- phase.</p> <p>Terminals:</p> <p>Input=3 No. HT bush rods with insulators, washer, nuts etc.</p> <p>Output=4 No. LT bush rods switch insulators, washers, nuts etc.</p> <p>Core: The core shall be of high permeability to reduce core losses and the strips shall be of suitable size and gauge.</p> <p>Transformer Coils: Suitable number of HT and LT coils in each leg of the core. The transformer coils shall be fabricated out of superior quality aluminum wire/strips, properly wound. The HT transformer is completely filled with suitable grade transformer oil up to required level. The job includes carriage, and all leads and lifts involved.</p> <p>The HT transformer shall be of reputed make from an ISO certified company as per relevant standards and a test certificate shall be provided before installation. The transformer shall also be provided with breather fill with silica jell crystals, conservator with oil level indicator, explosion vet and adequate radiator fins/ Tubes. The impedance of transformer shall be as per IS: 1180 (Part 1) 2014 with latest amendments.</p>	2	Job	2,09,945.00	4,19,890.00
	NOTE: The scope of the work shall include obtaining of necessary inspection/clearance certificate from the concerned department for all the required equipment. The testing and commissioning shall be completed only after obtaining above certificate.				
L.09	Supply, installation, erection of 9 mtrs long H.T pipe of specifications ST- 410 (sp-33) . The job further includes drilling of holes for installation of various accessories .wherever required the job further includes G.I wire earthing of pole as per REC standard.	10	Nos	20,686.00	2,06,860.00
..10	Cement Bottoming 1:2:4 mix as per REC standards 0.5 cum/pole	10	Job	4,500.00	45,000.00
..11	G.I V cross with top Bracket including clamps	186.1	Kgs	195.00	36,289.50
..12	11 KvA Polymeric Insulators 12 kV ,5kN , Lighting impulse 75 kV Positive and 80 kV Negative with creepage distance 320mm	36	Nos	347.00	12,492.00
..13	P/F of Galvanized nuts, bolts of various sizes as per site requirement.	19	Kgs	142.00	2,698.00
..14	P/F of Danger plate with clamps	10	Nos	145.00	1,450.00
..15	P/F of Anti climbing Device with clamps	10	Nos	136.00	1,360.00
16	<p>Earthing of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets, electric substation, comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards.</p> <p>Safe earthing electrode size : 65/80 mm dia (As specified),</p> <p>Length : 2000 mm</p> <p>Back fill compound : 30 kg</p>	11	Nos	2,559.00	28,149.00
17	Painting of poles with Red Oxide coating	10	Ltr	300.00	3,000.00
18	Painting of poles Aluminum paint	10	Ltr	500.00	5,000.00
9	P/F of Stone pad (300mm x300mm x75mm)	10	Nos	244.00	2,440.00
10	PG Clamps fo 50 sqmm ACSR conductor	13	Nos	400.00	5,200.00
11	Providing and fitting of ACSR as per IS 398 (part-2) 1996 for 50 Sq.mm ACSR (Galvanised steel reinforced) for fitment of various accessories	900	m	60.00	54,000.00
2	GI Channel/Angle/Flat of sizes including clamps	352	Kgs	199.00	70,048.00
3	Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch, outdoor type, triple pole, suitable for vertical installation, single break provided with locking arrangement at both ON and OFF position consisting of HT post double insulator, copper or copper alloy high pressure heavy contact assembly, rod with bearings , operating handle and 2 length of 32mm dia. GI pipe conforming to IS 1818 1961, 06 No. of insulators, rated voltage 11KV 200A complete as per IS specs.	2	Set	11,730.00	23,460.00
11	11 kV polymeric composite Disc Insulator 12 kV, Min failing load 45kN, Lighting Impulse 75kV Positive and 80 kV Negative, creepage distance 320mm	6	Nos	357.00	2,142.00

NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	
1.25	Supply, Installation, Testing and commissioning of Gapless Surge arrester station class, 10KA, 9KV, LA With polymer housing, Station Type incuding providing and fitting of DO set	1	No	7,754.00	Am Providing belt
.26	50 sq mm (2 Ckt) 1.1 kV Grade, PVC Insulated Stranded Conductor FRLS Type	44	Meter	532.00	23,456.00
.27	Earthing of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets, electric substation, comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg	3	Nos	10,000.00	30,000.00
.28	LT Distribution Box for 100 kVA DTR with 4 pole MCCB for incomer & SFU's for Outgoing circuits	1	Nos	39,422.00	39,422.00
.29	Galvanised stay set with 50x8mm stay clam, guy insulators(2No's), anchor plate (200x200x6mm), nuts and bolts, 2 Nos; turn-buckles, 1.8m long, 16mm dia meter solid GS stay rod & 7/3.15 mm dia GI Stranded wire complete	4	Set	5,018.00	20,072.00
30	P/F of Wedge connectors / PG Clamps	6	Nos	434.00	2,604.00
31	Providing, installation, testing and commissioning of outdoor type HT Trivectometer as per IEE Rule. Job includes grouting of legs in cement concrete as per site requirement. All cabling, earthing and allied accessories required to be provided by the firm. Moreover firm responsible for completing all sealing of PDD department and testing on load and no load at site	1	Nos	1,32,000.00	1,32,000.00
32	Sundry items like Alumunium Lugs , Jumprs, binding Tape	1	LS	1,000.00	1,000.00
33	35 sq mm AB(HT) Cable (3x35+1x70 sqmm) XLPE (11 kV , 3C+Earth)	30	m	818.00	24,540.00
34	P/F of Heat Shrinkable Outdoor cable termination Kit	2	Nos	8,500.00	17,000.00
35	Providing & Fitting of 35 sq mm Single Core Copper Conductor (Flexible) PVC Insulated Heavy Duty Industrial Cables (Unsheathed), 1100 Volts Conforming to IS: 694- for connecting motors from panel , stabilizers in rubber conduit . Job includes providing & laying of flexible conduit for cu cable with lugs as per requirement Heat Shrinkable Outdoor cable termination Kit	270	M	546.00	1,47,420.00
36	Providing, installation ,testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped.	60	M	637.00	38,220.00
7	Providing and fitting of 3-Core flat submersible copper cable conforming to IS: 694 (Part 1st) – 1964 & IS: 694 (Part 2nd) - 1964 for Submersible Pumping Unit and other electrical equipment. The cable connections terminal shall be fitted with copper thimbles of required size. The main specification of the cable is given below: Size: 16 sq mm	90	M	711.00	63,990.00
3	Providing , fitting, testing and commission of heavy duty de-silting pumping unit complete unit of capacity 25000 GPH head 25 m and motor including compete cabling, starter- 2nos(one as standby), Sluice valves ,agitator function, delivery pipe minimum 50 m with MS supports with all joints and accessories. Complete job Job includes fabrication , providing , fitting and testing of gantry system for fabricated out of ISCM/ISMB below machine floor of circular shape approx. 7 m dia. The gantry system should be fabricate in such a way that desilting pumping unit should move in all directions. Job includes providing and fitting of 2 MT chain pulley block (chain lift 10 m)and monorail of induff/globe make. the de-silting pumping have. Job also includes providing and fitting of 2MT electric hoist with monorail for said units. Job also includes making of hole and covering of the same with 8 mm thick MS sheet & ISA. Job also includes fabrication of Ladder and plate form at middle in ISA,ISMC for handling of the system	1	job	7,45,000.00	7,45,000.00

ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
<p>Providing, fitting, testing and commissioning of 100KVA voltage stabilizer as per specifications below:</p> <p>Type of voltage controller: Manually operated copper wound, 3-phase, AC power supply multi step.</p> <p>Type of Regulator : Double plate type with electrolytic copper contacts.</p> <p>Input voltage :250-400 volts.(3 phase)</p> <p>Output voltage :400 ±10% volts.</p> <p>Frequency :50 ±3 C/S.</p> <p>Windings : Electrolytic grade copper of adequate section, vacuum impregnated and Oven-dried.</p> <p>Insulation : Fiber glass insulations to tested parameters.</p> <p>Cooling :Naturally, Oil cooled</p> <p>Temp. Rise (Max):30°C above ambient</p> <p>Mounting :On Uni-directional wheels.</p> <p>Correction rate :30 volts per step</p> <p>Wave form distortion :virtually nil</p> <p>Duty cycle :100% continuous.</p> <p>Enclosure : MS sheet enclosure in pressed CGR Sheet powder coated with radiators.</p> <p>Core laminates : High grade, low eddy loss, grain oriented silicon steel laminations.</p> <p>Load : Three phase induction motor load.</p> <p>Load Amperes (continuous)</p>	2	Job	1,65,000.00	3,30,000.
<p>Overload in 24-hours operation: 10% above continuous Ampere rating.</p> <p>The voltage stabilizer shall have T-oil level indicator gauge preferably glass type tube or otherwise visible to naked eye. The top of the container to have a display panel for housing 02 numbers Digital voltmeters (0-500V) along with 4-way selector switch and set of neon indicators for incoming and outgoing phases (06 No's).</p> <p>Insulating media (T. Oil) of 11 KVA grade to be provided and filled up to top level, with dielectric strength of 5 KV at 4m air gap. The T-Oil of specific grade should be provided in separate barrels and filled at site up to top level.</p> <p>The voltage Stabilizer shall be accepted with manufacturers duly stamped test certificate and shall have name plate with specifications.</p>				
<p>Design, manufacturing , providing , fitting, testing & commissioning of Star-delta Motor control gear Panel.</p> <p>The Star-delta Motor control gear Panel shall be fabricated out of 14 SWG CRCA Sheets Modular, compartmentalized, Free Standing, Floor Mounting, Front hinged doors for indoor use, removable bottom gland plates for incoming cables, dust and vermin proof (IP: 55 protection) with TP Copper Buses as per load , complete with connection, internal wiring, neon indicators for each phase ,starter buttons, name plates, painting ,vents etc. generally as per details furnished below:</p> <p>Rated Voltage of the Panel ---- 440 Volts</p> <p>Frequency ---- 50 HZ</p> <p>No of Phases ---- Three</p> <p>Enclosure Details ---- Free Standing, Floor mounted, Compartmentalized Design.</p> <p>Material ---- CRS</p> <p>Thickness of sheet steel used ---- 02mm</p> <p>Application ---- Indoor</p> <p>Cable Entry ---- Bottom</p> <p>Painting ---- Shade Siemens grey.</p> <p>a) Main Circuit Breaker incoming combined</p> <ul style="list-style-type: none"> Type ---- On load 4 pole MCCB Rating : 200A Qty ---- 2 Nos (for Main and Standby/DG Set Supply) No. of poles ---- 4 Rated operational voltage---- 415 V AC ± 15% Rated frequency ---- 50 ± 3% Hz Ultimate S.C Breaking cap at (415 volt A C , 50 Hz) ---- 50kA 	1	Job	3,34,000.00	3,34,00

S NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Am.
b) Distribution bus bar	Type -----Electric grade Cu with red, blue & yellow tapings of adequate section. Rating ----- 200 Amp				
c) Change over Switch	Qty ----- One Type----- Front Operated on load 4 pole (open execution) Rating -----200 Amp				
d) Circuit Breaker units	Type ----- MCCB Qty ----- 2 Nos No. of poles-----3 Rated current -----160 Amp Thermal release range- Rated operational voltage----- 415 V ± 15% Rated frequency ----- 50 ± 3% Hz Ultimate S.C Breaking capacity at (415 volt A C , 50 Hz) -----50kA				
e) Starters (FASD)	Power Specification -----3 phase, 415 ± 15% v & 50 Hz Contactors : Line Contactor ----- AC3 70 A Delta Contactor --- AC3 70 A Star Contactor ----- AC3 50 A Timer ----- Star Delta Electronic Thermal overload relay – direct/CT operated Suitable/available range Coil Voltage : 220/240V Qty ----- 2 No's				
f) Aux. panel	Circuit breaker---MCCB 63 Amp Qty---01 no. No. of poles---04 Rated operational Voltage---415+15% Ultimate S.C. Breaking Capacity---35 KA at (415AC,50 Hz)				
g) Stabilization unit for both starters	Qty—02 no Rating— 1 KvA single phase automatic voltage stabilizer Input :90V-300 Out Put : 220/240 (as per coil voltage of contractors) Enclosure— to be housed within the cubical panel in separated chamber with additional meter , LED fitted outer side MCB DP ---10A---1nos				
h) Protection Details:	Compact Motor Protection Relay including other related accessories like single phase preventer relay, timer relay , overload-under load, phase difference etc. Display —— LED/LCD and all setting is to be done at display Compact motor protection relay Qty :01 nos) Protections : <ul style="list-style-type: none">• Flush Mounting with display• Last trip data recording• Protections:<ul style="list-style-type: none">- Thermal Overload with pre- alarm- Short Circuit- Earth fault				

S NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
	<ul style="list-style-type: none"> - Phase loss, Unbalance, Phase reversal - Under Current - Prolong starting, Locked Rotor. -Single phase protection- Single Phasing condition- Phase Reversal condition- Phase Unbalance condition- Modes of Operation i) M-Power module for mobile starters and Earth fault relay as Auxiliary Protection Earth Fault Relay ----3 phase Earth fault, ground fault module Range as per requirement MCB ----- MCB SP , 10A (10 KA) j) Water level control relay for including wiring and capsules required at site keeping depth of sump 10 meters in consideration: 01 unit complete (not for production wells) g) Metering Details: •Incomers (Panel Mounted) <ul style="list-style-type: none"> (a) Multi-Function Meters LCD Display (1 No) Voltage of each phase , Current of each phase 3Ø power (Active, Apparent) , 3Ø Power factor Frequency , Energy (b) Analog voltmeter S/S operated (1 No) - Rishabh make. •(b) Outgoing (Analog voltmeter (0-500) S/S operated (1Nos) . Analog Ammeters 0-100 Amp (2Nos) for both starters Each outgoing with S/S CT operated (Rishabh make) h)M-power module for mobile starter for submersible motor suitable region north India. j) Water level controller <p>Note: Name of Scheme ; Allotment No ; should be imprinted on the machine with capital letters</p>				
1.41	<p>Providing, installation and testing of manual type triple spur gear chain pulley block along with monorail geared travelling trolley having following features</p> <p>Gears: The hoist shall have precision machine case Hardened alloy steel gear mounted on bearings and housed in a dust proof gear box. The lubrication of gears should be of high viscosity and temperature for longer life of gears.</p> <p>Load Chain: The load chain be made of high tensile alloy steel having wear resistance and greatest mobility. The chain should be accurately collaborated, tested and have adequate in-built factor of safety for safer operation.</p> <p>Load chain wheel: the load chain well should be double ball bearing supported and specially designed, perfectly machined wheel providing correct grip of load chain to makes the hoist most safe and reliable against any failure. The main specifications of C.P Block are given below:</p> <p>Make = Reputed make Capacity = 3 ton (P) No. Of load chain falls = 2 or above Min. Height of lift = 6 M</p>	2	Job	62,972.00	1,25,944.00
42	<p>Illumination of Premises:</p> <p>Providing and erection of 9 Mtr long Hot Dip Galvanized octagonal pole (single Section) with bottom 150mm, top 75mm wide, thickness 3mm with 70 Microns Zinc coating having inside arrangement for providing of power connection along with following items.</p> <p>1)3 Way Terminal Connector 20 Amp. 2)3 No MCB 8 Amp.</p> <p>The job includes fabrication, providing and fitting of three arm GI structure at the top having 120° angle between arms and each arm having 15° inclination with respect to horizontal plane. Each arm should be of 2' length and size and shape appropriate as per requirement of the luminary.</p> <p>The job also includes providing and fitting of required length of flexible multi strand 2 mm copper wire from each terminal connector to each holding arm.</p> <p>The pole is mounted on 1:2:4 Cement concreting of size not less than 2'x2'x6" (cost of concreting not included in the job) using 04 No anchor bolts of required size not less than 7" in length. The complete job includes earthing in GI Electrode as per relevant IS Code</p>	2	Job	22,000.00	44,000.00

NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate
.43	<p>Providing, installation, testing and commissioning of area lighting 120 Watt LED (Street Light Type) on top of octagonal pole including MCB fitted in box 10A vide item No.36</p> <p>Having following specs:</p> <p>Input: 90-240 V 50 Hz</p> <p>Power Factor: >0.9</p> <p>Colour Temperature: 4K - 6.5K</p> <p>Beam Angle: 120° - 170°</p> <p>Lumens: >12000</p> <p>Operating Temperature: -20°C to 60°C</p> <p>The LED is pressure die cast aluminum housing with power coated finish and having Ingress Protection up to IP-68.</p> <p>The LED is properly fitted on the arm of the pole and connected to the copper wire as provided in the high mast pole</p>	6	Job	8,500.00
.44	Providing and installation of Junction Box with DP 32Amp MCB to serve as a main switch for LED lighting including complete wiring min 20-30 m from panel board. The job includes making of electric connection to the circuit.	1	job	2,200.00
.45	Providing, Installation and testing of 2KVA fully automatic voltage stabilizer including wiring with input voltage 70-240 V and output 220 V. The stabilizer shall be installed and connected to the electric circuit as per location provided by site in charge.	1	Job	8,154.00
.46	Providing & fitting of lighting points for (machine room , operators room,) as per site requirement in 1.5 mm ² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit pipe by way, switches, socket modules , regulators ,indicators, 08/10 watt LED lamps Surface light Make. .Included is cost on account of modular switch boards with the wooden frames as per site requirements	10	Job	1,650.00
.47	Providing fitting of heating points in 2.5mm ² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit by way of p / f of 15 Amp switches, 6 pin socket on modular fitting as per site requirements. Heating points are to be connected from main control panel. All accessories required is to be provided by the firm	2	Job	1,470.00
.48	Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job. Make Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job.	1	Job	2,600.00
.49	Providing, fitting of Distribution Board of reputed make 4 way S P N single door powder coated sheet steel enclosure for surface mounting fitted with bus bar, DIN channel, neutral link and incoming contact. the above DB is to be provided /fitted with double pole 40 amp MCB for Main. 32 A for heating circuit & rest 3 of 16/6 amps each for premises luminary, auxiliary circuit of reputed make. Further job includes providing / fitting 4 mm ² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit as service line from main panel as per site requirements. Connections should be made in such a way Lighting points is to be connected via automatic transformer by way of p/f switch socket arrangement with allied fixtures & heating points to main panel. Job includes dismantling of existing damaged conduit , wires, conduit and cleaning the surface properly	1	Job	5,775.00
	P/I of Earthing station of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg	6	Job	10,462.00
	Painting on steel structure/pipe with synthetic enamel paint of approved brand and manufacturer of required colour to give an even shade on new work(Two or more coats) including a coat of approved steel primer but excluding a coat of mordant solution. (ref 13.61) schedule2021	150	sqm	145.00
				21,750.00

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
1.52	<p>Capacity = 40 KvA</p> <p>Providing, installation, Testing & commissioning of 415 ±15%V (output), 3 phase air cooled/water cooled Diesel Generator set of Specification of approved make as per latest guide line as per IS 8528 (2018) and ISO 3046 (2002) for engine and IEC/IS 60034-1 for alternator suitably assembled and fitted in a pollution free acoustic enclosure / canopy of required size as per Ministry of Environment protection rule 1986 read with latest amendments. The DG Set is required to be fitted and tested on load at site The D.G Set shall have the following technical specification.</p> <p>Besides the above works the D.G set shall be provided with 12 V, 150 AH Lead acid battery of reputed make fitted inside the D.G set Canopy along with necessary accessories and battery charger of required capacity.</p> <p>The job also includes the cost on account of HSD and skilled operator required for operation of D.G set for a period of 10 hours continuously during its testing and commissioning of D.G set at site.</p>	1	Job	6,75,000.00	6,75,000.00
1.53	Providing, installation ,testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped.	50	m	668.00	33,400.00
1.54	<p>Fabrication, providing, fitting of base frame for pumping units , covering of holes , fabrication of gantry, ladder ,DG set covering, HT/Lt transformer Bed with gantry fabricated out of ISMC/ISMB/ISA/Bars/MS Pipe/MS plain-chequered Sheets. Including making of holes in concrete, including metal primer 1 coat and two coats of approved shade . The works is to be executed as per site requirement and as per dimention of Pumping unit and as per directions of site engineer.</p> <p>Job Includes fabrication of Structural steel in built up sections , trusses and framed work, including cutting , hoisting , fixing in position.</p>	7000	kgs	128.00	8,96,000.00
1.55	Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering. All work upto plinth level 1:2:4 with stone aggregate 20 mm nominal size. For DG Set foundation /concrete beds for rising-main as per requirement	40	cum	6,756.00	2,70,240.00
1.56	Centering and shuttering including strutting, propping etc and removal of form work for foundation, footing , base	20	sqm	280.00	5,600.00
1.57	Earth work in excavation by manual means in trenches for foundations, drains , pipes , cables etc (Not exceeding 1.5 m in width) and ramming of bottoms lift 1.5 m , including getting out excavated earth and disposal of surplus excavated earth as directed (All kinds of soil) (2.81 schedule)	30	cum	291.00	8,730.00
1.58	Providing and laying of soling stone	20	cum	713.00	14,260.00
1.59	Cement plaster in fine sand in 1:3 mix finished with a coat of neat cement and curing complete 18 mm thick. (s-11.8)	25	sqm	580.00	14,500.00
1.60	Supply, installation, Testing & commissioning of 1000VA Full Sine wave power inverter including Providing / Installation of 12V, 180AH Tubular inverter Battery with trolley and cover. with 2-core 4 mm ² Cu (25 m) wiring as per site requirement along with other accessories like SS-Combine (02 No's), 3-pin plugs etc of reputed make for proper fitment and installation of the item.	1	job	34,053.00	34,053.00
1.61	<p>Providing, laying & fixing of shock proof rubber mats with adhesive/bonding material on the floor of the pump house, covering area around electro-mechanical machinery for safeguarding the life & limb of the workmen due to possible leakage of current & short circuit. The floor surface shall be made good & shall be free from dust, grease, foreign material & moisture free. The mats shall be as per IS 15652:2006 & shall have the following specifications:-</p> <p>Composition: Rubber (synthetic mats for electrical purpose)</p> <p>Thickness: - 2.5mm Size: - 1M wide.</p> <p>The rubber mats shall be accepted with manufacturers test certificate.</p>	10	M	1,205.00	12,050.00

S NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate																												
1.62	<p>TOOL KIT For Maintenance: The Tool Kit for maintenance shall comprise of the following and all the items as mentioned below shall be of: Providing of tool kit consists of following items i.Double ended Spanner (Chrome plated) 02 sets complete ii.Double ended Ring spanners chrome plated 02 sets complete iii.Allen key set black finish 02 sets complete iv.Combination Pliers insulated with thick C.A sleeve; size in mm 165, 210, 255 each – 02 No. v.Long nose plier insulated with thick C.A sleeve; size in mm 165, 205 each – 02 No. vi.Side cutting plier insulated with thick C.A sleeve; size in mm 165, 205 make – 02 No.</p> <p>vii.Insulated screw Drivers Blade length in mm Blade dia. in mm Tip dimensions in mm Quantity</p> <table> <tbody> <tr><td>50</td><td>3</td><td>1.6 x 0.4</td><td>02</td></tr> <tr><td>75</td><td>3</td><td>1.6 x 0.4</td><td>02</td></tr> <tr><td>100</td><td>3</td><td>3 x 0.4</td><td>02</td></tr> <tr><td>125</td><td>3.5</td><td>3.5 x 0.5</td><td>02</td></tr> <tr><td>150</td><td>3.5</td><td>3.5 x 0.5</td><td>02</td></tr> <tr><td>200</td><td>4</td><td>4 x 0.6</td><td>02</td></tr> <tr><td>300</td><td>5</td><td>5 x 0.8</td><td>02</td></tr> </tbody> </table>	50	3	1.6 x 0.4	02	75	3	1.6 x 0.4	02	100	3	3 x 0.4	02	125	3.5	3.5 x 0.5	02	150	3.5	3.5 x 0.5	02	200	4	4 x 0.6	02	300	5	5 x 0.8	02	1	Job	28,840.00
50	3	1.6 x 0.4	02																													
75	3	1.6 x 0.4	02																													
100	3	3 x 0.4	02																													
125	3.5	3.5 x 0.5	02																													
150	3.5	3.5 x 0.5	02																													
200	4	4 x 0.6	02																													
300	5	5 x 0.8	02																													
	viii.Hammer with handle weight – 110 mg, 340 gm , 600 gm –each – 1No. . ix.Heavy duty pipe Wrench length in mm - 200, 300, 600 each – 01 No. x.Electric Multimeter =1No xi.Digital multimeter – 1No. xii.Digital Clamp tester capable to measure up to 400A - 1 No. xiii.Hack saw frame with hack saw blade – 01 no. xiv.S-16 MXL S-16 H X L Socket Set (19 sockets + 6 Accessories) – 01 No. a) Providing of good quality convenience and utility items bedding for night stay/Shift consisting of:- i) Mattress with warm cover size 6'x3' (6Kg)- 02 No's ii) Quilt with warm cover size 5'x8' (6Kg)- 02 No's iii) Pillows with covers - 02 No's iv) Single bed warm blankets with one sided Fur- 02 No's The filling material for mattress, quilt and pillow shall be of good quality cotton b)The job also includes providing of pressure cooker 5ltr 02 No's, Steel patella (utensil) 5ltrs 02 No's, cooking heater 01 No., room heater 01 No., steel buckets 10 litre capacity 01 No., Plastic bucket 10 litre capacity with Mug 02 No's each, steel glasses 06 No's, steel Plates with large spoons and bowls 03 No's each, Cup and Saucer set (01 No. Set) and, 5kg Gas cylinder with burner/ stove. The job also includes providing of thermo-cool 15'x12' along with excel matting of 15'x12' size. The job also includes providing of unbreakable Plastic Chair table set consisting of chairs 04 No's, extra heavy Table 01 No. The job also includes providing of good quality safety Door locks (03 No's) of Godrej, Link locks,	1	Job	39,619.00																												
1.64	Fabrication of 6' x 6' angle iron bed by way of providing and fitting of Structural steel in built up sections , trusses and framed work, including cutting , hoisting , fixing in position and applying a priming coat of approved steel primer all complete welded	94.75	Kg	114.00	10,801.50																											
1.65	Providing and fitting of 19 mm thick multilayered ply sheet of size 6 x 3 feet , 2 no's including cutting , fixing all complete including painting of the play sheet by one coat of primer and two coats of enamel paint	36	sft	145.00	5,220.00																											
1.66	Providing of solar/electrical lantern chargeable on both solar & electrical 220v supply.	1	Job	1,500.00	1,500.00																											
1.67	Providing of bamboo ladders 18 feet long along with 15 feet long Link rods and HT Glove pair (01 No each)	1	Job	7,350.00	7,350.00																											
1.68	Providing of 1 KW heat convector for operators for winter season.	1	Job	1,205.00	1,205.00																											
1.69	Providing and fitting of 01 No. LED (scroll type) sign board fabricated out of stainless steel and metal showing the names of water supply scheme and the Department. Size: 6'x1'6" = 9 sft	9	Sft	3,998.00	35,982.00																											
1.70	Providing and fitting of 01 No. angle iron/sheet metal board duly painted showing various specifications of the mechanical and electrical equipments installed at site. The legs are to be grouted in cement concrete.	24	sft	175.00	4,200.00																											
1.71	Providing corrugated G.S Sheet roofing including vertical/ curved surface fixed with polymer coated J or L Hooks, bolts and nuts 8 mm dia for DG Set and overhead gantry . diameter with bitumen and G.I limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (upto any pitch In horizontal /vertical or curved surface) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required. 1.25 mm thick with zinc coating not less than 350 gram/m2	42	Sqm	1,800.00	75,600.00																											

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
	Stage 2nd A Supply, installation, testing and commissioning of Horizontal pumping unit of approved make as per IS 1520 with following specification:- Discharge of the Pump = 10000 GPH Dynamic Head = 33 M , with head range 25-50 Speed = 1450 RPM Working Voltage = 380 ± 15 V, 03 phase Pump:- 1.Type :- Horizontal split casing /Multi stage Material of construction 1.Impeller:- Stainless steel 2.Shaft:- SS410 3.Pump casing:- Cast Iron The pump shall confirm to IS-1520 code MOTOR :- A) Type :- Horizontal squirrel cage Induction Type B) No of phases: 415 ± 15%, 03 phase, 50 Hz, AC supply C) Winding:-Copper wound squirrel cage D) Type of enclosure:-SPDP/TEFC E) Method of cooling:- Air cooled with fan mounted F) Method of Starting: star delta G) Rating = Corresponding to the head and discharge not less than 20 HP.				
2.01	The pump-motor should be mounted on a common base frame fabricated out of M.S channel of suitable size and duly fitted with T- type foundation bolts /nuts and washers to make the pumping unit vibration free. The pump and motor should be coupled through suitable coupling. The coupling faces checked for both angular and axial alignment with the help of tapered gauges/feeler gauges or dial indicator. Job includes testing and commissioning of pumping unit on full load at site. Note: Test certificate having the Serial No. of the Pumping Unit along with the performance curve in duplicate from the Manufacturer must be produced on delivery of the item and pumping unit is to be approved from the concerned Sub Divisional office before procuring.	2	job	2,09,196.00	4,18,392.00
2.02	Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class-C confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make. Size : 100 Class: C (Heavy) Flanges (as per IS 6392/1997 Table:17) Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint. Welding Electrode DC Arc Welding using welding electrode having diameter not less than 4mm. Nuts and Bolts Nuts and Bolts (conforming to IS:1363 Part 1st) Rubber Insertion Gaskets Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.	20	Meters	2,189.00	43,780.00
2.03	Cutting of hot dip galvanized 100mm dia G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.	20	Job	1,544.00	30,880.00
2.04	Fabrication, Providing and fitting of 100mm dia Y-junction having 1m length (Approx.) of each arm to be fabricated out of hot dip galvanized G.I, C-Class pipe. The job also includes Providing and welding of M.S flanges to the ends of each arm. The Thickness of flange shall conform to IS 6392 Part 1st Table-17 fastened with weld joints on three ends. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.	1	Job	9,793.00	9,793.

S NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate
2.05	<p>Providing and fitting of DN100 Ductile Iron double flanged PN 1.6/16, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units .</p> <p>The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions It shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	3	No	19,094.00
2.06	<p>Providing and fitting of 100mm dia Ductile Iron double flanged PN:1.6/16, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water). The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions. It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	2	No	20,581.00
2.07	<p>Fabrication, providing and fitting of 100mm dia 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.</p>	7	job	3,614.00
2.08	<p>Fabrication, providing and fitting of washout Tee 100mm with arm length 1.2 feet each (Approx.). The Tee shall be fabricated out of G.I C-class pipe with M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) fastened with weld joints on three ends.</p>	1	Job	5,122.00
2.09	Providing and fitting of 100 mm dia flanged flanged bends/elbow to delivery mainfold and washout, including nuts and bolts and rubber gaskets as per requirement.	Deleted		
2.10	Providing and fitting of flanged Washout Tee 100 mm , including nuts,bolts and gasket as per site requirement.	Deleted		
2.11	<p>Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class-C confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make.</p> <p>Size : 80</p> <p>Class: C (Heavy)</p> <p>Flanges (as per IS 6392/1997 Table:17)</p> <p>Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint.</p> <p>Welding Electrode</p> <p>DC Arc Welding using welding electrode having diameter not less than 4mm.</p> <p>Nuts and Bolts</p> <p>Nuts and Bolts (conforming to IS:1363 Part 1st)</p> <p>Rubber Insertion Gaskets</p> <p>Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	12.2	Meters	1,485.00
2.12	<p>Cutting of hot dip galvanized 80mm dia G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p>	4	Job	1,340.00
3	<p>Fabrication, providing and fitting of 80mm dia 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.</p>	4	job	2,797.00
				11,188

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
2.14	<p>Providing and fitting of DN80 Ductile Iron double flanged PN 1.6/16, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units .</p> <p>The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions it shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F of nuts, bolts and gasket required for the job.</p>	2	No	17,489.00	34,978.00
2.15	<p>Creation of pole mounted, outdoor type 100KVA Level II Electric Sub Station as per the technical specifications given here under -</p> <p>Specifications conforming to IS: 1180 (Part 1) 2014 with latest amendments.</p> <p>Type: HT/LT Transformer</p> <p>Type of cooling: ONAN.</p> <p>Operating conditions:</p> <p>Input =11000 volts</p> <p>Output =433 volts AC supply in 3- phase.</p> <p>Terminals:</p> <p>Input=3 No. HT bush rods with insulators, washer, nuts etc.</p> <p>Output=4 No. LT bush rods switch insulators, washers, nuts etc.</p> <p>Core: The core shall be of high permeability to reduce core losses and the strips shall be of suitable size and gauge.</p> <p>Transformer Coils: Suitable number of HT and LT coils in each leg of the core. The transformer coils shall be fabricated out of superior quality aluminum wire/strips, properly wound. The HT transformer is completely filled with suitable grade transformer oil up to required level. The job includes carriage, and all leads and lifts involved.</p> <p>The HT transformer shall be of reputed make from an ISO certified company as per relevant standards and a test certificate shall be provided before installation. The transformer shall also be provided with breather fill with silica jell crystals, conservator with oil level indicator, explosion vet and adequate radiator fins/ Tubes. The impedance of transformer shall be as per IS: 1180 (Part 1) 2014 with latest amendments.</p>	2	Job	2,09,945.00	4,19,890.00
2.16	<p>NOTE: The scope of the work shall include obtaining of necessary inspection/clearance certificate from the concerned department for all the required equipment. The testing and commissioning shall be completed only after obtaining above certificate.</p>				
2.17	Supply, installation, erection of 9 mtrs long H.T pipe of specifications ST- 410 (sp-33) . The job further includes drilling of holes for installation of various accessories wherever required the job further includes G.I wire earthing of pole as per REC standard.	8	Nos	20,686.00	1,65,488.00
2.18	Cement Bottoming 1:2:4 mix as per REC standards 0.5 cum/pole	8	Job	4,500.00	36,000.00
2.19	G.I V cross with top Bracket including clamps	155.68	Kgs	190.00	29,579.20
2.20	11 KvA Polymeric Insulators 12 kV, 5kN, Lighting impulse 75 kV Positive and 80 kV Negative with creepage distance 320mm	30	Nos	347.00	10,410.00
2.21	P/F of Galvanized nuts, bolts of various sizes as per site requirement.	17	Kgs	142.00	2,414.00
2.22	P/F of Danger plate with clamps	8	Nos	150.00	1,200.00
2.23	P/F of Anti climbing Device with clamps	8	Nos	136.00	1,088.00
2.24	Earthing of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets, electric substation, comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards.	9	Nos	2,559.00	23,031.00
	Safe earthing electrode size : 65/80 mm dia (As specified),				
	Length : 2000 mm				
	Back fill compound : 30 kg				
	Painting of poles with Red Oxide coating	8	Ltr	306.00	2,448.00
	Painting of poles Aluminum paint	8	Ltr	510.00	4,080.00
	P/F of Stone pad (300mm x300mm x75mm)	8	Nos	244.00	1,952.00
	PG Clamps fo 50 sqmm ACSR conductor	11	Nos	421.00	4,631.00
	Providing and fitting of ACSR as per IS 398 (part-2) 1996 for 50 Sq.mm ACSR (Galvanised steel reinforced) for fitment of various accessories	720	m	60.00	43,200.00
	GI Channel/Angle/Flat of sizes including clamps	352	Kgs	212.00	74,624.00

S NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Am
2.3	Supply, Installation, Testing and commissioning of Polymeric Gang operated Air break switch, outdoor type, triple pole, suitable for vertical installation, single break provided with locking arrangement at both ON and OFF position consisting of HT post double insulator, copper or copper alloy high pressure heavy contact assembly, rod with bearings , operating handle and 2 length of 32mm dia. GI pipe conforming to IS 1818 1961, 06 No. of insulators, rated voltage 11KV 200A complete as per IS specs.	2	Set	11,730.00	2
2.31	11 KV polymeric composite Disc Insulator 12 kV, Min failing load 45kN, Lighting Impulse 75kV Positive and 80 kV Negative, creepage distance 320mm	6	Nos	357.00	
2.32	Supply, Installation, Testing and commissioning of Gapless Surge arrestor station class, 10KA, 9KV, LA With polymer housing, Station Type including providing and fitting of DO set	1	No	7,754.00	
2.33	50 sq mm (2 Ckt) 1.1 kV Grade, PVC Insulated Stranded Conductor FRLS Type	44	Meter	532.00	2
2.34	Earthing of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets, electric substation, comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards. Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg	3	Nos	10,000.00	
2.35	LT Distribution Box for 100 kVA DTR with 4 pole MCCB for incomer & SFU's for Outgoing circuits	1	Nos	39,422.00	
2.36	Galvanised stay set with 50x8mm stay clam, guy insulators(2No's), anchor plate (200x200x6mm), nuts and bolts, 2 Nos; turn-buckles, 1.8m long, 16mm dia meter solid GS stay rod & 7/3.15 mm dia GI Stranded wire complete	4	Set	5,000.00	
2.37	P/F of Wedge connectors / PG Clamps	6	Nos	434.00	
2.38	Providing, installation, testing and commissioning of outdoor type HT Trivectometer as per IEE Rule. Job includes grouting of legs in cement concrete as per site requirement. All cabling, earthing and allied accessories required to be provided by the firm. Moreover firm responsible for completing all sealing of PDD department and testing on load and no load at site	1	Nos	1,32,000.00	1
2.39	Sundry items like Aluminium Lugs , Jumpr, binding Tape	1	LS	1,105.00	
2.4	35 sq mm AB(HT) Cable (3x35+1x70 sqmm) XLPE (11 kV , 3C+Earth)	30	m	818.00	
2.41	P/F of Heat Shrinkable Outdoor cable termination Kit	2	Nos	8,500.00	
2.42	Providing & Fitting of 25 sq mm Single Core Copper Conductor (Flexible) PVC Insulated Heavy Duty Industrial Cables (Unsheathed), 1100 Volts Conforming to IS: 694- for connecting motors from panel , stabilizers in rubber conduit . Job includes providing & laying of flexible conduit for cu cable with lugs as per requirement <u>Heat Shrinkable Outdoor cable termination Kit</u>	360	M	500.00	
43	Providing, installation ,testing of power service cable for working voltage up to and including 1100 volts; 50 sq mm armored aluminum 3.5 core cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped.	120	M	668.00	
	Providing, fitting, testing and commissioning of 75KVA voltage stabilizer as per specifications below: Type of voltage controller: Manually operated copper wound, 3-phase, AC power supply multi step. Type of Regulator : Double plate type with electrolytic copper contacts. Input voltage :250-400 volts.(3 phase) Output voltage :400 ±10% volts. Frequency :50 ±3 C/S. Windings : Electrolytic grade copper of adequate section, vacuum impregnated and Oven-dried. Insulation : Fiber glass insulations to tested parameters. Cooling :Naturally, Oil cooled Temp. Rise (Max):30°C above ambient Mounting :On Uni-directional wheels. Correction rate :30 volts per step Wave form distortion :virtually nil Duty cycle :100% continuous. inclosure : MS sheet enclosure in pressed CGR Sheet powder coated with radiators. core laminates : High grade, low eddy loss, grain oriented silicon steel laminations. load : Three phase induction motor load. load Amperes (continuous)	2	Job	1,63,721.00	

ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate
<p><i>Overload in 24-hours operation: 10% above continuous Ampere rating.</i></p> <p>The voltage stabilizer shall have T-oil level indicator gauge preferably glass type tube or otherwise visible to naked eye. The top of the container to have a display panel for housing 02 numbers Digital voltmeters (0-500V) along with 4-way selector switch and set of neon indicators for incoming and outgoing phases (06 No's).</p> <p>insulating media (T. Oil) of 11 KVA grade to be provided and filled up to top level, with dielectric strength of 5 KV at 4m air gap. The T-Oil of specific grade should be provided in separate barrels and filled at site up to top level.</p> <p>The voltage Stabilizer shall be accepted with manufacturers duly stamped test certificate and shall have name plate with specifications.</p>			
<p>Design, manufacturing , providing , fitting, testing & commissioning of Star-delta Motor control gear Panel.</p> <p>The Star-delta Motor control gear Panel shall be fabricated out of 14 SWG CRCA Sheets Modular, compartmentalized, Free Standing, Floor Mounting, Front hinged doors for indoor use, removable bottom gland plates for incoming cables, dust and vermin proof (IP: 55 protection) with TP Copper Buses as per load , complete with connection, internal wiring, neon indicators for each phase ,starter buttons, name plates, painting ,vents etc. generally as per details furnished below:</p> <p>Rated Voltage of the Panel ----- 440 Volts</p> <p>Frequency ----- 50 HZ</p> <p>No of Phases ----- Three</p> <p>Enclosure Details ----- Free Standing, Floor mounted, Compartmentalized Design.</p> <p>Material ----- CRS</p> <p>Thickness of sheet steel used ----- 02mm</p> <p>Application ----- Indoor</p> <p>Cable Entry ----- Bottom</p> <p>Painting ----- Shade Siemens grey.</p> <p>a) Main Circuit Breaker incoming combined</p> <p>Type ----- On load 4 pole MCCB</p> <p>Rating : 160A</p> <p>Qty ----- 2 Nos (for Main and Standby/DG Set Supply)</p> <p>No. of poles ----- 4</p> <p>Rated operational voltage----- 415 V AC \pm 15%</p> <p>Rated frequency ----- 50 \pm 3% Hz</p> <p>Ultimate S.C Breaking cap at (415 volt A C , 50 Hz) ----- 50kA</p> <p>b) Distribution bus bar</p> <p>Type ----- Electric grade Cu with red, blue & yellow tapings of adequate section.</p> <p>Rating ----- 200 Amp</p> <p>c) Change over Switch</p> <p>Qty ----- One</p> <p>Type----- Front Operated on load 4 pole (open execution)</p> <p>Rating -----160 Amp</p> <p>d) Circuit Breaker units</p> <p>Type ----- MCCB</p> <p>Qty ----- 2 Nos</p> <p>No. of poles-----3</p> <p>Rated current -----100 Amp</p> <p>Thermal release range-</p> <p>Rated operational voltage----- 415 V \pm 15%</p> <p>Rated frequency ----- 50 \pm 3% Hz</p> <p>Ultimate S.C Breaking capacity at (415 volt A C , 50 Hz) -----50kA</p> <p>e) Starters (FASD)</p> <p>Power Specification -----3 phase, 415 \pm 15% v & 50 Hz</p> <p>Contactors :</p> <p>Line Contactor ----- AC3 50 A</p> <p>Delta Contactor --- AC3 50 A</p> <p>Star Contactor ----- AC3 32 A</p> <p>Timer ----- Star Delta Electronic</p> <p>Thermal overload relay – direct/CT operated Suitable/available range</p> <p>Coil Voltage : 220/240V</p> <p>Qty ----- 2 No's</p>	1	Job	2,60,000.00

O	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amt.
f)	<p>Aux. panel Circuit breaker—MCCB 63 Amp Qty—01 no. No. of poles—04 Rated operational Voltage—415+15% Ultimate S.C. Breaking Capacity—35 KA at (415AC, 50 Hz)</p> <p>g) Stabilization unit for both starters Qty—02 no Rating — 1 kVA single phase automatic voltage stabilizer Input :90V-300 Out Put : 220/240 (as per coil voltage of contractors) Enclosure— to be housed within the cubical panel in separated chamber with additional meter , LED fitted outer side MCB DP —10A—1nos</p> <p>h) Protection Details: Compact Motor Protection Relay including other related accessories like single phase preventer relay, timer relay , overload-under load, phase difference etc. Display ---- LED/LCD and all setting is to be done at display Compact motor protection relay Qty : 01 No Protections • Flush Mounting with display • Last trip data recording • Protections. - Thermal Overload with pre- alarm - Short Circuit - Earth fault</p>				
i)	<p>- Phase loss, Unbalance, Phase reversal - Under Current - Prolong starting, Locked Rotor. -Single phase protection- Single Phasing condition- Phase Reversal condition- Phase Unbalance condition- Modes of Operation</p> <p>j) M-Power module for mobile starters and Earth fault relay as Auxiliary Protection Earth Fault Relay ----3 phase Earth fault, ground fault module Range as per requirement MCB ---- MCB SP , 10A (10 Ka)</p> <p>j) Water level control relay for including wiring and capsules required at site keeping depth of sump 10 meters in consideration: 01 unit complete (not for production wells)</p> <p>g) Metering Details: •Incomers (Panel Mounted) (a) Multi-Function Meters LCD Display (1 No) Voltage of each phase , Current of each phase 3Ø power (Active, Apparent) , 3Ø Power factor Frequency , Energy (b) Analog voltmeter S/S operated (1 No) - Rishabh make. • (b) Outgoing (Analog voltmeter (0-500) S/S operated (1Nos) . Analog Ammeters 0-100 Amp (2Nos) for both starters Each outgoing with S/S CT operated (Rishabh make)</p> <p>h) M-power module for mobile starter for submersible motor suitable region north India.</p> <p>j) Water level controller Note: Name of Scheme ; Allotment No ; should be imprinted on the machine with capital letters</p>				
	<p>Providing, installation and testing of manual type triple spur gear chain pulley block along with monorail geared travelling trolley having following features</p> <p>Gears: The hoist shall have precision machine case Hardened alloy steel gear mounted on bearings and housed in a dust proof gear box. The lubrication of gears should be of high viscosity and temperature for longer life of gears.</p> <p>Load Chain: The load chain be made of high tensile alloy steel having wear resistance and greatest mobility. The chain should be accurately collated, tested and have adequate in-built factor of safety for safer operation.</p> <p>Load chain wheel: the load chain well should be double ball bearing supported and specially designed, perfectly machined wheel providing correct grip of load chain to makes the hoist most safe and reliable against any failure. The main specifications of C.P Block are given below:</p> <p>Make = Reputed make Capacity = 3 ton (P) >. Of load chain falls = 2 or above in Height of lift - 6 M</p>	2	Job	62,972.00	

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
2.47	<p>Lumination of Premises:</p> <p>Providing and erection of 9 Mtr long Hot Dip Galvanized octagonal pole (single Section) with bottom 150mm, top 75mm wide, thickness 3mm with 70 Microns Zinc coating having inside arrangement for providing of power connection along with following items.</p> <p>1) 3 Way Terminal Connector 20 Amp. 2) 3 No MCB 8 Amp.</p> <p>The job includes fabrication, providing and fitting of three arm GI structure at the top having 120° angle between arms and each arm having 15° inclination with respect to horizontal plane. Each arm should be of 2' length and size and shape appropriate as per requirement of the luminary.</p> <p>The job also includes providing and fitting of required length of flexible multi strand 2 mm copper wire from each terminal connector to each holding arm.</p> <p>The pole is mounted on 1:2:4 Cement concreting of size not less than 2'x2'x6" (cost of concreting not included in the job) using 04 No anchor bolts of required size not less than 7" in length. The complete job includes earthing in GI Electrode as per relevant IS Code</p>				
2.48	<p>Providing, installation, testing and commissioning of area lighting 120 Watt LED (Street Light Type) on top of octagonal pole including MCB fitted in box 10A vide Item No.36</p> <p>Having following specs:</p> <p>Input: 90-240 V 50 Hz Power Factor: >0.9 Colour Temperature: 4K - 6.5K Beam Angle: 120° - 170° Lumens: >12000 Operating Temperature: -20°C to 60°C</p> <p>The LED is pressure die cast aluminum housing with power coated finish and having Ingress Protection up to IP-68.</p> <p>The LED is properly fitted on the arm of the pole and connected to the copper wire as provided in the high mast pole</p>	6	Job	7,900.00	47,400.00
2.49	Providing and installation of Junction Box with DP 32Amp MCB to serve as amin switch for LED lighting including complete wiring min 20-30 m from panel board. The job includes making of electric connection to the circuit.	1	job	2,227.00	2,227.00
2.5	Providing, Installation and testing of 2KVA fully automatic voltage stabilizer including wiring with input voltage 70-240 V and output 220 V. The stabilizer shall be installed and connected to the electric circuit as per location provided by site in charge.	1	Job	8,000.00	8,000.00
2.51	Providing & fitting of lighting points for (machine room , operators room,) as per site requirement in 1.5 mm ² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit pipe by way, switches, socket modules , regulators ,indicators, 08/10 watt LED lamps Surface light Make .Included is cost on account of modular switch boards with the wooden frames as per site requirements	14	Job	1,680.00	23,520.00
2.52	Providing fitting of heating points in 2.5mm ² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit by way of p / f of 15 Amp switches, 6 pin socket on modular fitting as per site requirements. Heating points are to be connected from main control panel. All accessories required is to be provided by the firm	4	Job	1,470.00	5,880.00
2.53	Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job. Make Providing and fitting of 9" x 9" exhaust fan with complete wiring in 1.5 mm cu wire through conduit and 6 A modular control complete job.	2	Job	2,625.00	5,250.00
2.54	Providing, fitting of Distribution Board of reputed make 4 way S P N single door powder coated sheet steel enclosure for surface mounting fitted with bus bar, DIN channel, neutral link and incoming contact. the above DB is to be provided /fitted with double pole 40 amp MCB for Main. 32 A for heating circuit & rest 3 of 16/6 amps each for premises luminary, auxiliary circuit of reputed make. Further job includes providing / fitting 4 mm ² multistranded single core 1100 volts, pvc insulated copper conductor through pvc conduit as service line from main panel as per site requirements. Connections should be made in such a way Lighting points is to be connected via automatic transformer by way of p/f switch socket arrangement with allied fixtures & and heating points to main panel. Job includes dismantling of existing damaged conduit , wires, conduit and cleaning the surface properly	2	Job	5,775.00	11,550.00
55	<p>P/I of Earthing station of Panel boad, stabilizer, Motors, heating points, lighting points, D.G sets for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards.</p> <p>Safe earthing electrode size : 65/80 mm dia (As specified), Length : 2000 mm Back fill compound : 30 kg</p>	6	Job	10,462.00	62,772.0

6	Painting on steel structure/pipe with synthetic enamel paint of approved brand and manufacturer of required colour to give an even shade on new work(Two or more coats) including a coat of approved steel primer but excluding a coat of mordant solution. (ref 13.61)	150	sqm	150.00
i7	<p>Capacity = 62.5 Kva</p> <p>Providing, installation, Testing & commissioning of 415 ±15%V (output), 3 phase air cooled/water cooled Diesel Generator set of Specification of approved make as per latest guide line as per IS 8528 (2018) and ISO 3046 (2002) for engine and IEC/IS 60034-1 for alternator suitably assembled and fitted in a pollution free acoustic enclosure / canopy of required size as per Ministry of Environment protection rule 1986 read with latest amendments. The DG Set is required to be fitted and tested on load at site The D.G Set shall have the following technical specification.</p> <p>Besides the above works the D.G set shall be provided with 12 V, 150 AH Lead acid battery of reputed make fitted inside the D.G set Canopy along with necessary accessories and battery charger of required capacity.</p> <p>The job also includes the cost on account of HSD and skilled operator required for operation of D.G set for a period of 10 hours continuously during its testing and commissioning of D.G set at site</p>	1	Job	7,95,000.00
i8	Providing, installation ,testing of power service cable for working voltage up to and including 1100 volts; 70 sq mm armored aluminum 3.5 core cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped.	90	m	668.00
9	<p>Fabrication, providing, fitting of base frame for pumping units , covering of holes , fabrication of gantry, ladder ,DG set covering, HT/LT transformer Bed with gantry fabricated out of ISMC/ISMB/ISA/Bars/MS Pipe/MS plain-chequered Sheets. Including making of holes in concrete, including metal primer 1 coat and two coats of approved shade . The works is to be executed as per site requirement and as per dimentions of Pumping unit and as per directions of site engineer.</p> <p>Job Includes fabrication of Structural steel in built up sections , trusses and framed work, including cutting , hoisting , fixing in position.</p>	8000	kgs	127.00
5	Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centring and shuttering. All work upto plinth level 1:2:4 with stone aggregate 20 mm nominal size. For DG Set foundation /concrete beds for rising-main as per requirement	50	cum	320.00
1	Centering and shuttering including strutting, propping etc and removal of form work for foundation, footing , base	20	sqm	303.00
2	Earth work in excavation by manual means in trenches for foundations, drains , pipes , cables etc (Not exceeding 1.5 m in width) and ramming of bottoms lift 1.5 m , including getting out excavated earth and disposal of surplus excavated earth as directed (All kinds of soil) (2.81 schedule)	50	cum	291.00
3	Providing and laying of soling stone	20	cum	713.00
4	Cement plaster in find sand in 1:3 mix finished with a coat of neat cement and curing complete 18 mm thick. (s-11.8)	30	sqm	588.00
	Supply, installation, Testing & commissioning of 1000VA Full Sine wave power inverter including Providing / Installation of 12V, 180AH Tubular inverter Battery with trolley and cover. with 2-core 4 mm ² Cu (25 m) wiring as per site requirement along with other accessories like SS-Combine (02 No's), 3-pin plugs etc of reputed make for proper fitment and installation of the item.	1	job	32,000.00
	<p>Providing, laying & fixing of shock proof rubber mats with adhesive/bonding material on the floor of the pump house, covering area around electro-mechanical machinery for safeguarding the life & limb of the workmen due to possible leakage of current & short circuit. The floor surface shall be made good & shall be free from dust, grease, foreign material & moisture free. The mats shall be as per IS 15652:2006 & shall have the following specifications:-</p> <p>Composition: Rubber (synthetic mats for electrical purpose)</p> <p>Thickness: - 2.5mm Size: - 1M wide.</p> <p>The rubber mats shall be accepted with manufacturers test certificate.</p>	10	M	1,205.00

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
	TOOL KIT For Maintenance: The Tool Kit for maintenance shall comprise of the following and all the items as mentioned below shall be of: Providing of tool kit consists of following items i.Double ended Spanner (Chrome plated) 02 sets complete ii.Double ended Ring spanners chrome plated 02 sets complete iii.Allen key set black finish 02 sets complete iv.Combination Pliers insulated with thick C.A sleeve; size in mm 165, 210, 255 each – 02 No. v.Long nose plier insulated with thick C.A sleeve; size in mm 165, 205 each – 02 No. vi.Side cutting plier insulated with thick C.A sleeve; size in mm 165, 205 make – 02 No. vii.Insulated screw Drivers Blade length in mm /Blade dia. in mm /Tip dimensions in mm / Quantity 50 3 1.6 x 0.4 02 75 3 1.6 x 0.4 02 100 3 3 x 0.4 02 125 3.5 3.5 x 0.5 02 150 3.5 3.5 x 0.5 02 200 4 4 x 0.6 02 300 5 5 x 0.8 02				
2.67	viii.Hammer with handle weight – 110 mg, 340 gm , 600 gm –each – 1No.. ix.Heavy duty pipe Wrench length in mm - 200, 300, 600 each – 01 No. x.Electric Multimeter =1No xi.Digital multimeter – 1No. xii.Digital Clamp tester capable to measure up to 400A - 1 No. xiii.Hack saw frame with hack saw blade – 01 no. xiv.S-16 MXL S-16 H X L Socket Set (19 sockets + 6 Accessories) – 01 No.	1	Job	28,840.00	28,840.00
2.68	a) Providing of good quality convenience and utility items bedding for night stay/Shift consisting of:- i) Mattress with warm cover size 6'x3' (6Kg)- 02 No's ii) Quilt with warm cover size 5'x8' (6Kg)- 02 No's iii) Pillows with covers - 02 No's iv) Single bed warm blankets with one sided Fur- 02 No's The filling material for mattress, quilt and pillow shall be of good quality cotton b)The job also includes providing of pressure cooker 5ltr 02 No's, Steel patella (utensil) 5ltrs 02 No's, cooking heater 01 No., room heater 01 No., steel buckets 10 litre capacity 01 No., Plastic bucket 10 litre capacity with Mug 02 No's each, steel glasses 06 No's, steel Plates with large spoons and bowls 03 No's each, Cup and Saucer set (01 No. Set) and, 5kg Gas cylinder with burner/ stove. The job also includes providing of thermo-cool 15'x12' along with excel matting of 15'x12' size. The job also includes providing of unbreakable Plastic Chair table set consisting of chairs 04 No's, extra heavy Table 01 No. The job also includes providing of good quality safety Door locks (03 No's) of Godrej, Link locks,	1	Job	39,619.00	39,619.00
2.69	Fabrication of 6' x 6' angle iron bed by way of providing and fitting of Structural steel in built up sections , trusses and framed work, including cutting , hoisting , fixing in position and applying a priming coat of approved steel primer all complete welded	94.75	Kg	114.00	10,691.00
2.7	Providing and fitting of 19 mm thick multilayered ply sheet of size 6 x 3 feet , 2 no's including cutting , fixing all complete including painting of the play sheet by one coat of primer and two coats of enamel paint	36	sft	150.00	5,400.00
2.71	Providing of solar/electrical lantern chargeable on both solar & electrical 220v supply.	1	Job	1,911.00	1,911.00
2.72	Providing of bamboo ladders 18 feet long along with 15 feet long Link rods and HT Glove pair (01 No each)	1	Job	7,350.00	7,350.00
2.73	Providing of 1 KW heat convector for operators for winter season	1	Job	1,205.00	1,205.00
2.74	Providing and fitting of 01 No. LED (scroll type) sign board fabricated out of stainless steel and metal showing the names of water supply scheme and the Department. Size: 6'x1'6" = 9 sft	9	Sft	3,998.00	35,982.00
2.75	Providing and fitting of 01 No. angle iron/sheet metal board duly painted showing various specifications of the mechanical and electrical equipments installed at site. The legs are to be grouted in cement concrete.	24	sft	195.00	4,680.00
2.76	Providing corrugated G.S Sheet roofing including vertical/ curved surface fixed with polymer coated J or L Hooks, bolts and nuts 8 mm dia for DG Set and overhead gantry . diameter with bitumen and G.I limpet washers filled with white lead, including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete (upto any pitch in horizontal /vertical or curved surface) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required. 1.25 mm thick with zinc coating not less than 350 gram/m ²	60	Sqm	1,799.00	107,940.00
3	Stage 2nd B				

NO	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
.01	<p>Supply, installation, testing and commissioning of Horizontal pumping unit of approved make as per IS 1520 with following specification at Stage 2nd:</p> <p>Discharge of the Pump = 5000 GPH</p> <p>Dynamic Head = 33 M , with head range 25-50</p> <p>Speed = 1450 RPM</p> <p>Working Voltage = 415 ± 15 V, 03 phase</p> <p>Pump:-</p> <p>1.Type :- Horizontal split casing /Multi stage</p> <p>Material of construction</p> <p>1.Impeller:- Stainless steel</p> <p>2.Shaft:- SS410</p> <p>3.Pump casing:- Cast Iron</p> <p>The pump shall conform to IS-1520 code</p> <p>MOTOR :-</p> <p>A) Type :- Horizontal squirrel cage Induction Type</p> <p>B) No of phases: 415 ± 15%v, 03 phase,50 Hz, AC supply</p> <p>C) Winding:-Copper wound squirrel cage</p> <p>D) Type of enclosure:-SPDP/TEFC</p> <p>E) Method of cooling:- Air cooled with fan mounted</p> <p>F)Method of Starting: star delta</p> <p>G) Rating = Corresponding to the head and discharge not less than 12.5 HP</p>	2	job	1,45,000.00	2,90,000.00
.02	<p>The pump-motor should be mounted on a common base frame fabricated out of M.S channel of suitable size and duly fitted with T- type foundation bolts /nuts and washers to make the pumping unit vibration free. The pump and motor should be coupled through suitable coupling. The coupling faces checked for both angular and axial alignment with the help of tapered gauges/feeler gauges or dial indicator. Job includes testing and commissioning of pumping unit on full load at site.</p> <p>Note: Test certificate having the Serial No. of the Pumping Unit along with the performance curve in duplicate from the Manufacturer must be produced on delivery of the item and pumping unit is to be approved from the concerned Sub Divisional office before procuring.</p>				
.02	<p>Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class-C confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make.</p> <p>Size : 80</p> <p>Class: C (Heavy)</p> <p>Flanges (as per IS 6392/1997 Table:17)</p> <p>Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint.</p> <p>Welding Electrode</p> <p>DC Arc Welding using welding electrode having diameter not less than 4mm.</p> <p>Nuts and Bolts</p> <p>Nuts and Bolts (conforming to IS:1363 Part 1st)</p> <p>Rubber Insertion Gaskets</p> <p>Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	20	Meters	1,485.00	29,700.00
.03	<p>Cutting of hot dip galvanized 80mm dia G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p>	20	Job	1,340.00	26,800.00
.04	<p>Fabrication, Providing and fitting of 80mm dia Y- junction having 1m length (Approx.) of each arm to be fabricated out of hot dip galvanized G.I, C-Class pipe. The job also includes Providing and welding of M.S flanges to the ends of each arm. The Thickness of flange shall conform to IS 6392 Part 1st Table-17 fastened with weld joints on three ends. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	1	Job	3,100.00	3,100.00

Dear Sir

Government of Jammu & Kashmir
Shakti (PHE) Mechanical Division (North) Sopore
Email ID: phe.mdns@gmail.com

NS/DB/4021-28
223.

	ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
3.05	<p>Providing and fitting of DN80 Ductile Iron double flanged PN 1.6/16, non-rising spindle soft seated glandless gate/ sluice valves as per IS14846 for regulating the water supply outside the pumping units .</p> <p>The body and bonnet of the valve shall be of ductile iron, wedge with fully vulcanized EPDM rubber(Approved for drinking water) and NBR seal. The Gate/Sluice valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions It shall have electrostatic epoxy coating(approved for drinking water) both inside and outside of the valve. The valve shall be supplied along with hand wheel.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F nuts, bolts and gasket required for the job.</p>	3	No	15,497.00	46,491.00
3.06	<p>Providing and fitting of 80mm dia Ductile Iron double flanged PN:1.6/16, Slanted seat swing check valve(NRV) as per IS 5312. The body shall be of ductile cast iron with fully encapsulated vulcanized EPDM rubber(Approved for drinking water). The valve shall be compatible for buried applications and shall be safe to install in both horizontal and vertical positions. It shall have electrostatic epoxy coating (approved for drinking water) both inside and outside of the valve.</p> <p>Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work.</p> <p>The job includes providing and fitting of 02 nos. M.S flanges (Table flanges) perfectly adaptable to the inbuilt flanges of the valve which shall be fitted with Rising main of the pumping unit at appropriate spots as per site requirement. The job includes the cost on account of P/F nuts, bolts and gasket required for the job.</p>	2	No	17,489.00	34,978.00
3.07	<p>Fabrication, providing and fitting of 80mm dia 90-120 degree bend/elbow to be fabricated out of Class B GI pipe, 1 m length and flanged on both ends and to make it leak proof. The flanges shall be M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) and welded on both sides. The job includes nuts, bolts, gaskets etc. as per site requirement.</p>	7	job	2,797.00	19,579.00
3.08	<p>Fabrication, providing and fitting of washout Tee 80mm with arm length 1.2 feet each (Approx.). The Tee shall be fabricated out of G.I C-class pipe with M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) fastened with weld joints on three ends.</p>	1	Job	3,100.00	3,100.00
3.09	Providing and fitting of 65 mm dia flanged flanged bends/elbow to delivery mainfold and washout, including nuts and bolts and rubber gaskets as per requirement.	Deleted			
3.1	Providing and fitting of flanged Washout Tee 65 mm , including nuts,bolts and gasket as per site requirement.	Deleted			
3.11	<p>Providing/supplying and fitting of G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class-C confirming to IS 1239. The job includes providing and fitting of M.S Flanges conforming to BIS 6392/1997 Table 17 (Rating PN16) for Y junction and washout. The flanges shall be double welded both from inside and outside of the pipe using standard electrode of reputed make.</p> <p>Size : 65mm</p> <p>Class: C (Heavy)</p> <p>Flanges (as per IS 6392/1997 Table:17)</p> <p>Thickness shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using reputed make electrodes to form strong welding joint.</p> <p>Welding Electrode</p> <p>DC Arc Welding using welding electrode having diameter not less than 4mm.</p> <p>Nuts and Bolts</p> <p>Nuts and Bolts (conforming to IS:1363 Part 1st)</p> <p>Rubber Insertion Gaskets</p> <p>Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints.</p>	12.2	Meters	1,214.00	14,810.80
.12	<p>Cutting of hot dip galvanized 65mm dia G.I, C-Class pipe across the section by dint of pipe cutter/ gas cutter. The job also includes Providing and welding of M.S flanges to the two ends of pipe. The Thickness of flange shall conform to IS 6392 Part 1st Table-17. The flange welding shall be carried out in double layers using electrodes to form strong welding joint by dint of DC arc welding. The job further includes Providing and Fitting of nuts and bolts (conforming to IS:1363 Part 1st) and Rubber Insertion Gaskets (conforming to IS: 638/79) to be used between flanged joints</p>	6	Job	1,234.00	7,404.00
13	<p>Providing & Fitting of 25 sq mm Single Core Copper Conductor (Flexible) PVC Insulated Heavy Duty Industrial Cables (Unsheathed), 1100 Volts Conforming to IS: 694- for connecting motors from panel , stabilizers in rubber conduit . Job Includes providing & laying of flexible conduit for cu cable with lugs as per requirement</p> <p>Heat Shrinkable Outdoor cable termination Kit</p>	360	M	394.00	1,41,840.C

ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
3.14 Providing, installation ,testing of power service cable for working voltage up to and including 1100 volts; 50 sq mm armored aluminum 3.5 core cable as service line from output terminals of HT/LT transformer to cubical panel. Cost includes laying of cable in trenches in Pvc conduit where ever it is to be laid underground as per site requirement included is termination of ends with suitable Aluminum tube terminals dully crimped & taped.	120	M	497.00	59,640.00
Providing, fitting, testing and commissioning of 75 KVA voltage stabilizer as per specifications below: Type of voltage controller: Manually operated copper wound, 3-phase, AC power supply multi step. Type of Regulator : Double plate type with electrolytic copper contacts. Input voltage :250-400 volts.(3 phase) Output voltage :400 ±10% volts. Frequency :50 ±3 C/S. Windings : Electrolytic grade copper of adequate section, vacuum impregnated and Oven-dried. Insulation : Fiber glass insulations to tested parameters. Cooling :Naturally, Oil cooled Temp. Rise (Max):30°C above ambient Mounting :On Uni-directional wheels. Correction rate :30 volts per step Wave form distortion :virtually nil Duty cycle :100% continuous. Enclosure : MS sheet enclosure in pressed CGR Sheet powder coated with radiators. Core laminates : High grade, low eddy loss, grain oriented silicon steel laminations. Load : Three phase induction motor load. Load Amperes (continuous) Overload in 24-hours operation: 10% above continuous Ampere rating. The voltage stabilizer shall have T-oil level indicator gauge preferably glass type	2	Job	1,63,721.00	3,27,442.0
tube or otherwise visible to naked eye. The top of the container to have a display panel for housing 02 numbers Digital voltmeters (0-500V) along with 4-way selector switch and set of neon indicators for incoming and outgoing phases (06 No's). Insulating media (T. Oil) of 11 KVA grade to be provided and filled up to top level, with dielectric strength of 5 KV at 4m air gap. The T-Oil of specific grade should be provided in separate barrels and filled at site up to top level. The voltage Stabilizer shall be accepted with manufacturers dully stamped test certificate and shall have name plate with specifications.				
Design, manufacturing , providing , fitting, testing & commissioning of Star-delta Motor control gear Panel. The Star-delta Motor control gear Panel shall be fabricated out of 14 SWG CRCA Sheets Modular, compartmentalized, Free Standing, Floor Mounting, Front hinged doors for indoor use, removable bottom gland plates for incoming cables, dust and vermin proof (IP: 55 protection) with TP Copper Buses as per load , complete with connection, internal wiring, neon indicators for each phase ,starter buttons, name plates, painting ,vents etc. generally as per details furnished below: Rated Voltage of the Panel —— 440 Volts Frequency —— 50 HZ No of Phases —— Three Enclosure Details —— Free Standing, Floor mounted, Compartmentalized Design. Material —— CRS Thickness of sheet steel used ----- 02mm Application —— Indoor Cable Entry —— Bottom Painting —— Shade Siemens grey. a) Main Circuit Breaker incoming combined Type —— On load 4 pole MCCB Rating :160A Qty ----- 2 Nos (for Main and Standby/DG Set Supply) No. of poles ----- 4 Rated operational voltage----- 415 V AC ± 15% Rated frequency ----- 50 ± 3% Hz Ultimate S.C Breaking cap at (415 volt A C , 50 Hz) ----- 50kA	1	Job	2,60,000.00	2,60,00

John Laramore

ITEM OF WORK	TOTAL QUANTITY	UNIT	Rate	Amount
<ul style="list-style-type: none"> - Phase loss, Unbalance, Phase reversal - Under Current - Prolong starting, Locked Rotor. -Single phase protection- Single Phasing condition- Phase Reversal condition- Phase Unbalance condition- <p>Modes of Operation</p> <ul style="list-style-type: none"> i) M-Power module for mobile starters and Earth fault relay as Auxiliary Protection Earth Fault Relay ---- 3 phase Earth fault, ground fault module Range as per requirement MCB ---- MCB SP , 10A (10 Ka) j) Water level control relay for including wiring and capsules required at site keeping depth of sump 10 meters in consideration: 01 unit complete (not for production wells) <p>g) Metering Details:</p> <ul style="list-style-type: none"> •Incomers (Panel Mounted) <ul style="list-style-type: none"> (a) Multi-Function Meters LCD Display (1 No) Voltage of each phase , Current of each phase 3ø power (Active, Apparent) , 3ø Power factor Frequency , Energy (b) Analog voltmeter S/S operated (1 No) - Rishabh make. • (b) Outgoing <ul style="list-style-type: none"> (Analog voltmeter (0-500) S/S operated (1Nos) . Analog Ammeters 0-100 Amp (2Nos) for both starters Each outgoing with S/S CT operated (Rishabh make) <p>h)M-power module for mobile starter for submersible motor suitable region north India.</p> <p>j) Water level controller</p> <p>Note: Name of Scheme ; Allotment No ; should be imprinted on the machine with capital letters</p>				
<p>Providing, installation and testing of Heavy Duty manual type triple spur gear chain pulley block along with monorail geared travelling trolley having following features</p> <p>Gears:- The hoist shall have precision machine case Hardened alloy steel gear mounted on bearings and housed in a dust proof gear box. The lubrication of gears should be of high viscosity and temperature for longer life of gears.</p> <p>Load Chain:- The load chain be made of high tensile alloy steel having wear resistance and greatest mobility. The chain should be accurately collared, tested and have adequate in built factor of safety for safer operation.</p> <p>Load chain wheel:- the load chain well should be double ball bearing supported and Specially designed, perfectly machined wheel providing correct grip of load chain to makes the hoist most safe and reliable against any failure. The main specifications of C.P Block are given below :</p> <ul style="list-style-type: none"> i.Make = Reputed make ii.Capacity = 3 ton (P) iii.No. Of load chain falls = 2 or above iv.Min Height of lift = 6 M <p>P/I of Earthing station of Panel board, stabilizer, Motors, heating points, lighting points, D.G sets for electric substation, LT panel and stabilizer comprising of company fabricated earthing electrode as per IS: 3043. The job includes Auguring of bore of required dia/depth for installation of electrode along with backfill compound mixed with soil and all other items required thereof for achieving the best result. The job includes connecting of electric gadgets through GI strip as per relevant standards.</p> <p>safe earthing electrode size : 65/80 mm dia (As specified),</p> <p>length : 2000 mm</p> <p>back fill compound : 30 kg</p>	2	Job	62,972.00	1,25,944.
Total:				1,33,91,264

Executive Engineer
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