



भारतीय विमानपत्तन प्राधिकरण

AIRPORTS AUTHORITY OF INDIA

No: AAI/CIA/AMED-VI/FMC-WS/2020-21/A- 42

Date: 27.02.2021

To

**M/s. Chennai Engineering Services.,**

Plot No.30, Door No.1-536,  
Krishna Nagar, 1<sup>st</sup> Street,  
Manapakkam, Chennai-600125.

**Sub:** Facility Management of Water Supply System and Sewage Treatment Plant at Chennai Airport. **Sub Head: Providing Operation & Maintenance Service of Water Supply System for Old & New Water Treatment Plant, Sewage Treatment Plant, CISF Barracks, Borewells and Open wells at various locations including Softener, RO Plant & De-Watering System.**

**Ref: Tender ID: 2021\_AAI\_66516\_1**

**Tender Ref. No.: AAI/CHE/AMED-VI/2020-21/03**

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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.5,27,04,347.00** (Rupees Five Crores Twenty Seven Lakhs Four Thousand Three Hundred Forty Seven Only) which is 24.60% below the Estimated cost of **Rs.6,99,02,512.00** (Rupees Six Cores Ninety Nine Lakhs Two Thousand Five Hundred Twelve Only) and Justified cost of **Rs.6,99,01,456.00** (Rupees Six Crores Ninety Nine Lakhs One Thousand Four Hundred Fifty Six Only) which is inclusive of all the taxes, duties, levies and octroi etc., but exclusive of GST, EPF, ESI/Medicaid, Difference in Minimum wages & Bonus which shall be reimbursed as per actual on submission of documentary proof.
2. Joint. General. Manager (Engg.-Elect)-I, AMED, Operational Office, Airport Authority of India, Chennai Airport, Chennai-600 016 shall be the Engineer-In-Charge of the work. You are requested to attend the office of Joint General Manager (Engg -Elect)-I, AMED, AAI, Chennai Airport on or before **08.03.2021** to sign and complete the contract agreement. The contract agreement shall be executed on a non-judicial stamp paper of value of Rs.100/- (Rupees One Hundred Only) and the cost of the stamp paper shall be borne by you.
3. Please deposit the amount of **Rs.26,35,218.00/-** (Rupees Twenty Six Lakhs Thirty Five Thousand Two Hundred Eighteen Only) towards Security Deposit within 10 days from the date of issue of this letter failing which the same will be deducted as per Clause-1A on Page No.18 of General conditions of contract.
4. You shall submit Performance Guarantee within 30 days of issue of award letter, as per GCC clause No.1 for an amount of **Rs.15,81,130.00** (Rupees Fifteen Lakhs Eighty One Thousand One Hundred Thirty only) in the form of Bank Guarantee on the Proforma appended at Annexure -XI on Page No.110 of GCC of Contract Document.

Contd.....2

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

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

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 the execution of the above work.
6. 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.
7. Please note that the time allowed for carrying out the work shall be **24 (Twenty Four) Months** and same shall be reckoned for **Phase-I: 1<sup>st</sup> Year from 01.03.2021 to 28.02.2022 and Phase-II: 2<sup>nd</sup> Year from 01.03.2022 to 28.02.2023.**
8. Any further correspondence in connection with the contract should normally be addressed to the Engineer-In-Charge.
9. 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.

**Encl:** Schedule of Quantities (Page No.1 to 59)

**Yours faithfully,**



**(G.N.D.KENNEDY)**

**Jt. Gen. Manager (Engg - Elect)-I,  
For and on behalf of the Chairman,  
Airports Authority of India.**

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

**ABSTRACT OF WORK**

**Name of Work:** Facility Management of Water Supply System and Sewage Treatment Plant at Chennai Airport. **Sub Head:** Providing Operation & Maintenance Service of Water Supply System for Old & New Water Treatment Plant, Sewage Treatment Plant, CISF Barracks, Bore wells and Open wells at various locations including Softener, RO Plant & De-Watering System.

| Sl.No | Details                                                                     | First Year            | Second Year           | Total Amount          |
|-------|-----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| 1     | SUB HEAD - I (AMC)                                                          | 1,73,80,692.00        | 1,73,80,080.00        | 3,47,60,772.00        |
| 2     | SUB HEAD - II (ARC)                                                         | 17,35,514.00          | 17,36,312.00          | 34,71,826.00          |
| 3     | SUB HEAD - III (Maintainance works)                                         | 42,14,482.00          | 33,11,967.00          | 75,26,449.00          |
| 4     | Sub Head-IV Supply of Spares                                                | 15,16,642.00          | 13,61,738.00          | 28,78,380.00          |
| 5     | Sub head - V Supply of Chemicals                                            | 14,93,970.00          | 14,93,970.00          | 29,87,940.00          |
| 6     | Sub head - VI Replacement of Filtration media                               | 3,50,000.00           | 6,80,000.00           | 10,30,000.00          |
| 7     | Sub head - VII Contingency                                                  | 23,000.00             | 25,980.00             | 48,980.00             |
|       | <b>Total Amount<br/>(Excluding EPF, ESI/Mediclaim, Bonus &amp; GST) RS.</b> | <b>2,67,14,300.00</b> | <b>2,59,90,047.00</b> | <b>5,27,04,347.00</b> |
|       |                                                                             |                       | <b>SAY Rs.</b>        | <b>5,27,04,347.00</b> |

**(Rupees Five Crores Twenty Seven Lakhs Four Thousand Three Hundred Forty Seven Only)**

  
27/02/2021  
( G.N.D. Kennedy )  
Jt. Gen. Manager (Engg-Elect)-I



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

**SCHEDULE OF QUANTITY**

**Name of Work: Facility Management of Water Supply System and Sewage Treatment Plant at Chennai Airport.**

**Sub Head: Providing Operation & Maintenance Service of Water Supply System for Old & New Water Treatment Plant, Sewage Treatment Plant, CISF Barracks, Bore wells and Open wells at various locations including Softener, RO Plant & De-Watering System.**

**1st YEAR: 12 MONTHS**

| It.No                     | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Qty | Unit   | Rate        | Amount       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| <b>SUB HEAD - I (AMC)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |        |             |              |
| 1                         | Providing Operation Services of Water Supply System in Operational area at Cowl bazaar & New Fire station pump House, Cargo & MES open well, Runway - 25 End, Old Fire station and Old Pump Houses etc. as per inventory in "Annexure -A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of preventive & normal maintenance records, log books as required etc. and cleaning, upkeeping on all days. These services should be ensured for above mentioned Water Supply System equipment's, Electric motor driven pump sets, borewells, open wells, MCC & starter panels and control panels on round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a                         | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12  | Months | 1,95,000.00 | 23,40,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Qty | Unit   | Rate        | Amount       |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 2     | Providing Operation Services of water treatment and supply system at Old Water Treatment Plant (WTP) associated borewells etc. as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring output treated water quality to specifications, chemical testing / sample analysis / corrective actions by chemist, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of lab, normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services including supervision of all above activities shall be ensured, covering Water Treatment and Supply System equipment's, Electric motor driven pump sets, associated borewells, open wells, Sumps, MCC & starter panels and control panels round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12  | Months | 2,65,000.00 | 31,80,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Qty | Unit   | Rate        | Amount       |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 3     | Providing Operation Services of water treatment and supply system at New Water Treatment Plant (NWTP) including Reverse Osmosis (RO) Plant of capacity 14 cum/hr x 2 nos. with all relevant water sources as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring output treated water quality to specifications, chemical testing / sample analysis / corrective actions by chemist, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of lab, normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services including supervision of all above activities shall be ensured for WTP and RO Plant equipment's, Electric motor driven pump sets, associated borewells, open wells, Sumps, MCC & starter panels and control panels round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 12  | Months | 3,75,000.00 | 45,00,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty | Unit   | Rate        | Amount       |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 4     | Providing Operation Services of Sewage System installations at Sewage Treatment plant (STP) of capacity 2MLD and associated Tertiary Treatment Plant (TTP) with all relevant water sources as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring output treated water quality to specifications, chemical testing / sample analysis / corrective actions by chemist, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of lab, normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services including supervision of all above activities shall be ensured for STP and TTP Plant equipment's, Electric motor driven pump sets, associated borewells, open wells, Sumps, MCC & starter panels and control panels round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12  | Months | 2,10,000.00 | 25,20,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Qty | Unit   | Rate        | Amount       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 5     | Providing Operation Services of water supply system in CISF Barracks pump House associated borewells etc. as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring serviceability / satisfactory working condition of the systems, maintenance activity updation of preventive & normal maintenance records, log books as required etc. and cleaning, upkeeping on all days. These services should be ensured for above mentioned Water Supply System equipment's, Electric motor driven pump sets, borewells, drain sump, MCC & starter panels and control panels on round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12  | Months | 1,05,000.00 | 12,60,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qty | Unit   | Rate      | Amount      |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-----------|-------------|
| 6     | Providing Operation Services of De-watering and Sewage pump sets installed at various location at basement of New Domestic and New International Terminal Buildings and connecting tunnel as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, monitoring & ensuring serviceability of the systems, maintenance activity as per attached "Annexure-A2" normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services should be ensured for above mentioned de-watering and sewage pump system, Electric motor driven pump set, MCC & starter panel and control panels on round the clock (3 Shift X 8 Hrs.) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |           |             |
| a     | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12  | Months | 55,000.00 | 6,60,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Qty | Unit   | Rate        | Amount       |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 7     | Providing of day-to-day, preventive maintenance, installation, dismantling, rectification, Repair Service of all Electro-Mechanical Inventory with water supply division covering, Mechanical, Electrical and Plumbing works involved, covering the entire scope of preventive maintenance, repair activities indicated but not limited to special condition of contract, technical specification, maintenance & operation manual of AAI, OEM manuals ensuring serviceability / satisfactory working of all water supply system equipment on all days including Sundays / holidays attending minor & major faults, cleaning, upkeeping of the installations , preventive maintenance (as per "Annexure-A2)" related records, log books, timely appraising equipment health status, repairs, replacements (if any) etc. reporting as and when required as per direction of Engineer-In-Charge etc. complete as per the site requirement. |     |        |             |              |
| a.    | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12  | Months | 1,40,000.00 | 16,80,000.00 |
| 8     | Testing of following water samples from Government laboratory every month and production of Test Report to the Engineer-In-Charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |        |             |              |
| a.    | Samples:<br>i) Old WTP Raw Water<br>(ii) Old WTP Treated Water<br>(iii) New WTP Domestic Water<br>iv) Domestic (SHA) Terminal (NDT)<br>(v) International (SHA) Terminal (NIT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |        |             |              |
|       | (i) to (v) - One job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |     |        |             |              |
|       | For First year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12  | Jobs   | 10,559.00   | 1,26,708.00  |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                            | Qty | Unit   | Rate        | Amount                |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|-----------------------|
| 9     | Testing of following sewage samples from existing STP at State / Central Govt. Laboratory every month and submit the original analysis test report to Engineer -In-charge etc. Complete as required.                                                                                                                                                                            |     |        |             |                       |
|       | Samples:                                                                                                                                                                                                                                                                                                                                                                        |     |        |             |                       |
|       | i) Sewage Collection Well<br>(ii) Sewage Treated Water                                                                                                                                                                                                                                                                                                                          |     |        |             |                       |
|       | (i) to (ii) - One Job                                                                                                                                                                                                                                                                                                                                                           |     |        |             |                       |
|       | For First year                                                                                                                                                                                                                                                                                                                                                                  | 12  | Jobs   | 9,292.00    | 1,11,504.00           |
| 10    | Providing Services of one number New Mahindra Bolero/Mahindra Scorpio vehicle alongwith driver for distance upto 60 KM/day or 1800 KM/month on round the clock basis for day-to-day maintenance services and attending Inspection/Preventive & Break down maintenance for Water Supply Systems Plant rooms, Pump rooms on both the city side and apron side at Chennai Airport. |     |        |             |                       |
|       | For First year                                                                                                                                                                                                                                                                                                                                                                  | 12  | Months | 83,540.00   | 10,02,480.00          |
|       | <b>Sub Head-I (AMC) Total Rs.</b>                                                                                                                                                                                                                                                                                                                                               |     |        |             | <b>1,73,80,692.00</b> |
|       | <b><u>SUB HEAD - II (ARC)</u></b>                                                                                                                                                                                                                                                                                                                                               |     |        |             |                       |
| 1     | Supply and Installation of RO filter catridge for RO plant etc. complete as required                                                                                                                                                                                                                                                                                            |     |        |             |                       |
| a)    | 2.5" OD X 1" ID X 40" L                                                                                                                                                                                                                                                                                                                                                         | 62  | Nos    | 399.00      | 24,738.00             |
| b)    | 2.5" OD X 1" ID X 20" L                                                                                                                                                                                                                                                                                                                                                         | 24  | Nos    | 199.00      | 4,776.00              |
| 2     | Replacement of existing Damaged 8" dia RO-Filter Membrane (6 Nos/Housing) for RO plant at New Water Treatment Plant etc complete as required.                                                                                                                                                                                                                                   | 3   | Jobs   | 1,20,000.00 | 3,60,000.00           |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                        | Qty | Unit | Rate      | Amount    |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 3     | Chemical Cleaning and overhauling of filter membranes of RO system unit (3Housing/plant) of capacity 14 cum/hr. with required chemicals in WTP to bring the water quality to the desired level as specified in technical specification etc complete as required.                                                                                                                                            | 2   | Jobs | 15,000.00 | 30,000.00 |
| 4     | Cleaning of Stainless Steel RO water storage tank (30,000 Ltr) using necessary chemicals, rinse clean and draining out complete etc as required.                                                                                                                                                                                                                                                            | 4   | Jobs | 2,500.00  | 10,000.00 |
| 5     | Dismantling, overhauling and servicing of all type of centrifugal pumpsets including replacement of pump spares (such as impeller, Gland/ mechanical Seal, Gland packing, set of bearings, shaft sleeve, terminal board, terminal box, gasket, liquid reflector, impeller lock nut, cooling fan etc) re-assembling, painting, re-installing the same, testing and commissioning etc., complete as required. |     |      |           |           |
| a     | Upto 3 HP                                                                                                                                                                                                                                                                                                                                                                                                   | 5   | Jobs | 5,000.00  | 25,000.00 |
| b     | 5 HP to 10 HP                                                                                                                                                                                                                                                                                                                                                                                               | 5   | Jobs | 6,000.00  | 30,000.00 |
| c     | above 10HP upto 20 HP end suction pump.                                                                                                                                                                                                                                                                                                                                                                     | 8   | Jobs | 7,000.00  | 56,000.00 |
| d     | above 10HP upto 20 HP Split case pump                                                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 7,000.00  | 14,000.00 |
| 6     | Dismantling the existing centrifugal pumpset of following capacity including rewinding, servicing, replacement of motor spares (such as bearings, cooling fan, Terminal Board, terminal box with top), rebate for wound out copper and re-installing the same etc. as required.                                                                                                                             |     |      |           |           |
| a     | Upto 1.5HP                                                                                                                                                                                                                                                                                                                                                                                                  | 6   | Jobs | 3,000.00  | 18,000.00 |
| b     | above 1.5HP upto 3HP                                                                                                                                                                                                                                                                                                                                                                                        | 3   | Jobs | 4,000.00  | 12,000.00 |
| c     | above 3HP upto 10HP                                                                                                                                                                                                                                                                                                                                                                                         | 6   | Jobs | 6,000.00  | 36,000.00 |
| d     | above 10HP upto 20HP                                                                                                                                                                                                                                                                                                                                                                                        | 3   | Jobs | 7,000.00  | 21,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                               | Qty | Unit | Rate      | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 7     | Dismantling, lifting, lowering, painting and re-installation of existing sewage submersible pumpset of following capacity including servicing, replacement of all pump spares (such as Impeller, Mechanical seal, Cutter, Set of 'O' rings, Oil seal, Oil for seal cooling etc.,) and Testing, Commissioning etc complete as required.                                             |     |      |           |           |
| a     | upto 1 HP                                                                                                                                                                                                                                                                                                                                                                          | 1   | Jobs | 7,000.00  | 7,000.00  |
| b     | above 1HP upto 3HP                                                                                                                                                                                                                                                                                                                                                                 | 1   | Jobs | 7,000.00  | 7,000.00  |
| c     | above 3HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                               | 4   | Jobs | 8,000.00  | 32,000.00 |
| 8     | Dismantling, lifting, lowering, painting, rewinding and re-installation of existing sewage submersible pumpset motor of following capacity, including replacement of motor spares (if any required), rebate for wound out copper and Testing, Commissioning etc complete as required.                                                                                              |     |      |           |           |
| a     | Upto 1 HP                                                                                                                                                                                                                                                                                                                                                                          | 1   | Jobs | 7,000.00  | 7,000.00  |
| b     | above 1HP upto 3HP                                                                                                                                                                                                                                                                                                                                                                 | 1   | Jobs | 7,000.00  | 7,000.00  |
| c     | above 3HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                               | 4   | Jobs | 8,000.00  | 32,000.00 |
| 9     | Dismantling, lifting, lowering, painting, re-installation of sewage submersible pumpset from existing sewage well including rewinding , servicing, replacement of all spares (such as Impeller, Mechanical seal, Cutter, Set of 'O' rings, Oil seal, Oil for seal cooling, Set of bearings etc), rebate for wound out copper and testing, commissioning, Complete etc as required. |     |      |           |           |
| a     | Above 7.5 HP upto 12.5HP- At STP Collection Well and Grid 72                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 25,000.00 | 50,000.00 |
| b     | 30 HP - At IAD Residential Colony                                                                                                                                                                                                                                                                                                                                                  | 1   | Jobs | 40,000.00 | 40,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                     | Qty | Unit | Rate     | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----------|-----------|
| 10    | Lowering of Borewell Submersible pump sets for New borewell (upto 200 feet depth) including couplings, pipe fittings (nipple, elbow, flange valves, clamps etc) lowering and fixing of pipes, submersible cables, cable panel connections etc., complete as required.<br>(Note: Borewell Pump, GI pipe and fittings shall be supplied by AAI)                                            | 6   | Jobs | 2,500.00 | 15,000.00 |
| 11    | Lifting and Lowering of Borewell submersible pumpset (upto 200 feet depth) from existing borewell of 2"/1.5" dia G.I pipe including cutting, re-threading of existing pipes, pipe fittings (nipple, elbow, flange valves, clamps etc) and installations of submersible pump set (Provided by AAI) along with submersible cables, cable and panel connections etc., complete as required. | 10  | Jobs | 4,000.00 | 40,000.00 |
| 12    | Servicing of existing Borewell submersible pump of following capacity including replacement of all pump spares (such as Impeller, Diffusers, Pump Shaft, Set of shaft sleeves, Retainer ring, Pump Coupling etc) and re-assembling the same etc complete as required.                                                                                                                    |     |      |          |           |
| a     | Upto 3 HP                                                                                                                                                                                                                                                                                                                                                                                | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 5HP                                                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 5HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                                     | 1   | Jobs | 7,000.00 | 7,000.00  |
| 13    | Rewinding and servicing of Borewell Submersible Pump - motor, replacement of spares (if any), including rebate for wound out copper of following capacity etc complete as required.                                                                                                                                                                                                      |     |      |          |           |
| a     | Upto 3 HP                                                                                                                                                                                                                                                                                                                                                                                | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 5HP                                                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 5HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                                     | 1   | Jobs | 7,000.00 | 7,000.00  |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                | Qty | Unit | Rate     | Amount    |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----------|-----------|
| 14    | Servicing of existing Borewell submersible pump-motor of following capacity including replacement of all motor spares (such as Thrustpad, Thrust bearing assembly, Diaphragm, Set of keys, Oil Seal, Diaphragm Plate etc.) and re-assembling the same etc complete as required.                                                                                                                     |     |      |          |           |
| a     | Up to 3HP                                                                                                                                                                                                                                                                                                                                                                                           | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 5HP                                                                                                                                                                                                                                                                                                                                                                                  | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 5HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                                                | 1   | Jobs | 5,000.00 | 5,000.00  |
| 15    | Dismantling, lifting, lowering, painting and re-installation of openwell/ sump submersible pumpset including servicing, re-threading, replacement of pump spares (such as Impeller, Oil Seal, Thrustpad, Thrust bearing assembly, Diaphragm, Gasket, Impeller locknet, Strainer, Diaphragm Plate etc.) and installation, testing, and commissioning of the same complete etc, as and when required. |     |      |          |           |
| a     | Upto 3HP                                                                                                                                                                                                                                                                                                                                                                                            | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 7.5                                                                                                                                                                                                                                                                                                                                                                                  | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 7.5HP upto 10HP                                                                                                                                                                                                                                                                                                                                                                               | 2   | Jobs | 6,000.00 | 12,000.00 |
| d     | above 10HP upto 15HP                                                                                                                                                                                                                                                                                                                                                                                | 4   | Jobs | 7,000.00 | 28,000.00 |
| 16    | Dismantling, lifting, lowering, painting, rewinding and re-installation of open well submersible pumpset motor of following capacity including pipes & plumbing accessories, rebate for wound out copper, and Testing, Commissioning etc complete as required.                                                                                                                                      |     |      |          |           |
| a     | Upto 3HP                                                                                                                                                                                                                                                                                                                                                                                            | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP to upto 7.5                                                                                                                                                                                                                                                                                                                                                                               | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 7.5HP upto 10HP                                                                                                                                                                                                                                                                                                                                                                               | 2   | Jobs | 6,000.00 | 12,000.00 |
| d     | above 10HP upto 15HP                                                                                                                                                                                                                                                                                                                                                                                | 4   | Jobs | 7,000.00 | 28,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                        | Qty | Unit | Rate      | Amount      |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-------------|
| 17    | Dismantling, Lifting, lowering, painting and re-installation of all types of De-watering submersible pump sets of following capacity including rewinding, servicing, replacement of spares (shaft seal, O ring, Bearings etc.) for pump & motor, rebate for wound out copper, testing and commissioning etc., complete as required.                         |     |      |           |             |
| a     | Upto 3HP                                                                                                                                                                                                                                                                                                                                                    | 5   | Jobs | 6,000.00  | 30,000.00   |
| 18    | Dismantling, overhauling and servicing of all type of HPS vertically mounted centrifugal pump sets/RO High pressure pumpset (Grundfos Make) including replacement of pump spares (such as impeller, shaft seal, 'O' ring, Head spring, bearings etc) re-assembling, painting, re-installing the same, testing and commissioning etc., complete as required. |     |      |           |             |
| a.    | RO High Pressure Pump                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 30,000.00 | 60,000.00   |
| b.    | RO Chemical Wash Pump                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 15,000.00 | 30,000.00   |
| c.    | Softener HPS Pump                                                                                                                                                                                                                                                                                                                                           | 2   | Jobs | 50,000.00 | 1,00,000.00 |
| d.    | Domestic HPS Pump                                                                                                                                                                                                                                                                                                                                           | 2   | Jobs | 60,000.00 | 1,20,000.00 |
| e.    | RO HPS Pump                                                                                                                                                                                                                                                                                                                                                 | 2   | Jobs | 8,000.00  | 16,000.00   |
| 19    | Dismantling the existing HPS vertically mounted centrifugal pump sets/RO High pressure pumpset (Grundfos Make) including rewinding, servicing, replacement of motor spares (such as bearings, cooling fan, Terminal Board, terminal box with top), rebate for wound out copper and re-installing the same etc. as required.                                 |     |      |           |             |
| a.    | RO High Pressure Pumpset Motor                                                                                                                                                                                                                                                                                                                              | 1   | Jobs | 10,000.00 | 10,000.00   |
| b.    | RO Backwash Pumpset Motor                                                                                                                                                                                                                                                                                                                                   | 1   | Jobs | 7,000.00  | 7,000.00    |

| It.No | Description of Items                                                                                                                                                                                                                                            | Qty | Unit     | Rate      | Amount              |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------|-----------|---------------------|
| c.    | Softener HPS Pumpset Motor                                                                                                                                                                                                                                      | 1   | Jobs     | 7,000.00  | 7,000.00            |
| d.    | Domestic HPS Pumpset Motor                                                                                                                                                                                                                                      | 1   | Jobs     | 11,000.00 | 11,000.00           |
| e.    | RO HPS Pumpset Motor                                                                                                                                                                                                                                            | 1   | Jobs     | 5,000.00  | 5,000.00            |
| 20    | Providing man power to attend any urgent / emergency work with necessary tools and plants on round the clock basis etc complete as required.                                                                                                                    |     |          |           |                     |
| a.    | Highly skilled labour                                                                                                                                                                                                                                           | 60  | Man-Days | 810.00    | 48,600.00           |
| b.    | Skilled labour                                                                                                                                                                                                                                                  | 30  | Man-Days | 790.00    | 23,700.00           |
| c.    | Semi skilled labour                                                                                                                                                                                                                                             | 90  | Man-Days | 800.00    | 72,000.00           |
| d.    | Unskilled labour                                                                                                                                                                                                                                                | 90  | Man-Days | 750.00    | 67,500.00           |
| 21    | Providing Excavater (JCB) including Operator for emergency / un anticipated break down / maintenance work, cable works etc., complete as required.                                                                                                              | 16  | Hrs      | 1,200.00  | 19,200.00           |
| 22    | Providing Tractorwith Trolley including driver and loaders-3, loaders for shifting of debris / wastes from water supply system locations, pump houses etc. to waste dump yard or for emergency / un-anticipated break down / maintenance works etc as required. | 16  | Hrs      | 1,000.00  | 16,000.00           |
| 23    | Providing One Welder alongwith Electric welding machine and welding rods for carrying out welding works during any urgent Preventive Maintenance/ Breakdown Maintenance /Emergency work as and when required.                                                   | 50  | Hrs      | 300.00    | 15,000.00           |
|       | <b>Sub Head-II (ARC) Total</b>                                                                                                                                                                                                                                  |     |          |           | <b>17,35,514.00</b> |
|       | <b><u>SUB HEAD - III (Maintainance works)</u></b>                                                                                                                                                                                                               |     |          |           |                     |
| 1     | Supply of Activated Sludge (MLSS) to Chennai 2 MLD Sewage Treatment Plant at Chennai Airport as and when required (Note: 1 Lot of MLSS = 9000 Litres)                                                                                                           | 3   | Lot      | 10,000.00 | 30,000.00           |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                        | Qty | Unit   | Rate      | Amount      |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-----------|-------------|
| 2     | Supply of Moving Bed Bio Reactor media MOC:polypropylene,400 M2/M3, cylindrical external fins, Height/Dia of 15mm/22mm, PSA/TSA of minimum 75 % - confirmaing to technical specifications in existing aeration tank including transport, unloading at AAI store etc. complete as required.                                                                                                                                  | 10  | CUM    | 12,500.00 | 1,25,000.00 |
| 3     | Replacement of entire strainer nozzles Method of Characteristics (MOC) :Plastic,K1+NU 60, 70 Dia x 48 Height, Size of nozzle connection:M24 x 50/80, slit size:0.2 mm, No of slits per nozzle:40 Nos. in softener tank including evacuation, storage & refilling of existing Softener Resin Media in Softener Vessel (6400 Ltr ) as per specification & standard design complete etc as required.<br>Media:6400 Ltrs/Vessel | 1   | Job    | 20,000.00 | 20,000.00   |
| 4     | Provision of fiberglas re-inforced (FRP) lining on existing MS/GI pipe line external surface complete with cleaning,wrapping, fixing with binding components, pigment compund layer as per technical specification complete etc as required.                                                                                                                                                                                | 150 | Sq.Mtr | 300.00    | 45,000.00   |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Qty | Unit | Rate      | Amount    |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 5     | <p>Mechanized Cleaning of Clarifier tank including disposal of silt and rubbish etc complete as required as per the direction of Engineer-In-Charge.</p> <p>The cleaning shall consist of following operations:</p> <ol style="list-style-type: none"> <li>1. De-watering of sump.</li> <li>2. Entire surface area (walls, floor etc) of the sump shall then scrubbed thoroughly with wire brush etc. and pressure washed with high pressure water jet.</li> <li>3. Wall painting of entire clarifier surface inside and outside with approved paint to achieve even shade and color.</li> <li>4. Painting of all metallic parts of the reactor clarifier- Detention Hood, Draft tube, Drive wheel (Iylam), clarifier scrapper arm, Bridge, Impeller, staircase etc after through scrapping, Sodium hypo treatment of submerged parts and replacing the rusted nut, bolt washer, scrapper blade etc., complete as per the site requirements.</li> </ol> | 1   | Job  | 25,000.00 | 25,000.00 |
| 6     | De-silting of Equivalization tank (open to air) of 13600X 14350 X 3600 SWD draining out, collection, lifting from Tank floor spreading in sludge bed for proper drying complete with sundries, lighting, blower fan, speciliased labour with protective gear etc., complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1   | Job  | 25,000.00 | 25,000.00 |
| 7     | Testing of Ion-exchange softener Resin sample from an accredited or OEM lab and submission of original test report to the Engineer-In-Charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6   | Job  | 6,000.00  | 36,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                              | Qty  | Unit | Rate        | Amount      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|-------------|-------------|
| 8     | Mechanised Cleaning & de-silting of sewage collection well using compressor and associated equipment including dosing of stabiliser chemical for dilution of sludge and disposal of left out sludges away from Airport premises etc., complete as required.                                                                                       |      |      |             |             |
| a     | STP Collection well at 2 MLD STP-(10 depth X 14 Mtr Dia)                                                                                                                                                                                                                                                                                          | 1    | Job  | 1,30,000.00 | 1,30,000.00 |
| b     | Grid-72 well- (8 X 9 X 6 depth Mtr)                                                                                                                                                                                                                                                                                                               | 2    | Job  | 1,20,000.00 | 2,40,000.00 |
| c     | Residential colony-sewage wells<br>i) 2.36 dia X 7 Mtr Depth - 2No<br>ii) 3.56 dia X 7.9 Mtr Depth -1No<br>Sl.No.i) & ii) = 1Job                                                                                                                                                                                                                  | 1    | Job  | 80,000.00   | 80,000.00   |
| 9     | Cleaning of sewage (sumps of depth 10 to 15 feet, size from 500 Cubic feet to 1000 cubic feet) in Domestic and International terminal basement with mechanised de-silting compressor, sump scrubbing, debris removal and disposal of left out sludges away from Airport premises as per direction of Engineer-In-Charge etc complete as required. |      |      |             |             |
| a     | Sewage sump with depth 10 to 15 feet -all size (500 Cubic feet to 1000 cubic feet)                                                                                                                                                                                                                                                                | 8    | Job  | 18,000.00   | 1,44,000.00 |
| 10    | 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 | Kgs  | 70.00       | 70,000.00   |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Qty  | Unit   | Rate      | Amount      |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|-----------|-------------|
| 11    | Brush/Spray Painting of various metal surfaces after cleaning/scrapping the surface with emery paper and applying 02 coat anti-corrosive metal red-oxide primer & 2 coats Enamel paint of approved brand and colour to give an even shade complete etc as required<br>(Paint Colour to be decided by Engineer-In-Charge).                                                                                                                                                                      | 1000 | Sq.Mtr | 100.00    | 1,00,000.00 |
| 12    | Repair of existing 275 m3/Hr Kay Make twin-lobe air blowers including dismantling, servicing, replacement of damaged spares (roller bearing, rings, O-ring, oil seal, gasket, shaft, bearing collar, suction air filter, pressure guage, pressure relief valve, NRV, belt pulley with machining, bolts, nuts, washer etc) re-alignment, installation, testing and commissioning at New Water Treatment Plant etc complete as required.<br>(Note: Repair of 01 Blower is considered as 01 Job.) | 3    | Job    | 25,000.00 | 75,000.00   |
| 13    | Repair of existing 30KVA DG Set trolley located at STP including replacement of 4 Nos tyres with new non- marking tyre and servicing/ replacement of turn table, bearings, welding of damaged parts, scrubbing, painting it with 01 coat of primer and 02 coats of enamel paint complete as required and as per the direction of Engineer-In-Charge.                                                                                                                                           | 1    | Job    | 40,000.00 | 40,000.00   |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qty | Unit   | Rate      | Amount      |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-----------|-------------|
| 14    | Provision of S.S water level indicator-1" Size in brine tank including Supply & fixing of tube level gauge of heavy wall borosilicate HW 18mm or 19mm glass tube along with associated accessories of SS-316 standard, SS protection channel, vent, drain of 1/2" Bsp plugs etc. including dismantling of existing rusted parts guage, fabrication of water outlet extension pipe with UPVC Tank nipple, flange & installation, testing, commissioning etc complete as required.                                                                                                                                            | 4   | Job    | 20,000.00 | 80,000.00   |
| 15    | Supply and replacement of 100mm dia pressure guages, 0-200PSI, H.Guru make or as per the approved make, specification including welding of GI nipple and necessary connection as required & as per direction of Engineer-In-Charge.                                                                                                                                                                                                                                                                                                                                                                                         | 30  | Nos    | 1,200.00  | 36,000.00   |
| 16    | Supply and fixing of non-corrosive Fiberglass Reinforced Plastic (FRP) molded grating (Load : atleast 500Kg/Sq.mtr) walkway of Mesh size 38mm X 38mm , Height: 38 mm, 3 mm thickness Chequered plate molded onto FRP Grating, With Rib thickness 5/7 mm on existing sump including fixing of newly fabricated bottom Frame using MS L-Channel 50mm X 50mm X 5mm, painting of metal surface with 01 coat anticorrosive metal primer and 02 coats enamel paint, providing of MS/GI hooks for lifting and civil modification works (CC chipping, filling, finishing) for proper insertion & seating etc. complete as required. | 150 | Sq.Mtr | 3,000.00  | 4,50,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                     | Qty  | Unit | Rate     | Amount      |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------|-------------|
| 17    | Supplying and Installing following size of perforated Hot Dipped Galvanised Iron cable tray with perforation not more than 17.5%, in convenient sections, joined with connectors, supported at various locations with appropriate supports including G.I. bolts & nuts, etc as required. |      |      |          |             |
| a.    | 150 mm width X 50 mm depth X 1.6 mm thickness                                                                                                                                                                                                                                            | 30   | Mtr  | 357.00   | 10,710.00   |
| b.    | 300 mm width X 50 mm depth X 1.6 mm thickness                                                                                                                                                                                                                                            | 30   | Mtr  | 568.00   | 17,040.00   |
| c.    | 450 mm width X 50 mm depth X 2.0 mm thickness                                                                                                                                                                                                                                            | 30   | Mtr  | 984.00   | 29,520.00   |
| 18    | Supplying, fixing, testing and commissioning of Butterfly Valve (Manual) with CI body,SS disc,SS stem, nitrile/EPDM rubber seal,O - ring & PN 16 pressure rating alongwith bolt, nut ,washer as per following sizes etc including dismantling the existing valve complete as required.   |      |      |          |             |
| a.    | Butterfly Valve-200 mm Dia                                                                                                                                                                                                                                                               | 20   | No   | 9,900.00 | 1,98,000.00 |
| b.    | Butterfly Valve-150 mm Dia                                                                                                                                                                                                                                                               | 35   | No   | 5,610.00 | 1,96,350.00 |
| c.    | Butterfly Valve- 125 mm Dia                                                                                                                                                                                                                                                              | 3    | No   | 4,188.00 | 12,564.00   |
| d.    | Butterfly Valve- 100 mm Dia                                                                                                                                                                                                                                                              | 20   | No   | 2,590.00 | 51,800.00   |
| e.    | Butterfly Valve- 80 mm Dia                                                                                                                                                                                                                                                               | 10   | No   | 2,100.00 | 21,000.00   |
| f.    | Butterfly Valve- 65 mm Dia                                                                                                                                                                                                                                                               | 2    | No   | 1,700.00 | 3,400.00    |
| g.    | Butterfly Valve- 50 mm Dia                                                                                                                                                                                                                                                               | 20   | No   | 1,500.00 | 30,000.00   |
| 19    | Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.                                                                                |      |      |          |             |
| a.    | 50 mm                                                                                                                                                                                                                                                                                    | 300  | Mtr  | 145.00   | 43,500.00   |
| 20    | Supply of Softener Resin media (Indion 225 Na only) for top-up including transport loading, unloading at AAI site etc complete as required.                                                                                                                                              | 5000 | Ltr  | 80.00    | 4,00,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                  | Qty | Unit | Rate        | Amount      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
| 21    | Replacement of full pressure tank (Tank.Bladder,drain kit,flange etc) including dismantling the existing tank and installation of following capacity tank alongwith providing necessary pipeline connection for satisfactory working of Hydro Pneumatic Syatem (HPS) at various location of Chennai Airport etc complete as required. |     |      |             |             |
| a     | Wellmate pressure tank WM9 or equivalent                                                                                                                                                                                                                                                                                              | 2   | No   | 19,999.00   | 39,998.00   |
| b     | Wellmate pressure tank WM35 or equivalent                                                                                                                                                                                                                                                                                             | 4   | No   | 46,800.00   | 1,87,200.00 |
| c     | Wellmate pressure tank WM80 or equivalent                                                                                                                                                                                                                                                                                             | 3   | No   | 1,25,000.00 | 3,75,000.00 |
| 22    | Replacement of following Pressure Tank Bladder including removing of damaged bladder and providing New Bladder,filling air upto required pressure alongwith providing necessary pipeline connection for satisfactory working of Hydro Pneumatic Syatem (HPS) at various location of Chennai Airport etc complete as required.         |     |      |             |             |
| a     | Wellmate pressure tank WM9 or equivalent                                                                                                                                                                                                                                                                                              | 2   | No   | 18,000.00   | 36,000.00   |
| b     | Wellmate pressure tank WM35 or equivalent                                                                                                                                                                                                                                                                                             | 2   | No   | 30,000.00   | 60,000.00   |
| c     | Wellmate pressure tank WM80 or equivalent                                                                                                                                                                                                                                                                                             | 2   | No   | 72,000.00   | 1,44,000.00 |
| d.    | Zilmat ultra pro 500LV pressure Tank or equivalent                                                                                                                                                                                                                                                                                    | 2   | No   | 42,000.00   | 84,000.00   |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Qty | Unit | Rate     | Amount      |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----------|-------------|
| 23    | Periodical health checkup of entire Hydro Pneumatic System on Quarterly basis by OEM M/s.Grundfos or OEM authorized agency and attending minor faults of Equipment's, filling of air in Pressure tank using compressor upto required presurre,ensuring 100% Serviceability/ Satisfactory Working Condition of the system as per Standard Manufacturers' Practices, replacement of spares which will be supplied by AAI and submission of Service Reports etc as required and as per direction of Engineer-In-Charge.<br>Note: Health check up of 01 HPS system will be treated as 01 Job | 36  | Job  | 4,500.00 | 1,62,000.00 |
| 24    | Maintenance of 62.5 KVA Cummins Make DG Set mounted on Grundfos make dewatering Trolley by OEM/OEM Authorised Service Dealer, carrying out Routine/Preventive Maintenance on Quarterly Visit Basis, attending All Breakdown Maintenance Calls, carrying out "B" Check of Engines and attending minor faults of Equipment's, ensuring 100% Serviceability/ Satisfactory Working Condition of the Engine, as per Standard Manufacturers' Practices as per Special Terms and Conditions and submission of Service Reports etc as required and as per direction of Engineer-In-Charge.       |     |      |          |             |
| a.    | Quarterly visit Charges/ DG coupled Pumpset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 8   | Jobs | 2,300.00 | 18,400.00   |
| b.    | B Check Charge/ Engine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2   | Job  | 4,500.00 | 9,000.00    |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Qty | Unit | Rate      | Amount              |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|---------------------|
| 25    | Maintenance of 156HP Kirloskar make dewatering Pumpset alongwith Diesel Engine by OEM/OEM Authorised Service Dealer, carrying out Routine/Preventive Maintenance on Quarterly Visit Basis, attending All Breakdown Maintenance Calls, carrying out "B" Check of Diesel Engines and attending minor faults of Equipment's, ensuring 100% Serviceability/ Satisfactory Working Condition of the Engine, as per Standard Manufacturers' Practices as per Special Terms and Conditions and submission of Service Reports etc as required and as per direction of Engineer-In-Charge. |     |      |           |                     |
| a.    | Quarterly visit Charges/Dewatering Pumpset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 8   | Jobs | 12,000.00 | 96,000.00           |
| b.    | B Check Charge/ Engine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 2   | Job  | 8,000.00  | 16,000.00           |
| 26    | Maintenance & Servicing of following diesel engine operated dewatering pumpset and carrying out 'B' Check as per Special Terms and Conditions and submission of Service Reports etc as required and as per direction of Engineer-In-Charge                                                                                                                                                                                                                                                                                                                                       |     |      |           |                     |
| a     | 5 HP Kirloskar Diesel engine coupled dewatering pump                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 6   | Job  | 25,000.00 | 1,50,000.00         |
| 27    | Calibration of Digital Electro-Magnetic Flow meter available at various locations from the certified agency and submitting report to Engineer-In-Charge                                                                                                                                                                                                                                                                                                                                                                                                                          | 24  | Job  | 3,000.00  | 72,000.00           |
|       | <b>SUB HEAD - III (Maintainance works) Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |      |           | <b>42,14,482.00</b> |
|       | <b>Sub Head-IV Supply of Spares</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |      |           |                     |
| 1     | Supply of following Plumbing accessories/Submersible Pump accessories for various installations & locations etc as and when required.                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |      |           |                     |
| i     | 50mm B-Class GI Pipe (10 feet) (Threaded both Ends) Tata make Only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 100 | Each | 1,680.00  | 1,68,000.00         |

| It.No | Description of Items                                                                    | Qty | Unit | Rate     | Amount    |
|-------|-----------------------------------------------------------------------------------------|-----|------|----------|-----------|
| ii    | 2 inch coupling -100 mm long (Threaded Coupling)                                        | 50  | Nos  | 160.00   | 8,000.00  |
| iii   | 50 mm X 12 mm C- clamp set with nut bolt.                                               | 20  | Set  | 14.00    | 280.00    |
| iv    | GI elbow-2" (50 mm) Threaded                                                            | 10  | Nos  | 110.00   | 1,100.00  |
| v     | GI Flange-2" (50mm) Threaded                                                            | 10  | set  | 240.00   | 2,400.00  |
| vi    | GI Pipe Nipple-2" X 12" long                                                            | 20  | Nos  | 110.00   | 2,200.00  |
| vii   | Water Meter-2" (50 mm) Flanged End                                                      | 10  | Nos  | 3,800.00 | 38,000.00 |
| viii  | GI flexible Conduit PVC coated-2"                                                       | 100 | Mtr  | 140.00   | 14,000.00 |
| ix    | Water Level Controller (Make: L&T Model:XM810530000 or equivalent)                      | 4   | No   | 1,000.00 | 4,000.00  |
| x     | Water Level Controller Probes (Make:L&T Model: XM810760000 or equivalent) (Set of 6Nos) | 4   | Set  | 700.00   | 2,800.00  |
| xi    | <b>NRV wafer type:</b> Body CI, disc SS,<br>Seat:Nitrile/EPDM PN-16                     |     |      |          |           |
| a     | 150 mm Dia                                                                              | 2   | No   | 3,600.00 | 7,200.00  |
| b     | 100 mm Dia                                                                              | 2   | No   | 1,980.00 | 3,960.00  |
| c     | 80 mm Dia                                                                               | 2   | No   | 1,350.00 | 2,700.00  |
| d     | 50 mm Dia                                                                               | 2   | No   | 882.00   | 1,764.00  |
| xii   | <b>NRV Dual Plate type:</b> Body CI, disc SS,<br>Seat:Nitrile/EPDM PN-16                |     |      |          |           |
| a     | 150 mm Dia                                                                              | 2   | No   | 2,850.00 | 5,700.00  |
| b     | 100 mm Dia                                                                              | 5   | No   | 1,250.00 | 6,250.00  |
| c     | 80 mm Dia                                                                               | 2   | No   | 900.00   | 1,800.00  |
| xiii  | <b>NRV:</b> MOC-Gun Metal of approved quality (screwed end) :                           |     |      |          |           |
| a     | 40 mm nominal bore (Horizontal)                                                         | 2   | No   | 1,275.00 | 2,550.00  |
| b     | 50 mm nominal bore (Horizontal)                                                         | 5   | No   | 1,840.00 | 9,200.00  |
| c     | 80 mm nominal bore (Horizontal)                                                         | 1   | No   | 4,600.00 | 4,600.00  |
| xiv   | <b>Gate Valve:</b> MOC-Gun Metal with C.I. wheel of approved quality (screwed end) :    |     |      |          |           |
| a     | 80 mm nominal bore                                                                      | 1   | No   | 5,700.00 | 5,700.00  |
| b     | 50 mm nominal bore                                                                      | 5   | No   | 2,000.00 | 10,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                   | Qty | Unit | Rate      | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| c     | 40 mm nominal bore                                                                                                                                                                                                                                                                                                                                                     | 2   | No   | 1,400.00  | 2,800.00  |
| d     | 25 mm nominal bore                                                                                                                                                                                                                                                                                                                                                     | 2   | No   | 650.00    | 1,300.00  |
| xv    | Dummy Flange:MOC-Mild Steel with suitable Nuts & Bolts etc.                                                                                                                                                                                                                                                                                                            |     |      |           |           |
| a     | 6" MS Dummy Flange-20mm Thick                                                                                                                                                                                                                                                                                                                                          | 2   | No   | 820.00    | 1,640.00  |
| b     | 4" MS Dummy Flange-20mm Thick                                                                                                                                                                                                                                                                                                                                          | 2   | No   | 250.00    | 500.00    |
| 2     | Supply of Flat Three Core PVC Insulated & PVC Sheathed Industrial Cable for Submersible Pump Motors 1100 Volts, conforming to IS: 694, suitable for installation with Deep Borewell pump of suitable length etc., as required.                                                                                                                                         |     |      |           |           |
| a     | 2.5 Sqmm X 3 Core flat cable                                                                                                                                                                                                                                                                                                                                           | 600 | Mtr  | 100.00    | 60,000.00 |
| b     | 4 Sqmm X 3 Core flat cable                                                                                                                                                                                                                                                                                                                                             | 400 | Mtr  | 130.00    | 52,000.00 |
| c     | 6 Sqmm X 3 Core flat cable                                                                                                                                                                                                                                                                                                                                             | 100 | Mtr  | 200.00    | 20,000.00 |
| 3     | Supply of following panel board starter suitable to operate with 415 V, 50 Hz, 3 phase AC power supply various installations & locations etc as and when required.                                                                                                                                                                                                     |     |      |           |           |
| a     | 3HP/2.2 KW DOL Starter Panel                                                                                                                                                                                                                                                                                                                                           | 5   | Nos  | 3,000.00  | 15,000.00 |
| b     | 7.5HP/5.5KW Star-Delta Starter Panel                                                                                                                                                                                                                                                                                                                                   | 2   | Nos  | 7,000.00  | 14,000.00 |
| 4     | Supply of Borewell type Submersible Pumpset of Suitable rating, water filled cooling type, with SS strainer, SS Body,Noryl Impellers using anti-friction bearing, energy efficient type operated on 415V, 3 Phase,50Hz power for installation into 6" dia borewell including loading, unloading at site complete etc as required.<br>(Maximum borewell depth 250 feet) |     |      |           |           |
| a     | 5HP 3Phase - Borewell pump (Model No:KS4D 5025, Make: Kirloskar)                                                                                                                                                                                                                                                                                                       | 2   | No   | 32,000.00 | 64,000.00 |
| b     | 3HP 3Phase- Borewell Submersible pump (Model No:KS4D 3017, Make: Kirloskar)                                                                                                                                                                                                                                                                                            | 2   | No   | 22,000.00 | 44,000.00 |

| It.No | Description of Items                                                                                                             | Qty | Unit | Rate        | Amount      |
|-------|----------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|-------------|
| 5     | Supply & fixing of following Hydro Pneumatic system spares for various location as and whwn required.                            |     |      |             |             |
| a     | Drain Kit for WM9 Pressure Tank                                                                                                  | 2   | No   | 5,500.00    | 11,000.00   |
| b     | Drain Kit for WM35 Pressure Tank                                                                                                 | 2   | No   | 5,500.00    | 11,000.00   |
| c     | Flange for Zilmat ultra pro pressure Tank                                                                                        | 2   | No   | 6,000.00    | 12,000.00   |
| d     | Multi pump control CU352                                                                                                         | 2   | No   | 1,10,000.00 | 2,20,000.00 |
| e     | IO351B Module digital/analog                                                                                                     | 2   | No   | 19,000.00   | 38,000.00   |
| f     | R core transformer 100VA                                                                                                         | 2   | No   | 5,500.00    | 11,000.00   |
| g     | R core transformer 150VA                                                                                                         | 2   | No   | 5,500.00    | 11,000.00   |
| h     | Pressure Transmitter 0-16 Bar                                                                                                    | 2   | No   | 7,500.00    | 15,000.00   |
| 6     | Supply of actuator operated butterfly valve for Hydro Pneumatic System as and when required                                      |     |      |             |             |
| a     | 200 mm Dia Butterfly valve with Actuator Model No. VS150.90A.G00 or equivalent                                                   | 2   | No   | 1,00,000.00 | 2,00,000.00 |
| b     | 150 mm Dia Butterfly valve with Actuator Model No. VS150.90A.G00 or equivalent                                                   | 2   | No   | 50,000.00   | 1,00,000.00 |
| c     | 100 mm Dia Butterfly valve with Actuator Model No.ER35.90A.M00 or equivalent                                                     | 2   | No   | 35,000.00   | 70,000.00   |
| d     | 50 mm Dia Butterfly valve with Actuator Model No.ER20.X0A.M00 or equivalent                                                      | 2   | No   | 30,000.00   | 60,000.00   |
| e     | 40 mm Dia Butterfly valve with Actuator Model No.ER20.X0A.M00 or equivalent                                                      | 2   | No   | 30,000.00   | 60,000.00   |
| 7     | Supply of spares for 156HP Kirloskar make Diesel Generator Trolley Mounted De-watering Pumpset etc complete as an when required. |     |      |             |             |
| a     | Impeller Nut                                                                                                                     | 1   | No   | 3,500.00    | 3,500.00    |
| b     | Shaft Sleeve                                                                                                                     | 1   | No   | 4,500.00    | 4,500.00    |
| c     | Set of Keys                                                                                                                      | 1   | No   | 3,000.00    | 3,000.00    |



| It.No     | Description of Items                                                                                                                              | Qty   | Unit  | Rate      | Amount              |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|-----------|---------------------|
| d         | Set of Fastener                                                                                                                                   | 1     | No    | 4,000.00  | 4,000.00            |
| e         | Set of Bearing                                                                                                                                    | 1     | No    | 35,000.00 | 35,000.00           |
| f         | Set of Gland Packing                                                                                                                              | 1     | No    | 12,000.00 | 12,000.00           |
| g         | Set of Gasket                                                                                                                                     | 1     | No    | 1,999.00  | 1,999.00            |
| h         | Set of Oilseals                                                                                                                                   | 1     | No    | 3,000.00  | 3,000.00            |
| i         | Set of Ring                                                                                                                                       | 1     | No    | 1,999.00  | 1,999.00            |
| 8         | Supply of Air Compressor (Make: Elgi, Model: SS 01 LB or equivalent) etc complete as an when required.                                            | 1     | No    | 51,200.00 | 51,200.00           |
|           | <b>Sub Head-IV Supply of Spares Total Rs.</b>                                                                                                     |       |       |           | <b>15,16,642.00</b> |
|           | <b>Sub head - V Supply of Chemicals</b>                                                                                                           |       |       |           |                     |
| 1         | Supply of following chemicals for water treatment plant and tertiary treatment plant to be supplied as and when required as per site requirement. |       |       |           |                     |
|           | <b>Per Year requirement</b>                                                                                                                       |       |       |           |                     |
| <b>A1</b> | <b>Solid Dosing chemical</b>                                                                                                                      |       |       |           |                     |
| 1         | Hydrant Lime 80% concentration                                                                                                                    | 500   | Kgs   | 10.00     | 5,000.00            |
| 2         | Dolomite 70% concentration                                                                                                                        | 500   | Kgs   | 10.00     | 5,000.00            |
| 3         | Soda Ash 98% concentration                                                                                                                        | 500   | Kgs   | 10.00     | 5,000.00            |
| <b>A2</b> | <b>Liquid Dosing Chemicals</b>                                                                                                                    |       |       |           |                     |
| 1         | Hydro Chloric Acid 35% concentration                                                                                                              | 10000 | Ltr   | 9.00      | 90,000.00           |
| 2         | Sodium Hypo Chlorite 6% concentration                                                                                                             | 15000 | Ltr   | 8.00      | 1,20,000.00         |
| 3         | Aluminium sulphate 24% concentrate (Alum)                                                                                                         | 1500  | Ltr   | 18.00     | 27,000.00           |
| <b>A3</b> | <b>Test Kit</b>                                                                                                                                   |       |       |           |                     |
| 1         | Hardness Test kit-atleast 250 sample (Aquasol AE-211 or equivalent)                                                                               | 8     | Kit   | 850.00    | 6,800.00            |
| 2         | Chloride Test Kit-atleast 300 sample (Aquasol AE-203 or equivalent)                                                                               | 8     | Kit   | 890.00    | 7,120.00            |
| <b>A4</b> | <b>Testing Regants, consumables</b>                                                                                                               |       |       |           |                     |
| 1         | Universal Indicator solution PH 4.0-11.0                                                                                                          | 6     | Nos.  | 375.00    | 2,250.00            |
| 2         | PH Indicator Paper                                                                                                                                | 6     | Boxs. | 300.00    | 1,800.00            |



| It.No     | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty    | Unit | Rate        | Amount              |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------|-------------|---------------------|
| <b>A5</b> | <b>Salt</b>                                                                                                                                                                                                                                                                                                                                                                                                                                         |        |      |             |                     |
|           | Industrial Salt NaCl                                                                                                                                                                                                                                                                                                                                                                                                                                | 125000 | Kgs  | 4.00        | 5,00,000.00         |
| <b>A6</b> | <b>Chemicals for RO Plant (14 Cum/Hr)</b>                                                                                                                                                                                                                                                                                                                                                                                                           |        |      |             |                     |
| 1         | R.O. Antiscalant                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100    | Kgs  | 180.00      | 18,000.00           |
| 2         | Sodium Meta Bi Sulphate (SMBS)                                                                                                                                                                                                                                                                                                                                                                                                                      | 100    | Kgs  | 60.00       | 6,000.00            |
| <b>A7</b> | Supply of Bioculture chemical for dilution of sludge in sewage collection wells and Sewage Sumps etc complete as                                                                                                                                                                                                                                                                                                                                    |        |      |             |                     |
| 1         | Super24 Bioculture                                                                                                                                                                                                                                                                                                                                                                                                                                  | 500    | Kgs  | 450.00      | 2,25,000.00         |
| 2         | Oxysuper                                                                                                                                                                                                                                                                                                                                                                                                                                            | 500    | Kgs  | 350.00      | 1,75,000.00         |
| <b>A8</b> | Supply of Nanozyme Wastewater Treatment Culture chemical for dilution of sludge in sewage collection open well etc complete as required.                                                                                                                                                                                                                                                                                                            |        |      |             |                     |
| 1         | Nanozyme-Bet-STP-9013                                                                                                                                                                                                                                                                                                                                                                                                                               | 500    | Kgs  | 400.00      | 2,00,000.00         |
| 2         | Nutrition-Bet-Nutri-9003                                                                                                                                                                                                                                                                                                                                                                                                                            | 500    | Kgs  | 120.00      | 60,000.00           |
| <b>A9</b> | Supply of stabilizer chemical for dilution of sludge in sewage collection open well etc complete as required.                                                                                                                                                                                                                                                                                                                                       | 500    | Ltr  | 80.00       | 40,000.00           |
|           | <b>Sub head - V Supply of Chemicals Total Rs.</b>                                                                                                                                                                                                                                                                                                                                                                                                   |        |      |             | <b>14,93,970.00</b> |
|           | <b>Sub head - VI Replacement of Filtration media</b>                                                                                                                                                                                                                                                                                                                                                                                                |        |      |             |                     |
| 1         | Replacement of outdated filter media in Pressure sand filter (PSF-90 Cum/Hr) including removal of old outdated media, replacing all strainer nozzles, rinse-cleaning, application of thinner, industrial marine grade epoxy painting, refilling of different gradient media (pebbles, silex, sand) in layers as per standard design and disposal of unserviceable media away from chennai airport etc as required.<br>PSF Vessel: 3100 Ø X 1850 HOS | 2      | Job  | 1,75,000.00 | 3,50,000.00         |
|           | <b>Sub head - VI Replacement of Filtration media Total Rs.</b>                                                                                                                                                                                                                                                                                                                                                                                      |        |      |             | <b>3,50,000.00</b>  |

| It.No            | Description of Items                                                                           | Qty | Unit  | Rate   | Amount                |
|------------------|------------------------------------------------------------------------------------------------|-----|-------|--------|-----------------------|
|                  | <b>Sub head - VII Contingency</b>                                                              |     |       |        |                       |
| 1                | Supply of following accessories for contingency/Emergency situations etc complete as required. |     |       |        |                       |
| a                | PVC Flexible Green Hose-4"                                                                     | 30  | Meter | 280.00 | 8,400.00              |
| b                | PVC Green Hose-3"                                                                              | 30  | Meter | 190.00 | 5,700.00              |
| c                | PVC Green Hose-2"                                                                              | 30  | Meter | 90.00  | 2,700.00              |
| d                | Fire Hose-4"                                                                                   | 30  | Meter | 160.00 | 4,800.00              |
| e                | Stainless Steel Hose Clamp-4"                                                                  | 4   | No    | 25.00  | 100.00                |
| f                | Stainless Steel Hose Clamp-3"                                                                  | 6   | No    | 20.00  | 120.00                |
| g                | CI Foot valve-3"                                                                               | 2   | No    | 450.00 | 900.00                |
| h                | CI Hose collar-3"                                                                              | 2   | No    | 140.00 | 280.00                |
|                  | <b>Sub head - VII Contingency Total Rs.</b>                                                    |     |       |        | <b>23,000.00</b>      |
| <b>Total Rs.</b> |                                                                                                |     |       |        | <b>2,67,14,300.00</b> |

**1st Year Total Amount (Excluding EPF, ESI/Mediclaim, Bonus & GST) Rs. 2,67,14,300.00**

**G.N.D. Kennedy**  
**Jt. Gen. Manager (Engg-Elect)-I**

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

**SCHEDULE OF QUANTITY**

**Name of Work: Facility Management of Water Supply System and Sewage Treatment Plant at Chennai Airport.**

**Sub Head: Providing Operation & Maintenance Service of Water Supply System for Old & New Water Treatment Plant, Sewage Treatment Plant, CISF Barracks, Bore wells and Open wells at various locations including Softener, RO Plant & De-Watering System.**

**2nd YEAR: 12 MONTHS**

| It.No                     | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Qty | Rate   | Amount       |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|--------------|
| <b>SUB HEAD - I (AMC)</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |        |              |
| 1                         | Providing Operation Services of Water Supply System in Operational area at Cowl bazaar & New Fire station pump House, Cargo & MES open well, Runway - 25 End, Old Fire station and Old Pump Houses etc. as per inventory in "Annexure -A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of preventive & normal maintenance records, log books as required etc. and cleaning, upkeeping on all days. These services should be ensured for above mentioned Water Supply System equipment's, Electric motor driven pump sets, borewells, open wells, MCC & starter panels and control panels on round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |              |
| a                         | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 12  | Months | 1,95,000.00  |
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |        | 23,40,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Qty |        | Rate        | Amount       |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 2     | Providing Operation Services of water treatment and supply system at Old Water Treatment Plant (WTP) associated borewells etc. as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring output treated water quality to specifications, chemical testing / sample analysis / corrective actions by chemist, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of lab, normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services including supervision of all above activities shall be ensured, covering Water Treatment and Supply System equipment's, Electric motor driven pump sets, associated borewells, open wells, Sumps, MCC & starter panels and control panels round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 12  | Months | 2,65,000.00 | 31,80,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Qty |        | Rate        | Amount       |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 3     | Providing Operation Services of water treatment and supply system at New Water Treatment Plant (NWTP) including Reverse Osmosis (RO) Plant of capacity 14 cum/hr x 2 nos. with all relevant water sources as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring output treated water quality to specifications, chemical testing / sample analysis / corrective actions by chemist, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of lab, normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services including supervision of all above activities shall be ensured for WTP and RO Plant equipment's, Electric motor driven pump sets, associated borewells, open wells, Sumps, MCC & starter panels and control panels round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 12  | Months | 3,75,000.00 | 45,00,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Qty |        | Rate        | Amount       |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 4     | Providing Operation Services of Sewage System installations at Sewage Treatment plant (STP) of capacity 2MLD and associated Tertiary Treatment Plant (TTP) with all relevant water sources as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring output treated water quality to specifications, chemical testing / sample analysis / corrective actions by chemist, ensuring serviceability / satisfactory working condition of the systems, maintenance activity as per attached "Annexure-A2" updation of lab, normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services including supervision of all above activities shall be ensured for STP and TTP Plant equipment's, Electric motor driven pump sets, associated borewells, open wells, Sumps, MCC & starter panels and control panels round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12  | Months | 2,10,000.00 | 25,20,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Qty |        | Rate        | Amount       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 5     | Providing Operation Services of water supply system in CISF Barracks pump House associated borewells etc. as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, ensuring serviceability / satisfactory working condition of the systems, maintenance activity updation of preventive & normal maintenance records, log books as required etc. and cleaning, upkeeping on all days. These services should be ensured for above mentioned Water Supply System equipment's, Electric motor driven pump sets, borewells, drain sump, MCC & starter panels and control panels on round the clock (Three shift X 8 Hours) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |             |              |
| a     | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12  | Months | 1,05,000.00 | 12,60,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qty |        | Rate      | Amount      |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-----------|-------------|
| 6     | Providing Operation Services of De-watering and Sewage pump sets installed at various location at basement of New Domestic and New International Terminal Buildings and connecting tunnel as per inventory in "Annexure - A1" covering the scope of activities given in special condition of contract and technical specification, attending faults, monitoring & ensuring serviceability of the systems, maintenance activity as per attached "Annexure-A2" normal & preventive records, log books as required etc. and cleaning, upkeeping on all days. These services should be ensured for above mentioned de-watering and sewage pump system, Electric motor driven pump set, MCC & starter panel and control panels on round the clock (3 Shift X 8 Hrs.) on all days including Sundays / holidays as per site requirement etc. complete as required. |     |        |           |             |
| a     | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 12  | Months | 55,000.00 | 6,60,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Qty |        | Rate        | Amount       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|--------------|
| 7     | Providing of day-to-day, preventive maintenance, installation, dismantling, rectification, Repair Service of all Electro-Mechanical Inventory with water supply division covering, Mechanical, Electrical and Plumbing works involved, covering the entire scope of preventive maintenance, repair activities indicated but not limited to special condition of contract, technical specification, maintenance & operation manual of AAI, OEM manuals ensuring serviceability / satisfactory working of all water supply system equipment on all days including Sundays / holidays attending minor & major faults, cleaning, upkeeping of the installations , preventive maintenance (as per "Annexure-A2)" related records, log books, timely appraising equipment health status, repairs, replacements (if any) etc. reporting as and when required as per direction of Engineer-In-Charge etc. complete as per the site requirement |     |        |             |              |
| a.    | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12  | Months | 1,40,000.00 | 16,80,000.00 |
| 8     | Testing of following water samples from Government laboratory every month and production of Test Report to the Engineer-In-Charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |        |             |              |
| a.    | Samples:<br>i) Old WTP Raw Water<br>(ii) Old WTP Treated Water<br>(iii) New WTP Domestic Water<br>iv) Domestic (SHA) Terminal (NDT)<br>(v) International (SHA) Terminal (NIT)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |     |        |             |              |
|       | (i) to (v) - One job                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |     |        |             |              |
|       | For Second year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 12  | Jobs   | 10,500.00   | 1,26,000.00  |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                            | Qty |        | Rate        | Amount                |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-------------|-----------------------|
| 9     | Testing of following sewage samples from existing STP at State / Central Govt. Laboratory every month and submit the original analysis test report to Engineer -In-charge etc. Complete as required.                                                                                                                                                                            |     |        |             |                       |
|       | Samples:<br>i) Sewage Collection Well<br>(ii) Sewage Treated Water                                                                                                                                                                                                                                                                                                              |     |        |             |                       |
|       | (i) to (ii) - One Job                                                                                                                                                                                                                                                                                                                                                           |     |        |             |                       |
|       | For Second year                                                                                                                                                                                                                                                                                                                                                                 | 12  | Jobs   | 9,300.00    | 1,11,600.00           |
| 10    | Providing Services of one number New Mahindra Bolero/Mahindra Scorpio vehicle alongwith driver for distance upto 60 KM/day or 1800 KM/month on round the clock basis for day-to-day maintenance services and attending Inspection/Preventive & Break down maintenance for Water Supply Systems Plant rooms, Pump rooms on both the city side and apron side at Chennai Airport. |     |        |             |                       |
|       | For Second year                                                                                                                                                                                                                                                                                                                                                                 | 12  | Months | 83,540.00   | 10,02,480.00          |
|       | <b>Sub Head-I (AMC) Total</b>                                                                                                                                                                                                                                                                                                                                                   |     |        |             | <b>1,73,80,080.00</b> |
|       | <b><u>SUB HEAD - II (ARC)</u></b>                                                                                                                                                                                                                                                                                                                                               |     |        |             |                       |
| 1     | Supply and Installation of RO filter catridge for RO plant etc. complete as required                                                                                                                                                                                                                                                                                            |     |        |             |                       |
| a)    | 2.5" OD X 1" ID X 40" L                                                                                                                                                                                                                                                                                                                                                         | 64  | Nos    | 399.00      | 25,536.00             |
| b)    | 2.5" OD X 1" ID X 20" L                                                                                                                                                                                                                                                                                                                                                         | 24  | Nos    | 199.00      | 4,776.00              |
| 2     | Replacement of existing Damaged 8" dia RO-Filter Membrane (6 Nos/Housing) for RO plant at New Water Treatment Plant etc complete as required.                                                                                                                                                                                                                                   | 3   | Job    | 1,20,000.00 | 3,60,000.00           |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                        | Qty |      | Rate      | Amount    |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 3     | Chemical Cleaning and overhauling of filter membranes of RO system unit (3Housing/plant) of capacity 14 cum/hr. with required chemicals in WTP to bring the water quality to the desired level as specified in technical specification etc complete as required.                                                                                                                                            | 2   | Job  | 15,000.00 | 30,000.00 |
| 4     | Cleaning of Stainless Steel RO water storage tank (30,000 Ltr) using necessary chemicals, rinse clean and draining out complete etc as required.                                                                                                                                                                                                                                                            | 4   | Job  | 2,500.00  | 10,000.00 |
| 5     | Dismantling, overhauling and servicing of all type of centrifugal pumpsets including replacement of pump spares (such as impeller, Gland/ mechanical Seal, Gland packing, set of bearings, shaft sleeve, terminal board, terminal box, gasket, liquid reflector, impeller lock nut, cooling fan etc) re-assembling, painting, re-installing the same, testing and commissioning etc., complete as required. |     |      |           |           |
| a     | Upto 3 HP                                                                                                                                                                                                                                                                                                                                                                                                   | 5   | Jobs | 5,000.00  | 25,000.00 |
| b     | 5 HP to 10 HP                                                                                                                                                                                                                                                                                                                                                                                               | 5   | Jobs | 6,000.00  | 30,000.00 |
| c     | above 10HP upto 20 HP end suction pump.                                                                                                                                                                                                                                                                                                                                                                     | 8   | Jobs | 7,000.00  | 56,000.00 |
| d     | above 10HP upto 20 HP Split case pump                                                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 7,000.00  | 14,000.00 |
| 6     | Dismantling the existing centrifugal pumpset of following capacity including rewinding, servicing, replacement of motor spares (such as bearings, cooling fan, Terminal Board, terminal box with top), rebate for wound out copper and re-installing the same etc. as required.                                                                                                                             |     |      |           |           |
| a     | Upto 1.5HP                                                                                                                                                                                                                                                                                                                                                                                                  | 6   | Jobs | 3,000.00  | 18,000.00 |
| b     | above 1.5HP upto 3HP                                                                                                                                                                                                                                                                                                                                                                                        | 3   | Jobs | 4,000.00  | 12,000.00 |
| c     | above 3HP upto 10HP                                                                                                                                                                                                                                                                                                                                                                                         | 6   | Jobs | 6,000.00  | 36,000.00 |
| d     | above 10HP upto 20HP                                                                                                                                                                                                                                                                                                                                                                                        | 3   | Jobs | 7,000.00  | 21,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                               | Qty |      | Rate      | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 7     | Dismantling, lifting, lowering, painting and re-installation of existing sewage submersible pumpset of following capacity including servicing, replacement of all pump spares (such as Impeller, Mechanical seal, Cutter, Set of 'O' rings, Oil seal, Oil for seal cooling etc.) and Testing, Commissioning etc complete as required.                                              |     |      |           |           |
| a     | upto 1 HP                                                                                                                                                                                                                                                                                                                                                                          | 1   | Jobs | 7,000.00  | 7,000.00  |
| b     | above 1HP upto 3HP                                                                                                                                                                                                                                                                                                                                                                 | 1   | Jobs | 7,000.00  | 7,000.00  |
| c     | above 3HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                               | 4   | Jobs | 8,000.00  | 32,000.00 |
| 8     | Dismantling, lifting, lowering, painting, rewinding and re-installation of existing sewage submersible pumpset motor of following capacity, including replacement of motor spares (if any required), rebate for wound out copper and Testing, Commissioning etc complete as required.                                                                                              |     |      |           |           |
| a     | Upto 1 HP                                                                                                                                                                                                                                                                                                                                                                          | 1   | Jobs | 7,000.00  | 7,000.00  |
| b     | above 1HP upto 3HP                                                                                                                                                                                                                                                                                                                                                                 | 1   | Jobs | 7,000.00  | 7,000.00  |
| c     | above 3HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                               | 4   | Jobs | 8,000.00  | 32,000.00 |
| 9     | Dismantling, lifting, lowering, painting, re-installation of sewage submersible pumpset from existing sewage well including rewinding , servicing, replacement of all spares (such as Impeller, Mechanical seal, Cutter, Set of 'O' rings, Oil seal, Oil for seal cooling, Set of bearings etc), rebate for wound out copper and testing, commissioning, Complete etc as required. |     |      |           |           |
| a     | above 7.5 HP upto 12.5HP- At STP Collection Well and Grid 72                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 25,000.00 | 50,000.00 |
| b     | 30 HP - At IAD Residential Colony                                                                                                                                                                                                                                                                                                                                                  | 1   | Jobs | 40,000.00 | 40,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                     | Qty |      | Rate     | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----------|-----------|
| 10    | Lowering of Borewell Submersible pump sets for New borewell (upto 200 feet depth) including couplings, pipe fittings (nipple, elbow, flange valves, clamps etc) lowering and fixing of pipes, submersible cables, cable panel connections etc., complete as required.                                                                                                                    | 6   | Jobs | 2,500.00 | 15,000.00 |
| 11    | Lifting and Lowering of Borewell submersible pumpset (upto 200 feet depth) from existing borewell of 2"/1.5" dia G.I pipe including cutting, re-threading of existing pipes, pipe fittings (nipple, elbow, flange valves, clamps etc) and installations of submersible pump set (Provided by AAI) along with submersible cables, cable and panel connections etc., complete as required. | 10  | Jobs | 4,000.00 | 40,000.00 |
| 12    | Servicing of existing Borewell submersible pump of following capacity including replacement of all pump spares (such as Impeller, Diffusers, Pump Shaft, Set of shaft sleeves, Retainer ring, Pump Coupling etc) and re-assembling the same etc complete as required.                                                                                                                    |     |      |          |           |
| a     | Upto 3 HP                                                                                                                                                                                                                                                                                                                                                                                | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 5HP                                                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 5HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                                     | 1   | Jobs | 7,000.00 | 7,000.00  |
| 13    | Rewinding and servicing of Borewell Submersible Pump - motor, replacement of spares (if any), including rebate for wound out copper of following capacity etc complete as required.                                                                                                                                                                                                      |     |      |          |           |
| a     | Upto 3 HP                                                                                                                                                                                                                                                                                                                                                                                | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 5HP                                                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 5HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                                     | 1   | Jobs | 7,000.00 | 7,000.00  |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                 | Qty |      | Rate     | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|----------|-----------|
| 14    | Servicing of existing Borewell submersible pump-motor of following capacity including replacement of all motor spares (such as Thrustpad, Thrust bearing assembly, Diapharam, Set of keys, Oil Seal, Diapharam Plate etc.) and re-assembling the same etc complete as required.                                                                                                                      |     |      |          |           |
| a     | Up to 3HP                                                                                                                                                                                                                                                                                                                                                                                            | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 5HP                                                                                                                                                                                                                                                                                                                                                                                   | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 5HP upto 7.5HP                                                                                                                                                                                                                                                                                                                                                                                 | 1   | Jobs | 5,000.00 | 5,000.00  |
| 15    | Dismantling, lifting, lowering, painting and re-installation of openwell/ sump submersible pumpset including servicing, re-threading, replacement of pump spares (such as Impeller, Oil Seal, Thrustpad, Thrust bearing assembly, Diapharam, Gasket , Impeller locknet, Strainer, Diapharam Plate etc.) and installation, testing, and commissioning of the same complete etc, as and when required. |     |      |          |           |
| a     | Upto 3HP                                                                                                                                                                                                                                                                                                                                                                                             | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP upto 7.5                                                                                                                                                                                                                                                                                                                                                                                   | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 7.5HP upto 10HP                                                                                                                                                                                                                                                                                                                                                                                | 2   | Jobs | 6,000.00 | 12,000.00 |
| d     | above 10HP upto 15HP                                                                                                                                                                                                                                                                                                                                                                                 | 4   | Jobs | 7,000.00 | 28,000.00 |
| 16    | Dismantling, lifting, lowering, painting, rewinding and re-installation of open well submersible pumpset motor of following capacity including pipes & plumbing accessories, rebate for wound out copper, and Testing, Commissioning etc complete as required.                                                                                                                                       |     |      |          |           |
| a     | Upto 3HP                                                                                                                                                                                                                                                                                                                                                                                             | 4   | Jobs | 3,000.00 | 12,000.00 |
| b     | above 3HP to upto 7.5                                                                                                                                                                                                                                                                                                                                                                                | 2   | Jobs | 4,000.00 | 8,000.00  |
| c     | above 7.5HP upto 10HP                                                                                                                                                                                                                                                                                                                                                                                | 2   | Jobs | 6,000.00 | 12,000.00 |
| d     | above 10HP upto 15HP                                                                                                                                                                                                                                                                                                                                                                                 | 4   | Jobs | 7,000.00 | 28,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                        | Qty |      | Rate      | Amount      |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-------------|
| 17    | Dismantling, Lifting, lowering, painting and re-installation of all types of De-watering submersible pump sets of following capacity including rewinding, servicing, replacement of spares (shaft seal, O ring, Bearings etc.) for pump & motor, rebate for wound out copper, testing and commissioning etc., complete as required.                         |     |      |           |             |
| a     | Upto 3HP                                                                                                                                                                                                                                                                                                                                                    | 5   | Jobs | 6,000.00  | 30,000.00   |
| 18    | Dismantling, overhauling and servicing of all type of HPS vertically mounted centrifugal pump sets/RO High pressure pumpset (Grundfos Make) including replacement of pump spares (such as impeller, shaft seal, 'O' ring, Head spring, bearings etc) re-assembling, painting, re-installing the same, testing and commissioning etc., complete as required. |     |      |           |             |
| a.    | RO High Pressure Pump                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 30,000.00 | 60,000.00   |
| b.    | RO Chemical Wash Pump                                                                                                                                                                                                                                                                                                                                       | 2   | Jobs | 15,000.00 | 30,000.00   |
| c.    | Softener HPS Pump                                                                                                                                                                                                                                                                                                                                           | 2   | Jobs | 50,000.00 | 1,00,000.00 |
| d.    | Domestic HPS Pump                                                                                                                                                                                                                                                                                                                                           | 2   | Jobs | 60,000.00 | 1,20,000.00 |
| e.    | RO HPS Pump                                                                                                                                                                                                                                                                                                                                                 | 2   | Jobs | 8,000.00  | 16,000.00   |
| 19    | Dismantling the existing HPS vertically mounted centrifugal pump sets/RO High pressure pumpset (Grundfos Make) including rewinding, servicing, replacement of motor spares (such as bearings, cooling fan, Terminal Board, terminal box with top), rebate for wound out copper and re-installing the same etc. as required.                                 |     |      |           |             |
| a.    | RO High Pressure Pumpset Motor                                                                                                                                                                                                                                                                                                                              | 1   | Jobs | 10,000.00 | 10,000.00   |
| b.    | RO Backwash Pumpset Motor                                                                                                                                                                                                                                                                                                                                   | 1   | Jobs | 7,000.00  | 7,000.00    |
| c.    | Softener HPS Pumpset Motor                                                                                                                                                                                                                                                                                                                                  | 1   | Jobs | 7,000.00  | 7,000.00    |
| d.    | Domestic HPS Pumpset Motor                                                                                                                                                                                                                                                                                                                                  | 1   | Jobs | 11,000.00 | 11,000.00   |
| e.    | RO HPS Pumpset Motor                                                                                                                                                                                                                                                                                                                                        | 1   | Jobs | 5,000.00  | 5,000.00    |



| It.No | Description of Items                                                                                                                                                                                                                                            | Qty |          | Rate      | Amount              |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------|-----------|---------------------|
| 20    | Providing man power to attend any urgent / emergency work with necessary tools and plants on round the clock basis etc complete as required.                                                                                                                    |     |          |           |                     |
| a.    | Highly skilled labour                                                                                                                                                                                                                                           | 60  | Man-Days | 810.00    | 48,600.00           |
| b.    | Skilled labour                                                                                                                                                                                                                                                  | 30  | Man-Days | 790.00    | 23,700.00           |
| c.    | Semi skilled labour                                                                                                                                                                                                                                             | 90  | Man-Days | 800.00    | 72,000.00           |
| d.    | Unskilled labour                                                                                                                                                                                                                                                | 90  | Man-Days | 750.00    | 67,500.00           |
| 21    | Providing Excavater (JCB) including Operator for emergency / un anticipated break down / maintenance work, cable works etc., complete as required.                                                                                                              | 16  | Hrs      | 1,200.00  | 19,200.00           |
| 22    | Providing Tractorwith Trolley including driver and loaders-3, loaders for shifting of debris / wastes from water supply system locations, pump houses etc. to waste dump yard or for emergency / un-anticipated break down / maintenance works etc as required. | 16  | Hrs      | 1,000.00  | 16,000.00           |
| 23    | Providing One Welder alongwith Electric welding machine and welding rods for carrying out welding works during any urgent Preventive Maintenance/ Breakdown Maintenance /Emergency work as and when required.                                                   | 50  | Hrs      | 300.00    | 15,000.00           |
|       | <b>Sub Head-II (ARC) Total</b>                                                                                                                                                                                                                                  |     |          |           | <b>17,36,312.00</b> |
|       | <b><u>SUB HEAD - III (Maintainance works)</u></b>                                                                                                                                                                                                               |     |          |           |                     |
| 1     | Supply of Activated Sludge (MLSS) to Chennai 2 MLD Sewage Treatment Plant at Chennai Airport as and when required (Note: 1 Lot of MLSS = 9000 Litres)                                                                                                           | 3   | Lot      | 10,000.00 | 30,000.00           |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                        | Qty |        | Rate      | Amount      |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------|-----------|-------------|
| 2     | Supply of Moving Bed Bio Reactor media MOC:polypropylene,400 M2/M3, cylindrical external fins, Height/Dia of 15mm/22mm, PSA/TSA of minimum 75 % - confirmaing to technical specifications in existing aeration tank including transport, unloading at AAI store etc. complete as required.                                                                                                                                  | 10  | CUM    | 12,500.00 | 1,25,000.00 |
| 3     | Replacement of entire strainer nozzles Method of Characteristics (MOC) :Plastic,K1+NU 60, 70 Dia x 48 Height, Size of nozzle connection:M24 x 50/80, slit size:0.2 mm, No of slits per nozzle:40 Nos. in softener tank including evacuation, storage & refilling of existing Softener Resin Media in Softener Vessel (6400 Ltr ) as per specification & standard design complete etc as required.<br>Media:6400 Ltrs/Vessel | 2   | Job    | 20,000.00 | 40,000.00   |
| 4     | Provision of fiberglas re-inforced (FRP) lining on existing MS/GI pipe line external surface complete with cleaning,wrapping, fixing with binding components, pigment compund layer as per technical specification complete etc as required.                                                                                                                                                                                | 100 | Sq.Mtr | 300.00    | 30,000.00   |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Qty |     | Rate      | Amount    |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----------|-----------|
| 5     | <p>Mechanized Cleaning of Clarifier tank including disposal of silt and rubbish etc complete as required as per the direction of Engineer-In-Charge.</p> <p>The cleaning shall consist of following operations:</p> <ol style="list-style-type: none"> <li>1. De-watering of sump.</li> <li>2. Entire surface area (walls, floor etc) of the sump shall then scrubbed thoroughly with wire brush etc. and pressure washed with high pressure water jet.</li> <li>3. Wall painting of entire clarifier surface inside and outside with approved paint to achieve even shade and color.</li> <li>4. Painting of all metallic parts of the reactor clarifier- Detention Hood, Draft tube, Drive wheel (Iylam), clarifier scrapper arm, Bridge, Impeller, staircase etc after through scrapping, Sodium hypo treatment of submerged parts and replacing the rusted nut, bolt washer, scrapper blade etc., complete as per the site requirements.</li> </ol> | 1   | Job | 25,000.00 | 25,000.00 |
| 6     | De-silting of Equivalization tank (open to air) of 13600X 14350 X 3600 SWD draining out, collection, lifting from Tank floor spreading in sludge bed for proper drying complete with sundries, lighting, blower fan, speciliased labour with protective gear etc., complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1   | Job | 25,000.00 | 25,000.00 |
| 7     | Testing of Ion-exchange softener Resin sample from an accredited or OEM lab and submission of original test report to the Engineer-In-Charge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 6   | Job | 6,000.00  | 36,000.00 |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                              | Qty  |     | Rate        | Amount      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-------------|-------------|
| 8     | Mechanised Cleaning & de-silting of sewage collection well using compressor and associated equipment including dosing of stabaliser chemical for dilution of sludge and disposal of left out sludges away from Airport premises etc., complete as required.                                                                                       |      |     |             |             |
| a     | STP Collection well at 2 MLD STP-(10 depth X 14 Mtr Dia)                                                                                                                                                                                                                                                                                          | 1    | Job | 1,30,000.00 | 1,30,000.00 |
| b     | Grid-72 well- (8 X 9 X 6 depth Mtr)                                                                                                                                                                                                                                                                                                               | 2    | Job | 1,20,000.00 | 2,40,000.00 |
| c     | Residential colony-sewage wells<br>i) 2.36 dia X 7 Mtr Depth - 2No<br>ii) 3.56 dia X 7.9 Mtr Depth -1No<br>Sl.No.i) & ii) = 1Job                                                                                                                                                                                                                  | 1    | Job | 80,000.00   | 80,000.00   |
| 9     | Cleaning of sewage (sumps of depth 10 to 15 feet, size from 500 Cubic feet to 1000 cubic feet) in Domestic and International terminal basement with mechanised de-silting compressor, sump scrubbing, debris removal and disposal of left out sludges away from Airport premises as per direction of Engineer-In-Charge etc complete as required. |      |     |             |             |
| a     | Sewage sump with depth 10 to 15 feet -all size (500 Cubic feet to 1000 cubic feet)                                                                                                                                                                                                                                                                | 8    | Job | 18,000.00   | 1,44,000.00 |
| 10    | 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 | Kgs | 70.00       | 70,000.00   |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qty  |        | Rate     | Amount      |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|----------|-------------|
| 11    | Brush/Spray Painting of various metal surfaces after cleaning/scrapping the surface with emery paper and applying 02 coat anti-corrosive metal red-oxide primer & 2 coats Enamel paint of approved brand and colour to give an even shade complete etc as required<br>(Paint Colour to be decided by Engineer-In-Charge).                                                                                                                                                                                                                                                                                                   | 1000 | Sq.Mtr | 100.00   | 1,00,000.00 |
| 12    | Supply and replacement of 100mm dia pressure guages, 0-200PSI, H.Guru make or as per the approved make, specification including welding of GI nipple and necessary connection as required & as per direction of Engineer-In-Charge.                                                                                                                                                                                                                                                                                                                                                                                         | 10   | Nos    | 1,200.00 | 12,000.00   |
| 13    | Supply and fixing of non-corrosive Fiberglass Reinforced Plastic (FRP) molded grating (Load : atleast 500Kg/Sq.mtr) walkway of Mesh size 38mm X 38mm , Height: 38 mm, 3 mm thickness Chequered plate molded onto FRP Grating, With Rib thickness 5/7 mm on existing sump including fixing of newly fabricated bottom Frame using MS L-Channel 50mm X 50mm X 5mm, painting of metal surface with 01 coat anticorrosive metal primer and 02 coats enamel paint, providing of MS/GI hooks for lifting and civil modification works (CC chipping, filling, finishing) for proper insertion & seating etc. complete as required. | 100  | Sq.Mtr | 3,000.00 | 3,00,000.00 |
| 14    | Supplying and Installing following size of perforated Hot Dipped Galvanised Iron cable tray with perforation not more than 17.5%, in convenient sections, joined with connectors, supported at various locations with appropriate supports including G.I. bolts & nuts, etc as required.                                                                                                                                                                                                                                                                                                                                    |      |        |          |             |
| a.    | 150 mm width X 50 mm depth X 1.6 mm thickness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30   | Mtr    | 357.00   | 10,710.00   |
| b.    | 300 mm width X 50 mm depth X 1.6 mm thickness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30   | Mtr    | 568.00   | 17,040.00   |
| c.    | 450 mm width X 50 mm depth X 2.0 mm thickness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 30   | Mtr    | 984.00   | 29,520.00   |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                  | Qty  |     | Rate      | Amount      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|-----------|-------------|
| 15    | Supplying, fixing, testing and commissioning of Butterfly Valve (Manual) with CI body,SS disc,SS stem, nitrile/EPDM rubber seal,O - ring & PN 16 pressure rating alongwith bolt, nut ,washer as per following sizes etc including dismantling the existing valve complete as required.                                                |      |     |           |             |
| a.    | Butterfly Valve-200 mm Dia                                                                                                                                                                                                                                                                                                            | 4    | No  | 9,900.00  | 39,600.00   |
| b.    | Butterfly Valve-150 mm Dia                                                                                                                                                                                                                                                                                                            | 5    | No  | 5,610.00  | 28,050.00   |
| c.    | Butterfly Valve- 125 mm Dia                                                                                                                                                                                                                                                                                                           | 1    | No  | 4,188.00  | 4,188.00    |
| d.    | Butterfly Valve- 100 mm Dia                                                                                                                                                                                                                                                                                                           | 4    | No  | 2,590.00  | 10,360.00   |
| e.    | Butterfly Valve- 80 mm Dia                                                                                                                                                                                                                                                                                                            | 2    | No  | 2,100.00  | 4,200.00    |
| f.    | Butterfly Valve- 65 mm Dia                                                                                                                                                                                                                                                                                                            | 1    | No  | 1,700.00  | 1,700.00    |
| g.    | Butterfly Valve- 50 mm Dia                                                                                                                                                                                                                                                                                                            | 4    | No  | 1,500.00  | 6,000.00    |
| 16    | Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required.                                                                                                                             |      |     |           |             |
| a.    | 50 mm                                                                                                                                                                                                                                                                                                                                 | 200  | Mtr | 145.00    | 29,000.00   |
| 17    | Supply of Softener Resin media (Indion 225 Na only) for top-up including transport loading, unloading at AAI site etc complete as required.                                                                                                                                                                                           | 5500 | Ltr | 80.00     | 4,40,000.00 |
| 18    | Replacement of full pressure tank (Tank.Bladder,drain kit,flange etc) including dismantling the existing tank and installation of following capacity tank alongwith providing necessary pipeline connection for satisfactory working of Hydro Pneumatic Syatem (HPS) at various location of Chennai Airport etc complete as required. |      |     |           |             |
| a     | Wellmate pressure tank WM9 or equivalent                                                                                                                                                                                                                                                                                              | 1    | No  | 19,999.00 | 19,999.00   |



| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Qty |     | Rate        | Amount      |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------------|-------------|
| b     | Wellmate pressure tank WM35 or equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 4   | No  | 46,800.00   | 1,87,200.00 |
| c     | Wellmate pressure tank WM80 or equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2   | No  | 1,25,000.00 | 2,50,000.00 |
| 19    | Replacement of following Pressure Tank Bladder including removing of damaged bladder and providing New Bladder,filling air upto required pressure alongwith providing necessary pipeline connection for satisfactory working of Hydro Pneumatic Syatem (HPS) at various location of Chennai Airport etc complete as required.                                                                                                                                                                                                                                                             |     |     |             |             |
| a     | Wellmate pressure tank WM9 or equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2   | No  | 18,000.00   | 36,000.00   |
| b     | Wellmate pressure tank WM35 or equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2   | No  | 30,000.00   | 60,000.00   |
| c     | Wellmate pressure tank WM80 or equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2   | No  | 72,000.00   | 1,44,000.00 |
| d.    | Zilmat ultra pro 500LV pressure Tank or equivalent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 2   | No  | 42,000.00   | 84,000.00   |
| 20    | Periodical health checkup of entire Hydro Pneumatic System on Quarterly basis by OEM M/s.Grundfos or OEM authorized agency and attending minor faults of Equipment's, filling of air in Pressure tank using compressor upto required pressure, ensuring 100% Serviceability/ Satisfactory Working Condition of the system as per Standard Manufacturers' Practices, replacement of spares which will be supplied by AAI and submission of Service Reports etc as required and as per direction of Engineer-In-Charge.<br>Note: Health check up of 01 HPS system will be treated as 01 Job | 36  | Job | 4,500.00    | 1,62,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Qty |      | Rate      | Amount    |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|-----------|
| 21    | Maintenance of 62.5 KVA Cummins Make DG Set mounted on Grundfos make dewatering Trolley by OEM/OEM Authorised Service Dealer, carrying out Routine/Preventive Maintenance on Quarterly Visit Basis, attending All Breakdown Maintenance Calls, carrying out "B" Check of Engines and attending minor faults of Equipment's, ensuring 100% Serviceability/ Satisfactory Working Condition of the Engine, as per Standard Manufacturers' Practices as per Special Terms and Conditions and submission of Service Reports etc as required and as per direction of Engineer-In-Charge. |     |      |           |           |
| a.    | Quarterly visit Charges/ DG coupled Pumpset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 8   | Jobs | 2,300.00  | 18,400.00 |
| b.    | B Check Charge/ Engine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2   | Job  | 4,500.00  | 9,000.00  |
| 22    | Maintenance of 156HP Kirloskar make dewatering Pumpset alongwith Diesel Engine by OEM/OEM Authorised Service Dealer, carrying out Routine/Preventive Maintenance on Quarterly Visit Basis, attending All Breakdown Maintenance Calls, carrying out "B" Check of Diesel Engines and attending minor faults of Equipment's, ensuring 100% Serviceability/ Satisfactory Working Condition of the Engine, as per Standard Manufacturers' Practices as per Special Terms and Conditions and submission of Service Reports etc as required and as per direction of Engineer-In-Charge.   |     |      |           |           |
| a.    | Quarterly visit Charges/Dewatering Pumpset                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8   | Jobs | 12,000.00 | 96,000.00 |
| b.    | B Check Charge/ Engine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2   | Job  | 8,000.00  | 16,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                       | Qty |      | Rate      | Amount              |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----------|---------------------|
| 23    | Maintenance & Servicing of following diesel engine operated dewatering pumpset and carrying out 'B' Check as per Special Terms and Conditions and submission of Service Reports etc as required and as per direction of Engineer-In-Charge |     |      |           |                     |
| a     | 5 HP Kirloskar Diesel engine coupled dewatering pump                                                                                                                                                                                       | 6   | Job  | 25,000.00 | 1,50,000.00         |
| 24    | Calibration of Digital Electro-Magnetic Flow meter available at various locations from the certified agency and submitting report to Engineer-In-Charge                                                                                    | 24  | Job  | 3,000.00  | 72,000.00           |
|       | <b><u>SUB HEAD - III (Maintainance works) Total</u></b>                                                                                                                                                                                    |     |      |           | <b>33,11,967.00</b> |
|       | <b>Sub Head-IV Supply of Spares</b>                                                                                                                                                                                                        |     |      |           |                     |
| 1     | Supply of following Plumbing accessories/Submersible Pump accessories for various installations & locations etc as and when required.                                                                                                      |     |      |           |                     |
| i     | 50mm B-Class GI Pipe (10 feet) (Threaded both Ends) Tata make Only                                                                                                                                                                         | 100 | Each | 1,680.00  | 1,68,000.00         |
| ii    | 2 inch coupling -100 mm long (Threaded Coupling)                                                                                                                                                                                           | 50  | Nos  | 160.00    | 8,000.00            |
| iii   | 50 mm X 12 mm C- clamp set with nut bolt.                                                                                                                                                                                                  | 20  | Set  | 14.00     | 280.00              |
| iv    | GI elbow-2" (50 mm) Threaded                                                                                                                                                                                                               | 10  | Nos  | 110.00    | 1,100.00            |
| v     | GI Flange-2" (50mm) Threaded                                                                                                                                                                                                               | 10  | set  | 240.00    | 2,400.00            |
| vi    | GI Pipe Nipple-2" X 12" long                                                                                                                                                                                                               | 20  | Nos  | 110.00    | 2,200.00            |
| vii   | Water Meter-2" (50 mm) Flanged End                                                                                                                                                                                                         | 10  | Nos  | 3,800.00  | 38,000.00           |
| viii  | GI flexible Conduit PVC coated-2"                                                                                                                                                                                                          | 100 | Mtr  | 140.00    | 14,000.00           |
| ix    | Water Level Controller (Make: L&T Model:XM810530000 or equivalent)                                                                                                                                                                         | 4   | No   | 1,000.00  | 4,000.00            |
| x     | Water Level Controller Probes (Make:L&T Model: XM810760000 or equivalent) (Set of 6Nos)                                                                                                                                                    | 4   | Set  | 700.00    | 2,800.00            |
| xi    | <b>NRV wafer type:</b> Body CI, disc SS,<br>Seat:Nitrile/EPDM PN-16                                                                                                                                                                        |     |      |           |                     |
| a     | 150 mm Dia                                                                                                                                                                                                                                 | 2   | No   | 3,600.00  | 7,200.00            |



| It.No | Description of Items                                                                                                                                                                                                           | Qty |     | Rate     | Amount    |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|----------|-----------|
| b     | 100 mm Dia                                                                                                                                                                                                                     | 2   | No  | 1,980.00 | 3,960.00  |
| c     | 80 mm Dia                                                                                                                                                                                                                      | 2   | No  | 1,350.00 | 2,700.00  |
| d     | 50 mm Dia                                                                                                                                                                                                                      | 2   | No  | 880.00   | 1,760.00  |
| xii   | <b>NRV Dual Plate type:</b> Body CI, disc SS,<br>Seat:Nitrile/EPDM PN-16                                                                                                                                                       |     |     |          |           |
| a     | 150 mm Dia                                                                                                                                                                                                                     | 2   | No  | 2,850.00 | 5,700.00  |
| b     | 100 mm Dia                                                                                                                                                                                                                     | 5   | No  | 1,250.00 | 6,250.00  |
| c     | 80 mm Dia                                                                                                                                                                                                                      | 2   | No  | 900.00   | 1,800.00  |
| xiii  | <b>NRV:</b> MOC-Gun Metal of approved quality (screwed end) :                                                                                                                                                                  |     |     |          |           |
| a     | 40 mm nominal bore (Horizontal)                                                                                                                                                                                                | 2   | No  | 1,275.00 | 2,550.00  |
| b     | 50 mm nominal bore (Horizontal)                                                                                                                                                                                                | 5   | No  | 1,840.00 | 9,200.00  |
| c     | 80 mm nominal bore (Horizontal)                                                                                                                                                                                                | 1   | No  | 900.00   | 900.00    |
| xiv   | <b>Gate Valve:</b> MOC-Gun Metal with C.I. wheel of approved quality (screwed end) :                                                                                                                                           |     |     |          |           |
| a     | 80 mm nominal bore                                                                                                                                                                                                             | 1   | No  | 5,700.00 | 5,700.00  |
| b     | 50 mm nominal bore                                                                                                                                                                                                             | 5   | No  | 2,000.00 | 10,000.00 |
| c     | 40 mm nominal bore                                                                                                                                                                                                             | 2   | No  | 1,400.00 | 2,800.00  |
| d     | 25 mm nominal bore                                                                                                                                                                                                             | 2   | No  | 650.00   | 1,300.00  |
| xv    | Dummy Flange:MOC-Mild Steel with suitable Nuts & Bolts etc.                                                                                                                                                                    |     |     |          |           |
| a     | 6" MS Dummy Flange-20mm Thick                                                                                                                                                                                                  | 2   | No  | 820.00   | 1,640.00  |
| b     | 4" MS Dummy Flange-20mm Thick                                                                                                                                                                                                  | 2   | No  | 250.00   | 500.00    |
| 2     | Supply of Flat Three Core PVC Insulated & PVC Sheathed Industrial Cable for Submersible Pump Motors 1100 Volts, conforming to IS: 694, suitable for installation with Deep Borewell pump of suitable length etc., as required. |     |     |          |           |
| a     | 2.5 Sqmm X 3 Core flat cable                                                                                                                                                                                                   | 600 | Mtr | 100.00   | 60,000.00 |
| b     | 4 Sqmm X 3 Core flat cable                                                                                                                                                                                                     | 400 | Mtr | 130.00   | 52,000.00 |
| c     | 6 Sqmm X 3 Core flat cable                                                                                                                                                                                                     | 100 | Mtr | 200.00   | 20,000.00 |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                   | Qty |     | Rate      | Amount      |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-----------|-------------|
| 3     | Supply of following panel board starter suitable to operate with 415 V, 50 Hz, 3 phase AC power supply various installations & locations etc as and when required.                                                                                                                                                                                                     |     |     |           |             |
| a     | 3HP/2.2 KW DOL Starter Panel                                                                                                                                                                                                                                                                                                                                           | 5   | Nos | 3,000.00  | 15,000.00   |
| b     | 7.5HP/5.5KW Star-Delta Starter Panel                                                                                                                                                                                                                                                                                                                                   | 2   | Nos | 7,000.00  | 14,000.00   |
| 4     | Supply of Borewell type Submersible Pumpset of Suitable rating, water filled cooling type, with SS strainer, SS Body,Noryl Impellers using anti-friction bearing, energy efficient type operated on 415V, 3 Phase,50Hz power for installation into 6" dia borewell including loading, unloading at site complete etc as required.<br>(Maximum borewell depth 250 feet) |     |     |           |             |
| a     | 5HP 3Phase - Borewell pump (Model No:KS4D 5025, Make: Kirloskar)                                                                                                                                                                                                                                                                                                       | 2   | No  | 32,000.00 | 64,000.00   |
| b     | 3HP 3Phase- Borewell Submersible pump (Model No:KS4D 3017, Make: Kirloskar)                                                                                                                                                                                                                                                                                            | 2   | No  | 22,000.00 | 44,000.00   |
| 5     | Supply & fixing of following Hydro Pneumatic system spares for various location as and whwn required.                                                                                                                                                                                                                                                                  |     |     |           |             |
| a     | Drain Kit for WM9 Pressure Tank                                                                                                                                                                                                                                                                                                                                        | 2   | No  | 5,500.00  | 11,000.00   |
| b     | Drain Kit for WM35 Pressure Tank                                                                                                                                                                                                                                                                                                                                       | 2   | No  | 5,500.00  | 11,000.00   |
| c     | Flange for Zilmat ultra pro pressure Tank                                                                                                                                                                                                                                                                                                                              | 2   | No  | 6,000.00  | 12,000.00   |
| d     | Multi pump control CU352                                                                                                                                                                                                                                                                                                                                               | 2   | No  | 60,000.00 | 1,20,000.00 |
| e     | IO351B Module digital/analog                                                                                                                                                                                                                                                                                                                                           | 2   | No  | 19,000.00 | 38,000.00   |
| f     | R core transformer 100VA                                                                                                                                                                                                                                                                                                                                               | 2   | No  | 5,500.00  | 11,000.00   |
| g     | R core transformer 150VA                                                                                                                                                                                                                                                                                                                                               | 2   | No  | 5,500.00  | 11,000.00   |
| h     | Pressure Transmitter 0-16 Bar                                                                                                                                                                                                                                                                                                                                          | 2   | No  | 7,500.00  | 15,000.00   |

| It.No | Description of Items                                                                                                             | Qty |    | Rate        | Amount              |
|-------|----------------------------------------------------------------------------------------------------------------------------------|-----|----|-------------|---------------------|
| 6     | Supply of actuator operated butterfly valve for Hydro Pneumatic System as and when required                                      |     |    |             |                     |
| a     | 200 mm Dia Butterfly valve with Actuator Model No. VS150.90A.G00 or equivalent                                                   | 2   | No | 1,00,000.00 | 2,00,000.00         |
| b     | 150 mm Dia Butterfly valve with Actuator Model No. VS150.90A.G00 or equivalent                                                   | 2   | No | 50,000.00   | 1,00,000.00         |
| c     | 100 mm Dia Butterfly valve with Actuator Model No.ER35.90A.M00 or equivalent                                                     | 2   | No | 35,000.00   | 70,000.00           |
| d     | 50 mm Dia Butterfly valve with Actuator Model No.ER20.X0A.M00 or equivalent                                                      | 2   | No | 30,000.00   | 60,000.00           |
| e     | 40 mm Dia Butterfly valve with Actuator Model No.ER20.X0A.M00 or equivalent                                                      | 2   | No | 30,000.00   | 60,000.00           |
| 7     | Supply of spares for 156HP Kirloskar make Diesel Generator Trolley Mounted De-watering Pumpset etc complete as an when required. |     |    |             |                     |
| a     | Impeller Nut                                                                                                                     | 1   | No | 3,500.00    | 3,500.00            |
| b     | Shaft Sleeve                                                                                                                     | 1   | No | 4,500.00    | 4,500.00            |
| c     | Set of Keys                                                                                                                      | 1   | No | 3,000.00    | 3,000.00            |
| d     | Set of Fastener                                                                                                                  | 1   | No | 4,000.00    | 4,000.00            |
| e     | Set of Bearing                                                                                                                   | 1   | No | 35,000.00   | 35,000.00           |
| f     | Set of Gland Packing                                                                                                             | 1   | No | 12,000.00   | 12,000.00           |
| g     | Set of Gasket                                                                                                                    | 1   | No | 1,999.00    | 1,999.00            |
| h     | Set of Oilseals                                                                                                                  | 1   | No | 3,000.00    | 3,000.00            |
| i     | Set of Ring                                                                                                                      | 1   | No | 1,999.00    | 1,999.00            |
|       | <b>Sub Head-IV Supply of Spares Total Rs.</b>                                                                                    |     |    |             | <b>13,61,738.00</b> |



| It.No | Description of Items                                                                                                                              | Qty    |       | Rate   | Amount      |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------|--------|-------|--------|-------------|
|       | <b>Sub head - V Supply of Chemicals</b>                                                                                                           |        |       |        |             |
| 1     | Supply of following chemicals for water treatment plant and tertiary treatment plant to be supplied as and when required as per site requirement. |        |       |        |             |
|       | <b>Per Year requirement</b>                                                                                                                       |        |       |        |             |
| A1    | <b>Solid Dosing chemical</b>                                                                                                                      |        |       |        |             |
| 1     | Hydrant Lime 80% concentration                                                                                                                    | 500    | Kgs   | 10.00  | 5,000.00    |
| 2     | Dolomite 70% concentration                                                                                                                        | 500    | Kgs   | 10.00  | 5,000.00    |
| 3     | Soda Ash 98% concentration                                                                                                                        | 500    | Kgs   | 10.00  | 5,000.00    |
| A2    | <b>Liquid Dosing Chemicals</b>                                                                                                                    |        |       |        |             |
| 1     | Hydro Chloric Acid 35% concentration                                                                                                              | 10000  | Ltr   | 9.00   | 90,000.00   |
| 2     | Sodium Hypo Chlorite 6% concentration                                                                                                             | 15000  | Ltr   | 8.00   | 1,20,000.00 |
| 3     | Aluminium sulphate 24% concentrate (Alum)                                                                                                         | 1500   | Ltr   | 18.00  | 27,000.00   |
| A3    | <b>Test Kit</b>                                                                                                                                   |        |       |        |             |
| 1     | Hardness Test kit-atleast 250 sample (Aquasol AE-211 or equivalent)                                                                               | 8      | Kit   | 850.00 | 6,800.00    |
| 2     | Chloride Test Kit-atleast 300 sample (Aquasol AE-203 or equivalent)                                                                               | 8      | Kit   | 890.00 | 7,120.00    |
| A4    | <b>Testing Regants, consumables</b>                                                                                                               |        |       |        |             |
| 1     | Universal Indicator solution PH 4.0-11.0 (500ML)                                                                                                  | 6      | Nos.  | 375.00 | 2,250.00    |
| 2     | PH Indicator Paper                                                                                                                                | 6      | Boxs. | 300.00 | 1,800.00    |
| A5    | <b>Salt</b>                                                                                                                                       |        |       |        |             |
|       | Industrial Salt NaCl                                                                                                                              | 125000 | Kgs   | 4.00   | 5,00,000.00 |
| A6    | <b>Chemicals for RO Plant (14 Cum/Hr)</b>                                                                                                         |        |       |        |             |
| 1     | R.O. Antiscalant                                                                                                                                  | 100    | Kgs   | 180.00 | 18,000.00   |
| 2     | Sodium Meta Bi Sulphate (SMBS)                                                                                                                    | 100    | Kgs   | 60.00  | 6,000.00    |

| It.No | Description of Items                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Qty |     | Rate        | Amount              |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------------|---------------------|
| A7    | Supply of Bioculture chemical for dilution of sludge in sewage collection open well etc complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                   |     |     |             |                     |
| 1     | Super24 Bioculture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 500 | Kgs | 450.00      | 2,25,000.00         |
| 2     | Oxysuper                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 500 | Kgs | 350.00      | 1,75,000.00         |
| A8    | Supply of Nanozyme Wastewater Treatment Culture chemical for dilution of sludge in sewage collection open well etc complete as required.                                                                                                                                                                                                                                                                                                                                                                                        |     |     |             |                     |
| 1     | Nanozyme-Bet-STP-9013                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 500 | Kgs | 400.00      | 2,00,000.00         |
| 2     | Nutrition-Bet-Nutri-9003                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 500 | Kgs | 120.00      | 60,000.00           |
| A9    | Supply of stabilizer chemical for dilution of sludge in sewage collection open well etc complete as required.                                                                                                                                                                                                                                                                                                                                                                                                                   | 500 | Ltr | 80.00       | 40,000.00           |
|       | <b>Sub head - V Supply of Chemicals Total Rs.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |     |     |             | <b>14,93,970.00</b> |
|       | <b>Sub head - VI Replacement of Filtration media</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |     |             |                     |
| 1     | Replacement of outdated filter media in Activated Carbon filter and Multi Grade Filter at old water treatment plant including removal of old outdated media, rinse-cleaning,application of thinner,industrial marine grade epoxy painting, refilling of different gradient media (pebbles, sand, silex,Granular Activated Carbon) in layers as per standard design, technical specifications and disposal of unserviceable media away from chennai airport complete as per the direction of Engineer-in-Charge etc as required. |     |     |             |                     |
| a)    | Activated Carbon filter (110 M3/Hr): 2600mm Dia X 2000mm HOS<br>Top Distrubution Header: Inverted Bell Mouth<br>Bottom Collector : lateral system                                                                                                                                                                                                                                                                                                                                                                               | 1   | Job | 2,80,000.00 | 2,80,000.00         |

| It.No | Description of Items                                                                                                                            | Qty |       | Rate        | Amount             |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|-------------|--------------------|
| b)    | Activated carbon filter (30 M3/Hr): 1600mm Dia X 2000mm HOS<br>Top Distrubution Header: Inverted Bell Mouth<br>Bottom Collector: Lateral system | 1   | Job   | 95,000.00   | 95,000.00          |
| c)    | Muti-Grade filter (110 M3/Hr)-3000mm Dia X 1800mm HOS<br>Top Distrubution Header: Inverted Bell Mouth<br>Bottom Collector: Lateral system       | 1   | Job   | 2,10,000.00 | 2,10,000.00        |
| d)    | Muti-Grade filter (30 M3/Hr)-2000mm Dia X 1500mm HOS<br>Top Distrubution Header: Inverted Bell Mouth<br>Bottom Collector: Lateral system        | 1   | Job   | 95,000.00   | 95,000.00          |
|       | <b>Sub head - VI Replacement of Filtration media Total Rs.</b>                                                                                  |     |       |             | <b>6,80,000.00</b> |
|       | <b>Sub head - VII Contingency</b>                                                                                                               |     |       |             |                    |
| 1     | Supply of following accessories for contigency/Emergency situations etc complete as required.                                                   |     |       |             |                    |
| a     | PVC Flexible Green Hose-4"                                                                                                                      | 30  | Meter | 300.00      | 9,000.00           |
| b     | PVC Green Hose-3"                                                                                                                               | 30  | Meter | 200.00      | 6,000.00           |
| c     | PVC Green Hose-2"                                                                                                                               | 30  | Meter | 100.00      | 3,000.00           |
| d     | Fire Hose-4"                                                                                                                                    | 30  | Meter | 200.00      | 6,000.00           |



| It.No                                                                            | Description of Items                        | Qty |    | Rate             | Amount                |
|----------------------------------------------------------------------------------|---------------------------------------------|-----|----|------------------|-----------------------|
| e                                                                                | Stainless Steel Hose Clamp-4"               | 4   | No | 30.00            | 120.00                |
| f                                                                                | Stainless Steel Hose Clamp-3"               | 6   | No | 20.00            | 120.00                |
| g                                                                                | CI Foot valve-3"                            | 2   | No | 700.00           | 1,400.00              |
| h                                                                                | CI Hose collar-3"                           | 2   | No | 170.00           | 340.00                |
|                                                                                  | <b>Sub head - VII Contingency Total Rs.</b> |     |    |                  | <b>25,980.00</b>      |
|                                                                                  |                                             |     |    | <b>Total Rs.</b> | <b>2,59,90,047.00</b> |
| <b>2nd Year Total Amount (Excluding EPF, ESI/Mediclaim, Bonus &amp; GST) Rs.</b> |                                             |     |    |                  | <b>2,59,90,047.00</b> |

  
27/02/2021.

**G.N.D. Kennedy**  
**Jt. Gen. Manager (Engg-Elect)-I**

Signature Not Verified

Digitally signed by ALAGARSAMY THIRUPATHY VENKATACHALAPATHI  
Date: 2021.04.12 16:44:41 IST  
Location: eProcurement System for Central PSUs

