

No.: PHE/MDNS/DB/ 2968-75
Dated: 25-07-2023

M/s Mawadat Electricals
Patawaw Budgam
GST No: 01FLEPM9317Q1ZM
Cell No: 7006792132

Adv. Cost:	Rs 30.659 Lacs
Allotted Cost:	Rs 29.358 Lacs

Subject: Electrical and mechanical works to be carried at WSS Tirch Handwara under JJM.

- Reference: 1. This office e-NIT No.: e-NIT No. 08 of 2023-24, S. No. 03 issued under endorsement No.: PHE/MDNS/DB/1056-61, dated: 24-05-2023 and this office corrigendum No. PHE/MDNS/DB/1204-06, Dated 30-05-2023.
2. Authorization awarded by District Development Commissioner, Kupwara through Minutes of Meeting issued vide No. DDCK/Plg/JJM/2744-67, 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 Tirch Handwara 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.

Encl. leaves


Executive Engineer
Jal Shakti PHE Mechanical Division (North)
Sopore

Copy to the:

1. Chief Engineer Jal Shakti (PHE) Department Kashmir, Srinagar for favour of information.
2. District Development Commissioner Kupwara for favour of information.
3. Superintending Engineer Jal Shakti (PHE) Mechanical Circle (North) Srinagar, for favour of information.
4. Superintending Engineer Jal Shakti (PHE) Hydraulic Circle Cap. HQ at Had. for favour of information.
5. Executive Engineer Jal Shakti (PHE) Division Had., for favour of information.
6. Provisional Head, TPIA JJM Kashmir, (WAPCOS Limited) Corporate Office 76-C Institutional area Sector-18 Gurugram-122015 (Haryana) for favour of information.
7. Assistant Executive Engineer Jal Shakti (PHE) Mechanical Sub-Division Had. for information & necessary action.
8. File concerned.

ANNEXURE "A" to this office Allotment Order No: PHE/MDNS/DB/ _____, dated: _____

Name of work: Electrical and mechanical works to be carried at WSS Tirch Handwara under JJM.

General Terms and Conditions

1. **Completion period:** The work shall have to be completed by you strictly in accordance with the approved specification/departmental requirements under the close supervision of the concerned Sub-Division within a period of **90 days**, from the date of issuance of allotment order, failing which penalty as per the relevant clause below shall be imposed.
2. **Third Party Monitoring:** The allotted works shall be subject to check by the third-party monitoring agency appointed by the Department in Kashmir. The agency shall check the quality of works executed by the agencies, quality of materials used for construction and quality of machinery installed in each scheme. The TPIAs role shall be that of an assistant to the Employer's Representative for the purpose of monitoring and evaluation of the performance of the Contract during the Contract Period
3. **Inspection and Testing Before Dispatch:** Before dispatch from the source of site of the OEM, the electro-mechanical equipment shall be inspected by a third-party inspection agency i.e. M/S CEIL/Rites etc. New Delhi. The charges for the inspection shall be borne by the Department. However, the Firm (Bidder) shall make payment to the Inspection Agency (in case of 3rd Party Inspection) which shall subsequently be reimbursed by the Department. The successful tenderer shall intimate the Department and the Inspecting Agency/Authority in advance regarding the readiness of the equipment for dispatch and shall furnish test certificates.

It shall be responsibility of the suppliers to tie up with the third party nominated for inspection and get necessary inspection of the material done within the delivery period. Any delay on the part of the third party shall not be entertained as an excuse for timely supply of material/execution of work.

The product/ material at site shall be inspected by Assistant Executive Engineer concerned or any other official(s) of the department designated by the concerned Executive Engineer. Any modifications to the works as specified in the specifications considered to be necessary for smooth and trouble-free operation of the equipment by the Department or the third party inspection agency, the firm shall have to execute the same without any extra cost, to the best satisfaction of the department.

The firm shall as such keep the department informed about arrival of material at site. It shall be obligatory on the part of the firm to rectify the defects pointed out by the AEE, if any, and also to incorporate any modification within the scope of work which may be deemed necessary for better performance/finish and workmanship. The firm upon demand by the department or its representative shall rectify or replace defective unsuitable equipment.

The Department reserves the right to nominate its representative for inspection of the goods at the source of site of the supplier/manufacturers. As such the department at all reasonable times shall have access to the works and to the site and to all workshops and places where work is being executed and where material / manufactured articles and machinery are being obtained.

In case of Sub-Station and power/feeder lines, the firm shall have to obtain a clearance certificate from the concerned inspection Division of the Power Development Department.

The list of electromechanical equipment in which third party inspection from CEIL/RITES is to carried on

- 1) DG Set of >40KVA capacities
- 2) Pumping Unit > 40 HP (Horizontal and Vertical)
- 3) Valves >300 mm
- 4) Pipe of all size
- 5) Iron Removal Plant

For items other than those manufacturers test certificate shall have to be provided.

At the time of installation, the firm will provide Third party inspection of machinery at source of site of respective OEM's which shall be undertaken only for equipment which are not available off the shelf. For rest of the equipment, test certificate, warranty documents along with necessary performance curve and data sheet duly signed by the representative of the OEM/authorized dealer and countersigned by the concerned firm shall be furnished by the firm.

4. **Transit Insurance:** The electro-mechanical equipment required for water supply schemes shall be insured through a Nationalized Insurance Company up to its final destination, against all transit risks. The firm should, therefore, take appropriate insurance policy in advance for covering the transit of the goods, charges for which shall be

borne by the tenderer and shall be included in his quoted rates. The department shall pay no extra charges on this account.

5. **Mode of Dispatch:** The firm/contractor shall be responsible to adhere to transportation rules and regulations and the department shall not be responsible for any accident.
6. **Performance Security:** The successful bidder on award of the contract shall furnish a performance security equivalent to 03% of the value of the contract within one week of the issuance of allotment order in the shape of CDR/FDR/Bank Guarantee, valid for a period of three months beyond the completion period of the contract:
 - a. Safeguard against material and manufacturing defects, bad workmanship, improper design etc.
 - b. Successful execution of the contract and fulfillment of the conditions of the agreement.
 - c. Satisfactory performance of equipment in terms of the agreement.
7. **Terms of Payment for Electro-Mechanical Component:**
 - a. 70% (Seventy Percent) payment shall be released on receipt of material/equipment on Pro-Rata as per the allotment order and verification by the concerned Assistant Executive Engineer, thereof.
 - b. 20% (Twenty Percent) payment shall be released after installation and testing of the equipment.
 - c. Balance 10% (Ten Percent) shall be released after successful commissioning of the system and trial run of 01 month.

However, 10% on account of DLP shall be deducted from each running bill which shall be released after completion of DLP and satisfactory performance of the equipment for the period of 12 months.
8. **Warranty:** The firm shall be bound for satisfactory performance of equipment/ works for 12 months after the successful completion of trial run of 01 Month or whichever is later. If during warranty period any malfunctioning/ defects arise, the firm /joint venture shall have to rectify the same within a period of 03 days of receipt of intimation. In case of any failure on the part of the firm/joint venture to remove the defect, the Department may get the defects removed/ repaired by any other agency and cost thereof shall be recovered from the firm / joint venture and shall be recommended for further punitive action as governed under the relevant clause of the contract including blacklisting.
9. **Trial Run:** After Completion of the work the firm will have to make a trial run of the scheme for a period of 01 Month during which the bidder will have to operate through staff provided by the department and maintain the executed work to the full satisfaction of the Department. During this period, he will provide training to the staff and will also carry out maintenance work at his cost and risk, if required.
10. **Defect Liability Period (DLP):** The defect Liability period shall be for a period of 12 Months which shall commence after the successful completion of Trial run, during the defects Liability period (DLP) as it is required for its successful running and as per Standard Engineering Practices, to the full satisfaction of the department. The bidder shall be responsible to make good & remedy at his own expense any defect in works which is noticed during the DLP. In case any defect remains unattended by the firm at the completion of DLP, the department may extend the DLP for such time as deemed fit for getting the defect rectified subject to a maximum ceiling of 6 Months.
11. **Liquidated damages (LD):** In the event of firm's/joint venture failing, declining, neglecting or delaying the supplies / works or in the event of any damage occurring or being caused by the firm/ joint venture or in the event of any default or failure by the firm in complying with any of the terms and conditions of the contract, the Department shall with or without prejudice to any other remedies available to it under any law for the time being enforce in the UT:
 - a) Terminate the contract after 15 days' notice
and/or
 - b) Recover the amount of loss caused by damage, failure or default, as may be determined by the department.
and/or
 - c) Recover the extra cost, if any, involved in allotting contract to other party.
and/or
 - d) Impose Liquidated damages on account of delay beyond the schedule completion period to the tune of 0.5% of the delayed portion of contract every week but not exceeding 10% value of the contract.

and/or

e) Forfeit the performance security and blacklist the firm.

12. **Force Majeure:** Any failure or commission to carry out the provision of the contract shall not give rise to any claim by the department or bidder one against the other if such failure of commission arises from the 'ACT OF GOD' which shall include all natural calamities such as fires, floods, earthquake, hurricane, strikes, riots, embargoes or from any political or other reasons beyond the control of the parties including war, or a state of insurgency.
13. **Arbitration:** Any Dispute or difference arising between the department and bidder shall be dealt in accordance with the Arbitration and Conciliation Act 1996 and rules thereof. Any dispute arising between the firm and the department shall be settled within the jurisdiction of UT of Jammu and Kashmir.
14. **Penalty clause:** The firm shall ensure that the material/workmanship should conform to NIT specifications and relevant technical codes. In case the firm fails to supply the equipment or does not execute the work in accordance with the specifications or backs out from the contract or there is delay in completion of work beyond the stipulated time, the Department shall terminate the contract and recover the extra cost involved. In addition to this the department shall forfeit the earnest money and performance bank guarantee and may impose penalty up to 10% of the contract value at the discretion of Chief Engineer Jal Shakti (PHE) Dept Kashmir. The firm shall also be liable for all civil and criminal prosecutions under law if the specifications of the supplied equipment/ material used are found in contravention to the specification of the e-NIT.
15. **Safety of Govt. Infrastructures:** The firm should ensure the safety of the water supply lines, sewer lines, telephone cables, power cables, storm water drains etc., pipe laying alignment and, if any damage occurs during execution, it should be attended immediately at the cost of the bidder. Failing to attend immediately, the same will be got done by the Department at the risk and cost of the bidder.
16. **Firm's risk and insurance:** All risks of loss or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract are the responsibility of the firm.
17. **Subletting of Work:** The bidder shall not sublet the whole or part of the work. The bidder shall not assign the work or any part thereof or any benefit or any interest thereon or any claim arising of the contract, without prior written consent of the allotting authority.
18. **Work under Bidder's Charge:** From the commencement of the work to the completion thereof the same shall be under the bidder's charge. The bidder shall be held responsible for and make good any loss or injuries by fire or other causes / theft and shall hold the Government harmless for any claims for injuries to persons or damage to property happening from any neglect, default, want of proper care and misconduct on the part of the bidder, or any of his employees, during the execution of work. The bidder shall be responsible for the compensation if any, to labour under the existing labour laws of the country.
19. **Firm to Maintain Site Office:** The bidder shall provide and maintain, at his own cost a suitable site office at the site of Work to which the Department may send communications/ instructions.
20. **Claims to be put in writing:** The Department shall not be liable to the firm for any matter or thing arising out of or in connection with the contract or the execution, completion and maintenance of the work unless the bidder puts a claim in writing in respect thereof before getting the certificate of final completion.
21. **Setting out of works:** The bidder shall be responsible for the time and proper setting out of all the works and for the correctness of the positions, levels, dimensions and alignment of all parts of the works and for the provision of all necessary instruments, appliances, electricity and labour in connection therewith.
22. **Labour:** The bidder shall make his own arrangements for the engagement of all types of the labour, required for the execution of the job. No workman below the age of 18 years shall be employed on the works. Also, the bidder shall comply with the provisions of all labour laws and the rules framed there under.
23. **Storage at Site:** The bidder shall at his own cost make arrangements for proper storage especially towards Rain and Snow damages of the equipment/ materials at sites till its erection/completion. For the purpose the bidder shall, with the approval of Engineer in charge construct temporary storage accommodation for equipment/ material at site for which land shall be provided by the department near the site of work.
24. **Bidder Death, Becoming Insolvent Or Imprisoned:** In the event of the death or insanity or insolvency or imprisonment of the bidder or where the bidder being a partnership or firm becomes dissolved or being corporation goes into liquidation, voluntary or otherwise, the contract may, in the option of the Engineer-in-charge, be terminated by notice in writing posted at the site of the works.

25. **Watch and Ward of Works:** The bidder shall in connection with the work provide and maintain at his own cost all lights, guards, fencing and watch and ward, when and wherever necessary or required by the Department for the protection of the work or safety and convenience of the Public etc.
26. **Training of Departmental Staff:** The bidder shall arrange, at his own cost and risk, to depute at least one competent Technical Supervisor, to train up to 04 Departmental representatives in the operation and maintenance of the equipment at site. This training shall be for duration of at least (3) three consecutive months and shall commence from the date of successful commissioning of the equipment or as may be mutually agreed upon.

Two groups of Departmental Engineers shall also be deputed to bidders/manufacturers works for short duration to obtain training free of cost in the operation and maintenance of the equipment, if required by the department.

27. **Final Acceptance:** The equipment/work shall be accepted by the Department only after the system has been tested and has performed satisfactorily in all respects, at site, in accordance with the provisions of the contract.
28. **Drawing and Quality Assurance Plans:** The following details shall be necessarily furnished within Two (02) weeks of the date of placement of this order which shall be approved by the Department within two (02) weeks from the receipt by the consignee.

- 1) Sectional Drawing of Pumps
- 2) General Arrangement Drawings (G.A.D.) /Layout of the equipment fully dimensioned for pumps, motors, starters, shunt capacitors, panels, delivery manifold, cables etc.
- 3) Detailed circuit diagrams of LT Panels, starters, shunt capacitors etc.
- 4) Third Party Inspection Reports and OEM's test certificates to the Department for their approval.

No manufacturing activity shall be started by the firm without approval of the drawings for each ordered equipment/work by the competent authority.

Additional time consumed due to observations/summary rejection of QAP/GAD shall be considered in the delivery period of the contract and the bidder shall be wholly and solely held responsible for the delay, thus caused.

Although no make has been specified in respect of any equipment, the bidder shall furnish QAP/GAD of only those makes which are standard with proven record of satisfactory performance in this Department or any other Government Department in the UT or outside. Thus, the bidder shall have to mandatorily furnish a list of makes and technical data for the tendered equipment which the firm intends to supply, in the cover 1st of the bid so that the Department is fully satisfied about the quality of the equipment.

29. **Operation and Maintenance Manuals:** The bidder shall supply, free of cost to the Department, six complete sets of operation and maintenance manuals for the Pumping Equipment and Electrical Equipment. The delivery of these manuals shall be made by the bidder to the Engineer along with the supply of equipment. The manuals shall be appropriately bound in book form and shall contain all necessary instructions regarding operation, preventive maintenance, repairs, trouble shooting, overhauling etc.


The manuals shall also include detailed drawings of the equipment, circuit diagrams and station layout with all items properly identified. The manuals shall also include the spare parts catalogues with part numbers clearly given, which must tally with index numbers in the drawings.

30. **Cleaning Up:** On completion of the works the bidder shall clear away, load into trucks or any other transport and remove from the site all constructional plant, surplus materials, dismantled or otherwise, earth and rubbish and temporary works of every kind and leave the whole of the site and works clean and in a workmanship condition, to the satisfaction of the Department.

31. **Power and Water Supply:** The bidder/firm shall make his own arrangement, at his own cost, for all lines, individual power points, etc. to the machinery and plant required by him for the erection, testing and commissioning of the equipment ordered on him. The bidder shall pay for all electrical energy consumed by him for this purpose at the prevalent electricity tariff in J&K State. Such charges shall be paid by the bidder/firm direct to the Electricity Corporation and the bidder's final bill shall be settled only after he gets a no outstanding certificate from the Electricity Corporation.

The Government shall not be responsible, and the bidder shall have no claim whatsoever for any interruption in power supply or voltage fluctuation or total cut off at the site. The bidder/firm must provide an alternative source of power, at his own cost, at the site for completion of the work. The bidder shall make his own arrangements for water to be used for the execution/Hydro-testing/ water tightness Test/ Curing, labour colony, Site Office etc.

32. Any incidental works required thereof for fitment of the pipes / allied equipment/works etc. shall be deemed within the scope of work.
33. The drawings for gantry and other ancillary works shall be provided to the executing agency by the I/C engineer.
34. **Agreement:** As soon as letter of award is communicated to the firm, the contract shall be complete and binding upon them, the bidder/firm shall also be required to execute an agreement with the competent authority within **seven days** from the date of issue of letter of award. Failure to execute such an agreement in time shall not however, prevent this contract from being enforced against the firm and the date of delivery of the material/completion of works shall be reckoned from the date of issue of the letter of award in favour of successful firm.
35. All other terms and conditions as laid down in Form No. 25 of P.W.D. shall remain in force and binding on successful tenderer.
36. Any rules/terms and conditions, if not stipulated in the bidding document, shall be strictly dealt in accordance with the relevant rules/guidelines stipulated in the General Finance Rules (GFR 2017) and Manual for procurement of Works 2019 Government of India.
37. **Consignee/Paying Authority:** The consignee/paying authority in respect of electro-mechanical component and allied civil works shall be the concerned **Executive Engineer, Jal Shakti (PHE) Mechanical Division (North) Sopore.**


Executive Engineer
Jal Shakti PHE Mechanical Division (North)
Sopore

Annexure "B" Schedule of cost and quantities

to this office Allotment Order No: PHE/MDNS/DB/2968-25 dated: 25/07/2023

Name of work: **Electrical and mechanical works to be carried at WSS Tirch Handwara under JJM**

S. No.	Item Description	Qty	Units	Rate	Amount
1.	<p>Supply, Installation, Testing & Commissioning of submersible pump as per IS: 8034 PUMP: - Discharge: 3500 GPH Head: 100 Mtrs Type of pump: I Submersible Pump (Vertical) Quality of Water to be handled: clear water. Efficiency- Not less than 50% Speed ; 2900 rpm MATERIAL OF CONSTRUCTION: As per IS: 14220 :1994 suitable for above parameter MOTOR: - Rating: Suitable for above parameter Method of starting: Star – Delta/DOL (as specified). Frequency: 50Hz ± 3% Voltage: 415 ±10% Speed 2900 rpm (syn) Class of insulation: Suitable for above rating. The motor shall be made of corrosion resisting materials to resist corrosion under normal conditions and the motor shall have a name plate giving complete specifications The job includes providing and fitting of suitable size/Dia GI nipple for pumping equipment as per site requirement. Submersible motor should be water filled water lubricated squirrel cage type having capacity for above pumping parameters and working on 3 phase AC supply ranging from 380 to 415 volts, 50Hz. The motor should be sealed by radial rings to avoid mixing of well water with motor filled water. The job includes providing and fitting of interlocking arrangement against any failure of coupling. It must be fabricated out of MS strips of suitable size and length. The job includes providing and fitting of appropriate size MS nipple 2 feet long threaded on one end and welded to same size MS flange of thickness (as per Table-17) at other end for column pipe as per site requirement. The threaded portion should be as per size of pumping out let for proper fixing. The job includes providing and fitting of R. I. cloth joints/rubber washers with nuts, bolts and washers for all joints of column pipe. The job also includes lowering of pumping unit in the well then proper testing and commissioning of pumping unit on full load at site..</p>	2.00	Job	96921.00	193842.00
2.	<p>Fabrication, providing, fitting & lowering of 65 mm Dia. Class C Flanged MS coated column pipes conforming to IS: 1239 including the providing and fitting of MS flanges as per table 17 and welding of flanges in two layers to make flanged joint leak proof and strong.</p>	50	Meter	1400	70000.00
3.	<p>Fabrication, providing and fitting of split type MS clamps 10 mm thick, Length as per sump opening and 3 inch wide for lowering and holding of pumping unit fitted. The job includes the cost of required size nuts and bolts.</p>	2.00	Job	1801.00	3602.00
4.	<p>Providing and fitting of 10 Sq.mm 3-Core flat submersible copper cable conforming to IS: 694 (Part 1st) – 1964 & IS:</p>	150.00	Meter	454.00	68100.00

<p>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. (for pumping units and interconnections)</p>				
<p>5. Providing, installation, testing of power wiring for working voltage up to 1100 Volts, 16 mm sq PVC insulated stranded annealed copper conductor from changeover switch to voltage stabilizer, to bus-bars of Panel by way of p/f of PVC high purpose ASTM pipes of nominal dia, PVC couplers, Steel clamps, wooden battens, nuts bolts, PVC flexible conduit, included is termination of ends with suitable Cu terminals dully crimped and taped.</p>	60.00	Meter	248.00	14880.00
<p>6. Fabrication, Providing and fitting of Modular motor control panel of appropriate size fabricated out of 14 SWG sheet having required openings/vents and protection Class : IP-55 & fitted with accessories as under: Bus bar Chamber: The bus bar chamber shall be fitted at the top of the panel horizontally/vertically throughout the length. There shall be 3 Nos. of phases bus bar and 1 No neutral bus bar and 1 No earthing bus bar. The bus bars shall be air insulated and made-up of high conductivity COPPER with current density of suitable rating for 100 Ampere. All panel compartments shall be provided with suitable cable alley and vertical bus bar alley. Suitable segregation shall be provided in between bus bar chamber and adjoining compartments. The bus bar shall be PVC sleeved with colour strips of red, yellow, blue and black and the same be arranged in accordance with IS-375 specifications. Electrical clearances shall be maintained between phases, neutral and body as per standards. Main Circuit Breaker (Incomer MCCB): Qty. = 02 Nos No. of poles = 4 Nos Current Rating = 100-125 Amp. Rated operational voltage = 415 V + 15 % Rated frequency = 50+/-3%Hz Ambient temperature = 40° C Ultimate S.C Breaking Cap at (415V AC, 50 Hz) = 50KA Type of release = Thermal-Magnetic Change over Switch: Qty. = 01 No. Rating = 100Amp Type = Front operated, on load, 4 pole, 400 ±15%V, 50 ± 3%Hz. Motor Back-up Protection MCCB: Qty = 2 Nos. Poles = 3 Nos Rated Current -63A Rated operational voltage = 415 V ±15 % Rated frequency = 50 ± 3% Hz Ambient temperature = 40° C Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) = 36KA Starters:- Fully automatic star delta starters. Power Specs = 3 Φ, 415 ± 15 V, 50 ± 3 Hz. Relay range= 13-22 A Coil Voltage = 380 v Protection = single phasing, phase Reversal, phase unbalance Qty. = 2 No's</p>	1.00	Job	172000.00	172000.00

[Handwritten signature and initials]

Auxiliary MCCB for Heating/Lighting:

Circuit Breaker = MCCB (Outgoing)

Qty. = 1 No.

No. of poles = 4

Current Rating = 63 Amp.

Rated operational voltage = 415 V ± 15

Ultimate S.C Breaking Cap. at (415V AC, 50 Hz) = 36KA

Motor Protection Relay:

Digital Motor Protection Relay with LCD Display for 3-phase supply with following protections suitable for the Modular Control Panel:-

Protections = Thermal Overload with pre-alarm, Short Circuit, Phase Loss, Unbalance, Phase reversal, Under Current, Prolong starting, Locked Rotor, Earth fault and over current.

Qty. = 02 No's

Preferably make of constituent parts:

ABB/Schneider/L&T/C&S

7. Providing, fitting, testing and commissioning of 50 KVA voltage stabilizer as per specifications below:
 Capacity: 50 KVA, 3-phase
 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: 150 volts. (3 phase)
 Output voltage: 415 ±10% volts.
 Frequency: 50 ±3 C/S.
 Windings: Electrolytic grade copper of adequate section, vacuums impregnated and Oven dried.
 Insulation: Fibre glass insulations of 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 of adequate thickness.
 Core laminates: High grade, low eddy loss, grain oriented silicon steel or CRG core.
 Load: Three phase induction motor load.
 The voltage stabilizer shall be capable to withstand load 10% above maximum load for 02 hour operation. 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 shall have a display panel for housing 02 numbers 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 with 62 dielectric value is to be provided and filled up to top level. The T-Oil of above grade should be provided in separate barrels and filled at site up to top level. The voltage Stabilizer shall be accepted with manufacturers duly stamped test certificate and shall have name plate with specifications, name of manufacturer and name of Water Supply Scheme

1.00

Job

107000.00

107000.00

8. Providing and Fitting of 3.5-Core, 70 Sq. mm XLPE, and 11KV grade Armoured Aluminum Cable of various sizes conforming to IS: 7098 part 1st as service line from the HT

60.00

Meter

668.00

40080.00

	transformer to control panel including necessary thimblings, crimping, taping etc. to be fitted from changeover panel to modular panel. The job also includes P/F of Aluminum thimbles of various sizes as per site requirement including crimping and taping.				
9.	Providing and fitting of 80 mm Dia G.I flanged Rising Main at site. The Pipe shall be hot dip Galvanized, class medium 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. 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 Advani/ Esab/L&T- SS Bond make electrodes to form strong welding joint. The electrodes shall be having diameter not less than 4mm, Nuts and Bolts, Rubber Insertion Gaskets of reputed makes to be used between flanged joints.	550.00	Meter	1251.00	688050.00
10.	Earth work excavation for rising main and allied works by manual means in trenches for foundation, drains, pipes, cables (not exceeding 1.5 m in width) and for shafts, wells, cesspits, gravel pack cum holding mechanism etc. and the like not exceeding 10 Sq m on plan, including dressing of sides and reaming of bottom lift up to 1.5 m, including getting out excavated earth and disposal of surplus excavated earth as directed. Under road way a minimum clear cover of 1.5m is to be provided, same can be modified to suit local conditions. The job includes back filling and cleaning of road.	140	Cum	263.00	36820.00
11.	Backfilling of the excavated earth in trenches in layers not exceeding 20 cm in depth ,consolidating each deposited layer by ramming and watering lead upto 50 m and lift upto 1.5 metres.	126	Cum	219.00	27594.00
12.	Fabrication, providing and fitting of washout Tee with arm length as per site requirement but not less than 1.5'x1.5'x1.5'. 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. Nominal Dia -80 mm	1.00	Job	4050.00	4050.00
13.	Fabrication of gravel Hooper for proper feeding of gravels to the bore welland platform to bear the load of pumping unit, column pipes etc by way of providing and fitting of Steel work welded in built up sections/framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. The job involves following steel details: i. In stringers , treads , landings etc of stair cases including use of chequered plate wherever required , all complete	400	Kg.	125	50000.00
14.	Fabrication, Providing and fitting of Y- junction / Manifold having length of each arm as per site requirement but not less than 2'x2'x2' to be fabricated out of hot dip galvanized G.I, C-Class pipe as per site requirement. 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. The flange welding shall be carried out in double layers using Advani/ Esab/L&T- SS Bond make electrodes to form strong welding joint by way of DC arc welding. The job further includes Providing and Fitting of nuts and bolts,) Rubber Insertion Gaskets to be used	1.00	Job	7275.00	7275.00

	between flanged joints. Nominal Dia -80 mm				
15.	Fabrication, Providing and fitting of Tail piece as per site requirement by Cutting of hot dip galvanized G.I C-Class pipe across the section by using 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 Advani/ Esab/L&T- SS Bond Make electrodes to form strong welding joint by using DC arc welding. The job further includes Providing and Fitting of nuts and bolts, Rubber Insertion Gaskets to be used between flanged joints. Nominal Dia - 80 mm	6.00	Job	1300.00	7800.00
16.	Fabrication, Providing and fitting of 90-120 degree bend /elbow with flanges, fabricated out of Class C GI pipe (5.4mm thickness) of length as per site requirement and flanged on both ends. 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. Nominal Dia -80 mm	8.00	Job	2797.00	22376.00
17.	Providing and fitting of Ductile Iron double flanged, Slanted seat swing check valve(NRV) 80 mm 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. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S 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. Preferably makes : VAG/AVK/SIGMA FLOW	2.00	Job	17489.00	34978.00
18.	Providing and fitting of, Ductile Iron double flanged, non-rising spindle soft seated glandless gate/ sluice valves 80 mm as per IS14846 for regulating the water supply outside the pumping units. 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. Cost on account of Nuts, bolts, gaskets, etc required for the job is included in the scope of work. The job includes providing and fitting of 02 nos. M.S 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. Preferably makes : VAG/AVK/Sigma Flow	2.00	Job	15497.00	30994.00
19.	Fabrication of gantry mechanism, bed for staff and base frame and allied works by way of providing Structural steel in built up sections, trusses and framed work, including	2000.00	Kg	120	240000.00

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	cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete Welded The job also includes painting of complete Structure in one coat of red oxide and 02 coats of enamel metal paint. The quantity of the steel members like ISMB 200/150/100 , MS chequered sheet, ISMC 100, ISMC 75, ISA 50X 50 X5mm /40X 40 X 6mm, Square bars, railing pipe, MS pipes, angles, tubes, shall be used as per directions of site engineer, same may vary as per site requirement as it is conditional to civil structures being constructed.				
20.	The above steel structure shall be covered with 26 SWG CGI colour coated laminated sheets with desired jointing arrangement complete, including Chaja, ridge and Morkh as per requirement fixed with	60	Sqm	848	50880.00
21.	Providing, installation and testing of manual type triple spur gear chain pulley block along with monorail geared travelling trolley having following features 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. 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. 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 i. Make = Indeff / Pull lift ii. Capacity = 2 ton lii. No. Of load chain falls = 2 iv. Min. Height of lift = 6 M	1.00	Job	44473.00	44473.00
22.	Supply, installation, Testing & commissioning of 950VA Full Sine wave power inverter including Providing / Installation of 12V, 180AH Automotive 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. Make : Exide/Luminious/Amaron	1.00	Job	34053.00	34053.00
23.	illumination of Premises: 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. 1) 3 Way Terminal Connector 20 Amp. 2) 3 No MCB 8 Amp. 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. 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. The pole is mounted on 1:2:4 Cement concreting of size not less than 2'x2'x6" using 04 No anchor bolts of required size not less	1.00	Job	22226.00	22226.00

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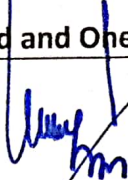
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	than 7" in length. The complete job includes earthing in GI Electrode as per relevant IS Code				
24.	Providing, installation, testing and commissioning of area lighting 120 Watt LED (Street Light Type) on top of octagonal pole having following specifications: Input: 90-210 Volts Power Factor: >0.8 Colour Temperature: 4K - 6.5K Beam Angle: 120° - 170° Lumens: >12000 Operating Temperature: -20°C to 60°C The LED is pressure die cast aluminium housing with power coated finish and having Ingress Protection up to IP-68. The LED is properly fitted on the arm of the pole and connected to the copper wire as provided in the high mast pole	3.00	Job	9486.00	28458.00
25.	Providing and installation of Junction Box with DP 32 A MCB to serve as Main switch for LED Lighting. The job includes making of electric connection to the circuit.	1.00	Job	2227.00	2227.00
26.	Providing and Fitting of 2-Core, 10 Sqr mm XLPE, and 1.1KV and 11KV grade Armoured Aluminum Cable of various sizes conforming to IS: 7098 part 1st as service line from the HT transformer to control panel including necessary thimblings, crimping, taping etc. To be fitted from auxiliary MCCB of panel to main junction box of octagonal pole.	50.00	Meter	162.00	8100.00
27.	a) Providing of good quality bedding for night stay/Shift consisting of:- i) Mattress with warm cover of size 6'x3' (6Kg) white cotton - 02 No's ii) Quilt with warm cover of 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 white cotton b) The job also includes providing of pressure cooker 5ltr (02 Nos), Steel patella (utensil) 5ltrs (02 Nos), cooking heater (01 No.), room heater (01 No), steel buckets 10 liter capacity (01 No), Plastic bucket 10 liter capacity with Mug (02 Nos) each, steel glasses (06 Nos), steel Plates with large spoons and bowls (03 Nos) 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, heavy Table 01 No. The job also includes providing of good quality safety Door locks (03 No's).	1.00	Job	39619.00	39619.00
28.	Providing, laying & fixing with adhesive/bonding material of insulation rubber mats 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: Composition: Rubber (synthetic mats for electrical purpose) Thickness: - 2.5mm Size: - 1M wide. The rubber mats shall be accepted with manufacturers test certificate. Make : Jyoti / Dunlop	6.00	Meter	1205	7230.00
29.	Providing of solar/ electrical lantern chargeable on both electrical and solar 220 V supply.	1.00	Job	1911.00	1911.00

30.	Providing of bamboo ladder-18 feet long along with 15 feet long link rod and HT glove pair (01 No each)	1.00	Job	7350.00	7350.00
31.	Providing of 01 KW heat convector for staff for winter season	1.00	Job	1205.00	1205.00
32.	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	36.00	Sft	154.00	5544.00
33.	<p>Supply , installation , commissioning and creation of pole mounted, outdoor type 63 KVA capacity Level II Electric Sub Station as per the amendment No. 4 March 2021 to IS: 1180 (Part 1) 2014 (Fourth Revision).</p> <p>Type: HT/LT Transformer Type of cooling: ONAN. Operating conditions: Input =11000 volts Output =433 volts AC supply in 3- phase. Terminals: Input=3 No. HT bush rods with insulators, washer, nuts etc. 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. 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. 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> <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>	1.00	Job	171963.00	171963.00
34.	Providing and fitting G.I Channel /Angle/ Flat of sizes including clamps (for transformer bed, tapping point , brackets of poles etc)	260.00	Kg.	123.00	31980.00
35.	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(01 no. at existing tapping point and another at existing substation).	2.00	Job	11730.00	23460.00
36.	Supply, Installation, Testing and commissioning of 11KV polymer fuses Set Horn Gap 3-phase 200 A suitable for vertical installation.	1.00	Set	4983.00	4983.00
37.	Supply, installation, Fixing, testing and commissioning Drop Out Fuse Set Current Rating-100 Amp	1.00	Set	6000.00	6000.00

	Supply, installation, Fixing, testing and commissioning Link Set with Voltage Level- 11KV, Frame- Galvanized channel base Current Rating-100 Amp Size- Standard	2.00	Set	7000.00	14000.00
39.	Supply, Installation, Testing and commissioning of Gapless Surge arrestor station class, 10KA, 9KV, LA With polymer housing, Station Type.	1.00	Set	7754.00	7754.00
40.	Supply and fitting of 11 KV polymeric composite pin insulator 12 KV, 5KN, Lighting impulse 75KV Positive, and 80 KV Negative , creepage distance 320 mm	48.00	No.	300.00	14400.00
41.	Supply, installation, erection of 9 Mtrs long H.T pole 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.	16.00	Job	20686.00	330976.00
42.	P/F of Galvanized nuts, bolts of various sizes as per site requirement for fitment of electric substation, poles etc.	60.00	Kg.	130.00	7800.00
43.	P/F Danger Plate with clamps	16.00	Job	153.00	2448.00
44.	Providing and fixing G.I Barbed wire as anti-climbing devices	8.0	Kg.	136.00	1088.00
45.	Providing and fitting of Galvanized stay set with 50 X 8 mm Stay Clamp , Guy insulator (2no.), Anchor plate (200X200X6mm) , nuts and bolts , 2 NO- turn buckle , 1.8 m long , 16 mm diameter solid G.I stay rod & 7/3.15 mm dia. G.I stranded wire complete.	5.00	Set	4922.00	24610.00
46.	Painting of poles by Red oxide	8	Liter	306.00	2448.00
47.	Painting of poles Aluminum paint	8	Liter	510.00	4080.00
48.	P/L of ACSR conductor 0.05 as per relevant IS code	1500	Meter	53.00	79500.00
49.	Providing and fitting of PG clamps.	32.00	No.	350.00	11200.00
50.	Providing and fitting of three phase, 4 wire commercial LT Prodigy Meter with all allied Accessories and fixtures.	1.00	Job	29000.00	29000.00
51.	P/I of earthing 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 : 80 mm Dia Length : 2000 mm Back fill compound : 30 kg	4.00	Job	10462.00	41848.00
52.	Earth work in excavation by mechanical means (hydraulic excavator) in trenches for foundations, drains, pipes, cables etc. (not exceeding 1.5 m in width) and for shafts, wells, cesspits and the like not exceeding 10 Sqm on plan, including dressing of sides and ramming of bottoms lift upto 1.5 m, including getting out excavated earth and disposal of surplus excavated earth as directed, within a lead of 50 metres:- All kinds of soil	20.00	Cum	262.70	5254.00
53.	Providing and laying of soling stone	3.00	Cum	740.00	2220.00
54.	Providing and laying in position cement concrete of specified grade including curing but excluding the cost of centering and shattering. All works up to plinth level with 1:2:4 mix (1	10.00	Cum	7000.00	70000.00

55.	cement, 2cores sand, 4 graded stone aggregate 20mm nominal size).				
	Centring and shattering including strutting, propping etc. and removal of from work for foundation, footings, base for columns	20.00	Sqm	286.35	5727.00
Estimated / advertised amount:					2965456.00
Percentage quoted by L1 firm {-1%}:					29654.56
Total allotted amount: (Rupees Twenty Nine Lakh Thirty Five Thousand Eight Hundred and One Only)					2935801.00


 Executive Engineer
 Jal Shakti (PHE) Mechanical Division (North)
 Sore