

# भारतीय विमानपत्तन प्राधिकरण AIRPORTS AUTHORITY OF INDIA

No: AAI/CIA/AMED-VI/LT-PANEL/2022-23/A-37

Date: 06.10.2022

To,

**M/s. VK Sam Engineering,,**  
No.5 Rajiv Gandhi Nagar,  
Ekkaduthangal, Chennai-600 032.

**Sub:** Renovation and Associated Works for Water Supply System at Chennai Airport.  
SH: SITC of LT Panels and Other Associated Works.

**Ref:** e-Tender ID: 2022\_AAI\_125752\_1  
e- Tender Ref. No.: AAI/CHE/AMED-VI/2022-23/01

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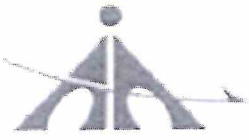
Dear Sir(s),

1. Your E-Tender for the above mentioned work is hereby accepted by the Competent Authority on behalf of Chairman, Airports Authority of India, at the items rates quoted by you totaling to **Rs.55,96,250.00** (Rupees Fifty Five Lakhs Ninety Six Thousand Two Hundred Fifty Only) which is 19.06% below the estimated cost of **Rs.69,14,553.00** (Rupees Sixty Nine Lakhs Fourteen Thousand Five Hundred Fifty Three Only) The amount is inclusive of all the taxes, duties, levies and octroi etc., Excluding GST which will be paid at actual.
2. Joint General Manager (Engg-Elect)-I, AMED, Operational Office, Airports Authority of India, Chennai Airport, Chennai - 600 016 shall be the Engineer-In-Charge of the work. You are requested to attend to the Office of Joint General Manager (Engg-Elect)-I, AMED AAI, Chennai Airport by **17.10.2022** to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper of value Rs.100/- (Rupees One Hundred only) and the cost of the stamp paper shall be borne by you.
3. The Earnest Money Deposit amount of Rs.1,38,291/- (Rupees One Lakh Thirty Eight Thousand Two Hundred Ninety One Only) Paid through payment gateway in CPP Portal. Please deposit Rs.5,59,625.00/- (Rupees Five Lakhs Fifty Nine Thousand Six Hundred Twenty Five Only) towards Security Deposit within 10 days from the date of issue of this letter failing which, the same will be deducted as per Condition of Clause No.1A of GCC at page No.17 of contract document. Earnest Money amount will be returned back to your account after deducting equal amount of EMD against the security deposit from your bill.
4. You are requested to comply with the provision of Contract Labour Regulation and Abolition Act 1970 and Contract Labour (Regulation and Abolition) Central Rules 1971 and Minimum Wages Act and Rules thereof Central and State Governments.
5. You are also directed to contact the Joint General Manager (Engg-Elect)-I, Airport Maintenance Electrical Division, Operational Office, Airports Authority of India, Chennai Airport or his Authorised representative immediately for who will arrange to hand over site to you.

Continue...2

फैक्स: 044 - 2256 0008 ईपीएबीएक्स: 2256 0551, चेन्नईहवाईअड्डे, चेन्नई - 600 016.

Fax: 044 - 2256 0008 EPABX: 2256 0551, Chennai Airport, Chennai - 600 016.



## भारतीय विमानपत्तन प्राधिकरण AIRPORTS AUTHORITY OF INDIA

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6. Please note that the time allowed for carrying out the work shall be **05 (Five)** Months and same shall be reckoned from the 10th day after issue of this letter.
7. Any further correspondence in connection with the contract should normally be addressed to the Engineer-In-Charge.
8. Please acknowledge the receipt and return the duplicate copy of this letter enclosed herewith after signing it to the undersigned as a token of acceptance.

Yours faithfully,

(G.N.D.Kennedy)

Joint General Manager (Engg - Elect)-I.  
For and on behalf of the Chairman,  
Airports Authority of India.

**Encl:** Schedule of Quantity (Page no. 1 to 17).

**AIRPORTS AUTHORITY OF INDIA**  
**CHENNAI AIRPORT :: CHENNAI-600 016.**

**Name of Work:** Renovation and Associated Works for Water Supply System at Chennai Airport. SH: SITC of LT panels and other associated works.

**SCHEDULE OF QUANTITIES**

| Sl. No.       | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Qty | Unit | Rate | Amount |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|------|--------|
| <b>SH-I :</b> | <b>Supply of LT Panels &amp; Cables</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |      |      |        |
| <b>1</b>      | <b>Old WTP Feeder Pillar</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |      |        |
|               | Design, Fabrication and supply of cubical type outdoor LT Panel - tested design as per IEC 61439-1 & 2, IP 54, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for frame work, canopy and covers, 1.6mm thick with internal doors, portitions and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 4b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 600Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections,entire panel shall have a common copper earth bar of size 50mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |      |        |
|               | <b>Incoming</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |      |        |
|               | Two Nos. 400A, 50 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |      |        |
|               | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |      |        |
|               | Four Nos. 250A, 36 KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |      |        |
|               | Two Nos. 100 A, 36KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |      |        |
|               | <b>Buscoupler:</b> One No. 400A, 50 KA, Four Pole MCCB as Buscoupler (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |      |      |        |
|               | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |      |        |
|               | One Set of TPN Aluminium Bus Bars of minimum of 600 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. for meeting fault level of 50 KA for 1 Sec and 50x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |      |        |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Qty | Unit | Rate        | Amount      |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | <b>Interlocking:</b> Mechanical interlocking between 2 Incomers & 1 Buscoupler and it shall be ensured that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supply at one bus section.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase seperators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1   | Job  | 5,02,970.00 | 5,02,970.00 |
| 2       | <b>LT Panel for Old WTP HPS Pump Room</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |             |             |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, portions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 400Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections,entire panel shall have a common copper earth bar of size 50mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |
|         | <b>INCOMERS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |             |             |
|         | Two Nos. 250A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |             |             |
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |      |             |             |
|         | Three Nos. 160 A, 36KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|         | Three Nos. 125 A, 36KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|         | Three Nos. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |             |             |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Qty | Unit | Rate        | Amount      |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | 2 Nos. (1 Working + 1 Standby) 16A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>10 HP with star-delta starter</b> (Suitable rated 03 Nos TP contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |      |             |             |
|         | 2 Nos. 10A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>5 HP with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent)with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |             |             |
|         | 4Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|         | <b>Buscoupler:</b> One No. 250A, 36 KA, Four Pole MCCB as Buscoupler (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |      |             |             |
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 400 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 50x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|         | <b>Interlocking:</b> Mechanical interlocking between 2 Incomers & 1 Buscoupler and it shall be ensured that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supply at one bus section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase seperators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1   | Job  | 6,07,615.00 | 6,07,615.00 |
| 3       | <b>LT Panel for Old WTP Raw Water Pump Room</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |      |             |             |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, portions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 400Amps capacity TPN Aluminium bus bars of high conductivity, DMC/ SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections,entire panel shall have a common copper earth bar of size 50mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty | Unit | Rate | Amount |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|------|--------|
|         | <b>INCOMERS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |      |        |
|         | Two Nos. 250A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                          |     |      |      |        |
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |      |      |        |
|         | Two Nos. 160 A, 36KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                       |     |      |      |        |
|         | Three Nos. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                      |     |      |      |        |
|         | 2 Nos. 32A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>20 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required |     |      |      |        |
|         | 2 Nos. 25A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>15 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required |     |      |      |        |
|         | 2 Nos. 16A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>10 HP with star-delta starter</b> (Suitable rated 03 Nos TP contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required |     |      |      |        |
|         | 2Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |      |        |
|         | <b>Buscoupler:</b> One No. 250A, 36 KA, Four Pole MCCB as Buscoupler (Ics=Icu) with inbuilt over current and short circuit protection of Microprocessor based release and provided with ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                            |     |      |      |        |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Qty | Unit | Rate        | Amount      |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 400 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 50x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |             |             |
|         | <b>Interlocking:</b> Mechanical interlocking between 2 Incomers & 1 Buscoupler and it shall be ensured that only one supply is available at a time on each section of bus and to eliminate any possibility of accidentally approaching two supply at one bus section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase seperators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1   | Job  | 6,16,255.00 | 6,16,255.00 |
| 4       | <b>LT Panel for Old WTP Pump Room</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |      |             |             |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, portitions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 250Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections,entire panel shall have a common copper earth bar of size 50mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |
|         | <b>INCOMER</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |             |             |
|         | One No. 160A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |             |             |
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |             |             |
|         | One No. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |             |             |
|         | 4 Nos. 32A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>20 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |             |             |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Qty | Unit | Rate        | Amount      |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | 2 Nos. 25A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>15 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required  |     |      |             |             |
|         | 3 Nos. 13A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>7.5 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required |     |      |             |             |
|         | 4 Nos. 10A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>3 HP with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent)with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                   |     |      |             |             |
|         | 6 Nos. 2.5A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>1 HP with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent)with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                  |     |      |             |             |
|         | 2Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 250 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 50x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase seperators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1   | Job  | 6,95,815.00 | 6,95,815.00 |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Qty | Unit | Rate | Amount |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|------|--------|
| 5       | <b>LT Panel for Cowl Bazaar Pump Room</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |      |      |        |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, portions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 250Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |      |        |
|         | <b>INCOMER</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |      |        |
|         | One No. 160A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |      |        |
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |      |        |
|         | Two Nos. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |      |        |
|         | 3 Nos. 10A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for 5 HP <b>with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent)with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |      |        |
|         | 4 Nos. 6.3A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for 3 HP <b>with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent)with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |      |      |        |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty | Unit | Rate        | Amount      |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | 1 Nos. 13A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>7.5 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |             |             |
|         | 2Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 250 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 25x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | Interlocking: Mechanical interlocking between Incomer & 1 No. of 63A outgoing MCCB shall be provided.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase seperators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1   | Job  | 3,06,535.00 | 3,06,535.00 |
| 6       | <b>i) LT Panel for 25 Pump Room - 1 Job</b><br><b>ii) LT Panel for Cargo Well Pump Room - 1 Job</b><br><b>iii) LT Panel for Old Fire Pump House - 1 Job</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |      |             |             |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, portitions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 250Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |
|         | <b>INCOMER</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | One No. 100A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |             |             |

| Sl. No.  | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Qty | Unit | Rate        | Amount      |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|          | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|          | One No. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |      |             |             |
|          | 3 Nos. 10A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for 5 HP with DOL starter (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |             |             |
|          | 4Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|          | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|          | One Set of TPN Aluminium Bus Bars of minimum of 150 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 25x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|          | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase separators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |             |             |
|          | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3   | Job  | 1,66,135.00 | 4,98,405.00 |
| <b>7</b> | <b>Runway 25 side Outdoor LT Panel</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |             |             |
|          | Design, Fabrication and supply of cubical type outdoor LT Panel - tested design as per IEC 60439-1 & 2, IP 54, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for frame work, canopy and covers, 1.6mm thick with internal doors, partitions and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 150Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |
|          | <b>INCOMER</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|          | One No. 100A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |             |             |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Qty | Unit | Rate        | Amount      |
|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |      |             |             |
|         | 1 No. 10A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for 5 HP <b>with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/ Stop Push Button, Single Phase Preventor with ON/ Off/ Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |      |             |             |
|         | 2 Nos. 6.3A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for 3 HP <b>with DOL starter</b> (Suitable rated TP contactor and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/ Stop Push Button, Single Phase Preventor with ON/ Off/ Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |             |             |
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 150 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 50x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase seperators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |             |             |
|         | <b>Note:</b> Panel Height shall be restricted to maximum 0.7Mtr.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1   | Job  | 1,41,895.00 | 1,41,895.00 |
| 8       | <b>LT Panel for Old Pump Room / Cargo Pump Room</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |             |             |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, portitions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 250Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x 50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |
|         | <b>INCOMER</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |      |             |             |
|         | One No. 160A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Adustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |      |             |             |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty | Unit | Rate        | Amount      |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |      |             |             |
|         | One No. 125 A, 36KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |      |             |             |
|         | Two Nos. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |      |             |             |
|         | 2 Nos. 32A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>20 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |             |             |
|         | 3 Nos. (1 Working + 1 Standby) 16A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>10 HP with star-delta starter</b> (Suitable rated 03 Nos TP contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter (EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |      |             |             |
|         | 4Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 250 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 25x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase separators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1   | Job  | 3,47,335.00 | 3,47,335.00 |
| 9       | <b>LT Panel for New WTP</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |      |             |             |
|         | Design, Fabrication and supply of cubical type Indoor LT Panel - tested design as per IEC 60439-1 & 2, IP 42, suitable for 415 V, 3 Phase, 4 wire 50 Hz AC supply, made out of 2 mm thick CRCA sheet steel for load bearing portions, 1.6mm thick with doors, covers, partitions, barriers and non load bearing portions, 3 mm thick for gland plates, dust tight, vermin proof, totally enclosed, Form 3b compartmentalised design, floor mounting, free standing, extensible on both sides i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having 400Amps capacity TPN Aluminium bus bars of high conductivity, DMC/SMC bus bar supports with short circuit withstand capacity of 50 KA for 1Sec., bottom base channel of MS section not less than 100 mm x50 mm x 5 mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5 mm at the rear with 2 nos earth stud, solid connections from main bus bars to switch gears with required size of Aluminium bus bars and control wiring with 2.5Sq.mm. FRLSH PVC insulated copper conductor cable, cable alleys, complete with all accessories, interconnection, earthing, complete etc. as required and comprising of following switch gears: |     |      |             |             |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty    | Unit | Rate        | Amount      |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|-------------|-------------|
|         | <b>INCOMER</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |      |             |             |
|         | One No. 250A, 36 KA, Four Pole MCCB as incomer (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter having RS485 port (EM6400 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps and Phase Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                |        |      |             |             |
|         | <b>Outgoings:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |      |             |             |
|         | One No. 160 A, 36KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                        |        |      |             |             |
|         | Three Nos. 63 A, 25KA, Four Pole MCCB (Ics=Icu) with inbuilt over current and short circuit protection of Adjustable Thermal and Magnetic Release and provided with three nos. Cast resin suitable rating CTs with Digital Multifunction Meter (EM6459 of Schneider make or equivalent), ON/OFF/TRIP LED Indication Lamps alongwith control MCBs as required.                                                                                                                                                                                                                                                                      |        |      |             |             |
|         | 2 Nos. 25A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>15 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required |        |      |             |             |
|         | 1 No. 13A TP MPCB of Rotary type with thermal magnetic based O/L & S/C protection Release with Rotary Handle extendable Outside suitable for <b>7.5 HP with star-delta starter</b> (Suitable rated 03 Nos TPN contactors for Star-Delta Operation, timer and O/L relay) for water pump motor. Each compartment shall contain auto/manual selector switch and Start/Stop Push Button, Single Phase Preventor with ON/Off/Trip indicating lamps alongwith 1 Set of digital multifunction meter(EM6459 of Schneider make or equivalent) with LCD display including 03 Nos suitable rating CTs with control MCB's complete as required |        |      |             |             |
|         | 2Nos. 32A, 4Pole MCB 'C' Curve with Suitable rating connectors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |      |             |             |
|         | <b>Busbar:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |      |             |             |
|         | One Set of TPN Aluminium Bus Bars of minimum of 400 A Capacity with heat shrinkable coloured sleeves and i/c DMC/SMC bus bar cross section, size supports & their spacing etc. and 25x5mm Copper earth strip etc. as required.                                                                                                                                                                                                                                                                                                                                                                                                     |        |      |             |             |
|         | All accessories such as auxiliary contactors, auxiliary switches, push buttons MCBs, rotary handles, phase separators etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |        |      |             |             |
|         | <b>All as above</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1      | Job  | 3,08,815.00 | 3,08,815.00 |
| 10      | Supply of XLPE insulated and PVC sheathed aluminium conductor armoured power cable of 1.1 KV grade conforming to IS 7098 (Part-I) 1988 as amended upto date and of following size as required.                                                                                                                                                                                                                                                                                                                                                                                                                                     |        |      |             |             |
| a       | 4C X 35 Sq.mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 600.00 | Mtr  | 210.00      | 1,26,000.00 |
| b       | 3.5C X 120 Sq.mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 200.00 | Mtr  | 525.00      | 1,05,000.00 |

| Sl. No.       | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                        | Qty    | Unit   | Rate                  | Amount              |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|-----------------------|---------------------|
| 11            | Supply of nominal 2.0 mm thick (Width 1 Mtr) PVC synthetic, electric insulated mats conforming to IS 15652-2006 having Dielectric strength of 30 KV, no adverse effect of mineral oil, high insulation resistance (Minimum 1,00,000 M $\Omega$ on wet condition with 5 KV meggar) etc., as required.                                                                                                                       | 60     | Sq.Mtr | 650.00                | 39,000.00           |
| 12            | Supply of XLPE insulated and PVC sheathed copper conductor armoured power cable of 1.1 KV grade conforming to IS 7098 (Part-I) 1988 as amended upto date and of following size as required.                                                                                                                                                                                                                                |        |        |                       |                     |
| a             | 4C X 6 Sq.mm                                                                                                                                                                                                                                                                                                                                                                                                               | 100.00 | Mtr    | 290.00                | 29,000.00           |
|               |                                                                                                                                                                                                                                                                                                                                                                                                                            |        |        | <b>SH-I Total Rs.</b> | <b>43,24,640.00</b> |
| <b>SH-II:</b> | <b>Installation, Testing, commissioning of LT Panels, Laying of Cables and Associated Works.</b>                                                                                                                                                                                                                                                                                                                           |        |        |                       |                     |
| 1             | Installation, Testing and Commissioning of 415V, 600 Amps Bus bar rating, Old WTP outdoor Feeder Pillar mentioned at SH-I SOQ Item No.1 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.           | 1      | Job    | 7,500.00              | 7,500.00            |
| 2             | Installation, Testing and Commissioning of 415V, 400 Amps Bus bar rating LT Panel for Old WTP Pump Room mentioned at SH-I SOQ Item No.2 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.           | 1      | Job    | 6,000.00              | 6,000.00            |
| 3             | Installation, Testing and Commissioning of 415V, 400 Amps Bus bar rating LT Panel for Old WTP Raw Water Pump Room mentioned at SH-I SOQ Item No.3 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work. | 1      | Job    | 4,500.00              | 4,500.00            |
| 4             | Installation, Testing and Commissioning of 415V, 250 Amps Bus bar rating LT Panel for Old WTP Pump Room mentioned at SH-I SOQ Item No.4 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.           | 1      | Job    | 4,500.00              | 4,500.00            |
| 5             | Installation, Testing and Commissioning of 415V, 250 Amps Bus bar rating LT Panel for Cowl Bazaar Pump Room mentioned at SH-I SOQ Item No.5 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.       | 1      | Job    | 4,500.00              | 4,500.00            |
| 6             | Installation, Testing and Commissioning of 415V, 150 Amps Bus bar rating LT Panel for 25 Pump Room mentioned at SH-I SOQ Item No.6 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.                | 3      | Job    | 3,500.00              | 10,500.00           |
| 7             | Installation, Testing and Commissioning of 415V, 150 Amps Bus bar rating Runway 25 side Outdoor LT Panel mentioned at SH-I SOQ Item No.7 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.          | 1      | Job    | 5,500.00              | 5,500.00            |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                            | Qty | Unit | Rate      | Amount    |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 8       | Installation, Testing and Commissioning of 415V, 250 Amps Bus bar rating LT Panel for Old Pump Room / Cargo Pump Room mentioned at SH-I SOQ Item No.8 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work. | 1   | Job  | 4,500.00  | 4,500.00  |
| 9       | Installation, Testing and Commissioning of 415V, 400 Amps Bus bar rating LT Panel for New WTP mentioned at SH-I SOQ Item No.9 including provision of supporting "C" channel size 100 x 50 x 6 mm thick, supporting MS Angles and Civil foundation etc. complete as required. Civil foundation alongwith MS angle/channel supports shall be got approved by Engineer-In-Charge prior execution of work.                         | 1   | Job  | 4,500.00  | 4,500.00  |
| 10      | Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.                                                                                                                                                                                                                                                                               |     |      |           |           |
| a       | Upto 35 sq. mm (clamped with 1mm thick saddle)                                                                                                                                                                                                                                                                                                                                                                                 | 60  | Mtr  | 55.00     | 3,300.00  |
| b       | Above 95 sq. mm and upto 185 sq. mm (clamped with 25x3mm MS flat clamp)                                                                                                                                                                                                                                                                                                                                                        | 120 | Mtr  | 90.00     | 10,800.00 |
| 11      | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing RCC/ HUME/ METAL/HDPE pipe as required.                                                                                                                                                                                                                                                                |     |      |           |           |
| a       | Upto 120 sq. mm                                                                                                                                                                                                                                                                                                                                                                                                                | 220 | Mtr  | 60.00     | 13,200.00 |
| 12      | Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.                                                                                                                                                                                                                                                                                 |     |      |           |           |
| a       | Upto 35 sq. mm (clamped with 1mm thick saddle)                                                                                                                                                                                                                                                                                                                                                                                 | 60  | Mtr  | 45.00     | 2,700.00  |
| b       | Above 185 sq. mm and upto 400 sq. mm (clamped with 40x3mm MS flat clamp)                                                                                                                                                                                                                                                                                                                                                       | 80  | Mtr  | 110.00    | 8,800.00  |
| 13      | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.                                                                                                                                                                                                                                                                        |     |      |           |           |
| a       | Above 95 sq. mm and upto 185 sq. mm                                                                                                                                                                                                                                                                                                                                                                                            | 10  | Mtr  | 45.00     | 450.00    |
| b       | Above 185 sq. mm and upto 400 sq. mm                                                                                                                                                                                                                                                                                                                                                                                           | 10  | Mtr  | 80.00     | 800.00    |
| 14      | Supply, Installation, Testing and Commissioning of Four Pole On Load Change Over Switch of 400 Amps rating of Outdoor type with MS Enclosure with Canopy in the Existing Wall, including providing Handle, providing LED Display for Inputs and Output, suitable Bus Links for both at Input & Output Side, grouting, earthing, providing MS angle supports/civil foundation etc., complete as required.                       | 1   | Job  | 37,000.00 | 37,000.00 |
| 15      | Supply, Installation, Testing and Commissioning of Four Pole On Load Change Over Switch of 250 Amps rating of Indoor type with MS Enclosure in the Existing Wall, including providing Handle, providing LED Display for Inputs and Output, suitable Bus Links for both at Input & Output Side, grouting, earthing, providing MS angle supports/civil foundation etc., complete as required.                                    | 1   | Job  | 20,000.00 | 20,000.00 |
| 16      | Supply, Installation, Testing and Commissioning of Four Pole On Load Change Over Switch of 160 Amps rating of Indoor type with MS Enclosure in the Existing Wall, including providing Handle, providing LED Display for Inputs and Output, suitable Bus Links for both at Input & Output Side, grouting, earthing, providing MS angle supports/civil foundation etc., complete as required.                                    | 1   | Job  | 12,000.00 | 12,000.00 |
| 17      | Supply, Installation, Testing and Commissioning of Four Pole On Load Change Over Switch of 63 Amps rating of Indoor type with MS Enclosure in the Existing Wall, including providing Handle, providing LED Display for Inputs and Output, suitable Bus Links for both at Input & Output Side, grouting, earthing, providing MS angle supports/civil foundation etc., complete as required.                                     | 1   | Job  | 8,500.00  | 8,500.00  |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                             | Qty  | Unit | Rate     | Amount      |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------|-------------|
| 18      | Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.                                                                                                                                                                                                                                         |      |      |          |             |
| a       | 3½ X 300 sq. mm (70mm)                                                                                                                                                                                                                                                                                                                                                                                                                          | 4    | Set  | 1100.00  | 4,400.00    |
| b       | 3½ X 120 sq. mm (45mm)                                                                                                                                                                                                                                                                                                                                                                                                                          | 22   | Set  | 550.00   | 12,100.00   |
| c       | 4 X 35 sq. mm (32mm)                                                                                                                                                                                                                                                                                                                                                                                                                            | 14   | Set  | 350.00   | 4,900.00    |
| d       | 4 X 6 sq. mm (25mm)                                                                                                                                                                                                                                                                                                                                                                                                                             | 6    | Set  | 175.00   | 1,050.00    |
| 19      | Supplying and making straight through joint with heat shrinkable kit including ferrules and other jointing materials for following size of PVC insulated and PVC sheathed /XLPE aluminium conductor cable of 1.1 KV grade as required.                                                                                                                                                                                                          |      |      |          |             |
| a       | 3½ X 300 sq. mm                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2    | Set  | 5,500.00 | 11,000.00   |
| 20      | Supplying and laying of following size DWC HDPE pipe ISI marked of rating PN-6, PE-63 along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. direct in ground (75 cm below ground level) including excavation and refilling the trench but excluding sand cushioning and protective covering etc. , complete as required.                                 |      |      |          |             |
| a       | 90 mm dia (OD-90 mm & ID-76 mm nominal)                                                                                                                                                                                                                                                                                                                                                                                                         | 200  | Mtr  | 300.00   | 60,000.00   |
| 21      | Supplying and laying of following size DWC HDPE pipe ISI marked of rating PN-6, PE-63 along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. direct in concreted portion (75 cm below ground level) including Concrete cutting, excavation and refilling the trench but excluding sand cushioning and protective covering etc. , complete as required.    |      |      |          |             |
| a       | 90 mm dia (OD-90 mm & ID-76 mm nominal)                                                                                                                                                                                                                                                                                                                                                                                                         | 40   | Mtr  | 1,240.00 | 49,600.00   |
| 22      | Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray cable tray with perforation not more than 17.5%, in convenient sections, joined with connectors, suitable supporting MS angles, including G.I. bolts & nuts, etc as required.                                                                                                                                                                       |      |      |          |             |
| a       | 300 mm width X 50 mm depth X 1.6 mm thickness                                                                                                                                                                                                                                                                                                                                                                                                   | 100  | Mtr  | 960.00   | 96,000.00   |
| 23      | Supply and Installation of various Mild Steel structure fabricated using single section MS Channel/angle/flat/bar etc including cutting, welding, drilling, fixing in position using appropriate fasteners, grinding, painting with approved steel primer and two coats enamel paint etc. complete as required.                                                                                                                                 | 1000 | Kg   | 140.00   | 1,40,000.00 |
| 24      | Providing and fixing 25 mm X 5 mm GI strip in 40 mm dia 'B' Class G.I. pipe from earth electrode including connection with brass nut, bolt, spring, washer and brassing i/c excavation of bituminous/ concrete / pavement & excavation of Soil to the depth of 0.30 Mtrs from ground, refilling the Soil and with 1:2:4 concrete on top for 0.15 Mtrs after laying Pipe and making good the same to original surface etc. complete as required. | 30   | Mtr  | 715.00   | 21,450.00   |
| 25      | Providing and fixing 25 mm X 5 mm GI strip in recess including cutting of concrete floor and finishing to original floor and connection with brass nut, bolt, spring, washer and brassing etc. as required.                                                                                                                                                                                                                                     | 20   | Mtr  | 320.00   | 6,400.00    |
| 26      | Providing and fixing earth bus of 25 mm X 5 mm GI strip on surface/recess in ground including connection with brass nut, bolt, spring, washer and brassing for connections etc. as required.                                                                                                                                                                                                                                                    | 200  | Mtr  | 225.00   | 45,000.00   |

| Sl. No. | Description of Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Qty | Unit    | Rate        | Amount      |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------|-------------|-------------|
| 27      | Providing of earth pits using Copper bonded Earth electrode of 17.2 mm dia, 3 Metres installed vertically as per the site conditions complete and top cover dully backfilled with backfill earth enhancing compound of 25 kgs. along with required masonry chamber, CI Cover outer size of 450mm X 450mm X 10mm including excavation & refilling etc as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 22  | Set     | 6,800.00    | 1,49,600.00 |
| 28      | Supply and laying of 100 mm dia 'B' Class GI Pipe in cement concrete/bitumen for cable crossing/laying by cutting the bitumen/concrete/pavement , excavation upto maximum depth of 150mm and width 120 mm for laying the pipe, threading, cutting, joining of pipe & filling the gaps with bitumen mix/concrete of ratio 1:3:6 and making good the surface matching with original finish and disposal of left out excavated materials as required                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 24  | Mtr     | 2,250.00    | 54,000.00   |
| 29      | Fixing of nominal 2 mm (Width 1 Mtr) thick PVC synthetic, electric insulated mats conforming to IS 15652-2006 along with suitable adhensive/ chemibond, i/c providing water proofing of floor, (chipping of floor if required) sealing of all joints and edges, providing reflective tap of 4cm all around the insulation mat etc., as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 60  | Sq.Mtr. | 100.00      | 6,000.00    |
| 30      | Supply, Installation, Testing and Commissioning of dewatering submersible system consisting of 2 Pumps i.e. 1working +1Standby of rating 1.5 KW/2 HP (Make: Grundfos Model: DPK.10.50.15.5.0D), suitable for 415 V, 50 HZ, AC power supply, non-sealed construction with discharge of 15 Cum/Hr @ 12 Meter Head Insulation class 'F', non-clog, pump housing cast iron with all metal surfaces with cataphoresis coating/CED coated, suitable for intermittent operation in submerged condition, particle handling size of 10mm, CONTROL PANEL 2P 3PH 8A AUTO GIDPC, 2 Nos. cable water /level switch and all other standard accessories required to commission the system including power and control cabling i.e. from control panel to both pumps which are apart approximately 30Mtrs., Floor mounting ring stand, discharge elbow including gaskets nut bolts, screws, washer etc. as per OEM specifications complete as required. | 1   | Set     | 2,02,500.00 | 2,02,500.00 |
| 31      | Supply and laying of 80mm dia UPVC pipeline in surface or recess with associated pipe line accessories like flange, butterfly valve, gasket, reducer, elbow, Tee, MTA and FTA etc., complete as required. (Note: Linear measurement will be carried out considering pipe and other pipe line accessories).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 76  | Mtr     | 1,560.00    | 1,18,560.00 |
| 32      | Supply, Installation, Testing and Commissioning of 160 A 4P MCCB (Ics=Icu) with inbuilt O/L and S/C fault protection with thermal magnetic release, with enclosure including providing Handle, with all accessories, with all accessories, interconnection, connection, earthing, etc. complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1   | Job     | 12,000.00   | 12,000.00   |
| 33      | Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping,bed blocks, anchor blocks, plain window sills, fillets, sunken floor,etc., up to floor five level, excluding the cost of centering, shuttering and finishing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |         |             |             |
| a       | Cement concrete in 1:3:6 (1 cement: 3 coarse sand : 6 graded stone aggregate 20mm nominal size)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2   | Cum     | 10,500.00   | 21,000.00   |
| b       | Cement mortar in 1:6 (1 cement: 6 coarse sand )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2   | Cum     | 7,500.00    | 15,000.00   |
| c       | Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in with Cement mortar 1:6 (1 cement : 6 coarse sand).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2   | Cum     | 9,500.00    | 19,000.00   |

| Sl. No.       | Description of Item                                                                                                                                                                                                                                                                                                                                                                                       | Qty | Unit   | Rate     | Amount              |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|----------|---------------------|
| d             | Cement plaster of 15 mm on the rough side of single or half brick wall of mix with 1:6 (1 cement: 6 coarse sand).                                                                                                                                                                                                                                                                                         | 10  | Sq Mtr | 450.00   | 4,500.00            |
| e             | Steel Rod for RCC Slabs                                                                                                                                                                                                                                                                                                                                                                                   | 200 | Kgs    | 115.00   | 23,000.00           |
|               | <b>SH-II Total Rs.</b>                                                                                                                                                                                                                                                                                                                                                                                    |     |        |          | <b>12,46,610.00</b> |
| <b>SH-III</b> | <b>Dismantling of existing LT panel and Associated Works</b>                                                                                                                                                                                                                                                                                                                                              |     |        |          |                     |
| 1             | Dismantling of existing LT panel available at following locations including disconnection & dismantling of control and power cabling, earthing etc, dis-assembling the Panel from the PCC/metal structure alongwith shifting and transporting of LT Panel to Old Water Treatment Plant etc and handing over the same to AAI, complete as arequired and as per the instructions of the Engineer-In-Charge. |     |        |          |                     |
| a)            | Old WTP Feeder Pillar                                                                                                                                                                                                                                                                                                                                                                                     | 1   | Job    | 3,000.00 | 3,000.00            |
| b)            | LT Panel for Old WTP Raw Water Pump Room                                                                                                                                                                                                                                                                                                                                                                  | 1   | Job    | 2,500.00 | 2,500.00            |
| c)            | LT Panel for Old WTP Pump Room                                                                                                                                                                                                                                                                                                                                                                            | 1   | Job    | 2,500.00 | 2,500.00            |
| d)            | LT Panel for Cowl Bazaar Pump Room                                                                                                                                                                                                                                                                                                                                                                        | 1   | Job    | 3,500.00 | 3,500.00            |
| e)            | i) LT Panel for 25 Pump Room - 1 Job<br>ii) LT Panel for Cargo Well Pump Room - 1 Job<br>iii) LT Panel for Old Fire Pump House - 1 Job                                                                                                                                                                                                                                                                    | 3   | Job    | 2,500.00 | 7,500.00            |
| f)            | Runway 25 side Outdoor LT Panel                                                                                                                                                                                                                                                                                                                                                                           | 1   | Job    | 3,000.00 | 3,000.00            |
| g)            | LT Panel for Old Pump Room / Cargo Pump Room                                                                                                                                                                                                                                                                                                                                                              | 1   | Job    | 3,000.00 | 3,000.00            |
|               | <b>SH-III Total Rs.</b>                                                                                                                                                                                                                                                                                                                                                                                   |     |        |          | <b>25,000.00</b>    |
|               | <b>SH-I , SH-II &amp; SH-III Total Rs.</b>                                                                                                                                                                                                                                                                                                                                                                |     |        |          | <b>55,96,250.00</b> |
|               | <b>Say Rs.</b>                                                                                                                                                                                                                                                                                                                                                                                            |     |        |          | <b>55,96,250.00</b> |

(Rupees Fifty Five Lakhs Ninety Six Thousand Two Hundred Fifty Only) (Excluding GST)

Note: Applicable GST Shall be paid on submission of Taxable Invoice.

  
 (G.N.D.KENNEDY)  
 Jt.GEN.MANAGER (ENGG-ELECT)-I