

VADODARA SMART CITY DEVELOPEMENT LIMITED (VSCDL)

GOVERNMENT OF GUJARAT



(SMART CITY MISSION PROJECT)

TENDER DOCUMENT FOR

Supply, Commissioning and Comprehensive Operation & Maintenance of Smart Waste Management Equipment and Tools – Jetting cum Suction Equipment (Super Sucker) in Vadodara City for Period of Five Years Under “Smart City Mission” as per Technical Specifications

February 2019

VOLUME – II

**TECHNICAL SPECIFICATION FOR SUPPLY INCLUDING
SCOPE OF SERVICES FOR OPERATION & MAINTENANCE**

**C/o
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On Behalf of
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Technical Specification / General Specifications & Guidelines for Smart Waste Management Equipments & Tools

1 SPECIFICATIONS OF TRUCK MOUNTED SUPER SUCKER MACHINE

1.1 General requirements

The type of equipments envisaged to be covered under this tender is the Truck mounted Jetting cum Suction (Super Sucker) Machines.

The Second equipment planned to be inducted into the working of by the authority includes the enhancement of high flow jetting cum suction machine (Super Sucker) with roots blower & Dump Tank mounted on a suitable Euro IV Chassis as approved by RTO. The machine shall be suitable for suctioning free flowing sludge and slurry. The purpose of the equipment is to carry out de-clogging operations for the sewer lines within the city to ensure smooth flow of sewage.

The vehicle mounted jetting cum suction unit to be capable of air lifting of dense waste/ sludge like mud, slurry, small stones, debris, grit etc. from sewer lines, storm water drains etc. thorough vacuum mode and capable of jetting civil and industrial sewer lines of diameters ranging from 200 mm to 1200 m. The equipment shall be mounted on suitable 25 Ton GVW EURO-IV/BS-IV Chassis. Sewage collection tank (suction dump tank) shall be mounted on separate vehicles.

DUMP TANK of a combined twin compartment tank of total volumetric capacity of 10000 liters divided into two compartments of 2000 ltrs for fresh water and 8000 liters for sewer sludge. The complete equipment shall be mounted on a suitable 16 Ton GVW EURO-IV/BS-IV vehicle chassis with factory fitted side PTO & Standard Day Cabin.

One unit shall consist of the (a) Super Sucker Main Unit – 1 No & (v) Suction Dump Tank – 2 Nos.

1.1.1 Super Sucker Main Unit

- Suction System
- Prime Mover for Suction System
- Safety Devices for Suction System
- Ancillaries for Suction System
- Suction Hose & Hose Storage
- Prime Mover for Jetting System
- Tank
- High Pressure Jetting Pump
- Hose Reel Drum & Sewer Jetting Hose
- Hydraulic System & Plant
- Control Panel
- Piping
- Accessories
- Painting
- Vehicle Chassis with factory fitted

1.1.2 Suction Dump Tank

- Tank
- Lateral Cleaning System
- Jetting Hose
- Prime Mover for Lateral Cleaning System
- Painting

The engine should be heavy duty diesel operated and various hydraulic systems. It should be easy to operate and simple to maintain and should be a high performance jetting operations with very low dB creating the most environment friendly solution.

The Super Sucker Machine and its equipment shall adhere to all the existing rules and those prescribed from time to time by Regional Transport Authority including pollution & environment statutory authority's standards and measures in Vadodara Municipal Corporation's jurisdiction.

Fuel tank of machine shall be see-through type and shall give at least 12 hrs endurance

1.2 Base Vehicle

HCV cab-chassis GVW is required to build up the hydraulically operated Truck Mounted Road Super Sucker Machine as per the specifications and requirements mentioned in the tender documents.

The chassis design shall be safe, and convenient with exhaust emissions maintained at specified levels (Bharat Stage IV subject to meeting additional requirement, if any at the time delivery. Specific attention shall be provided at the driver's work area to provide pleasing and healthy working atmosphere / conditions, minimize work load and operational fatigue through automation and ergonomic design. The vehicle will have to comply with rules and regulations on safety and emission regulations as may be notified by the Government for compliance on the date of manufacture or registration of the vehicle as the case may be.

The vehicle design should be such as to meet all statutory requirements applicable for such equipments. Further, the mounted structure should meet the requirements of structural strength, stability, deflection, vibration, and roll over protection etc. as per prescribed standards.

The material used in the construction of truck shall be as per Bureau of Indian Standards (BIS)/ Automotive Industry Standards (AIS) specifications. Wherever Indian standards are not available, internationally acceptable standards may be referred/ followed. Specific reference of compliance to be furnished along with test certificates from NABL accredited laboratories for the specific discipline for the materials used for manufacturing of various major and critical components and aggregates in view of performance and safety.

The vehicle shall be designed and manufactured with all applicable fire safety and exhaust emission regulations for the vehicle including piping location, location of rubber hoses, location of exhaust, location of catalytic converter, prescribed upholstery material, fire retardant cables, connectors etc. These provisions shall include the use of fire retardant/low exhaust material, fire detection systems, firewalls, etc as per statutory requirements. Flammability requirements shall comply with the relevant IS standard.

The truck should be capable of traveling at its normal / specified travel speed, when going for

dumping / discharge of collected material.

- a. The cabin shall be provided and fitted with
 - Roof Light - 02 Nos.
 - Heavy duty Wiper Machine - 02 Nos. (with Arm & Blade)
 - Heavy-duty Bracket type convex mirror - 02 Nos.
 - Hand operated Traffic Signal - 01 Nos.
 - Extra wiring wherever necessary
- b. Suitable size battery box shall be provided under the attendants' seat. The bidder shall provide the extra length of battery cable.
- c. Stoplights, direction indicator lights and tail lamps shall be provided and fitted.
- d. All controlling switches for lights, driver cab light and wiper machines shall be provided on dashboard panel or near driver's seat to operate easily.
- e. The cabin shall be painted externally and internally of approved shade.

1.3 Engine

Diesel fuelled internal combustion engine with compression ignition system and electronic engine management system capable of delivering adequate power to obtain desired performance in respect of defined acceleration levels and emission norms. The engine should have adequate horsepower not only to propel the truck but also to operate all other devices fitted to the base vehicle, including sucking mechanism, efficiently. As the truck is required for operation in city services, engine should be capable of delivering adequate power at lower RPM levels with a high torque over a larger RPM range particularly on the lower side. The GVW of truck should be around 25 T (3 Axle) for Super Sucker and 16T (2 Axle) for the Dump Tanks. The acceleration, overload capability and gradability requirements minimum engine with appropriate equipment requirements.

Engine and associated transmission shall be so selected that under taxing operating conditions truck shall have adequate sustained speed so that it shall not be a cause of traffic snarls in typical urban road traffic scenario that consists of variety of transport vehicles plying on our urban roads. Bidder shall submit Torque Speed Graph for the engine used. As far as practicable the engine shall be tuned to have flat torque – speed performance curve considering the driving application. The life assured till first overhaul should be minimum 2,00,000 km or 18 months from the start of use whichever is later (with routine preventative maintenance.)

The engine and its accessories shall be easily replaceable. The engine mounting shall be such as to minimize transmission of vibrations to the truck structure specifically in the driver cabin area.

The engine should be suitably designed to operate optimally and efficiently under Project Area's peak summer conditions (hot, humid and dusty atmosphere) and under typical city driving application.

For protection against fire risk in engine compartment, no flammable material or material liable to soak fuel, lubricant or any combustible material shall be used in the engine compartment unless the material is clad by an impermeable fireproof sheet. A partition of heat-resistant material shall be fitted between the engine compartment & any other source of heat.

Engine Power and emission levels must confirm to the Central Motor Vehicle Rules (CMVR)/ AIS /any other Indian standards. In case of multiple norms, the most superior of these is to be adopted and as applicable for the Project Area.

1.4 Pollution norms

The equipment should have best technological arrangement to ensure that the dust content in the exhaust air, from machine is less than the existing / prevailing pollution control norms.

The equipment shall be designed, fabricated, mounted and integrated to the chassis having Minimum EURO IV (BS-IV) norms & matching all requirements of various govt. agencies / RTO rules/ norms & the following technical specification as the minimum requirement.

1.5 Smart Features

It is proposed that the vehicles should have the necessary provisions to allow these smart equipments to be installed and necessary monitoring of the movements can be carried out from the Integrated Command & Control Centre. The actual implementation of these smart systems shall be in the scope of work of the ICCC Contractor. The Operator shall not tamper with these equipments and inform promptly the ICCC vendor in order to carry out necessary corrective actions. Further, if instructed by VSCDL the operator is expected to depute one of its staff members at the ICCC in order to be able to monitor and control the whole waste collection exercise.

1.6 Other features & accessories

- a. Standard Spare wheel with carrier mounted on chassis and Tool Kit shall be provided
- b. During Warranty period there should be no limit on Distance (km)
- c. There should be Lowering/Lifting and locking/unlocking of Rear Dumper Discharge Container

2 SUPER SUCTION MAIN UNIT

2.1.1 Suction System

Aspiration of dense waste/sludge from septic tanks, sewer lines, storm water drains, gullies etc. is carried out on the principle of creating high vacuum in the compartment using an exhaustor/compressor, which can be operated in both vacuum and pressure mode. Blowing of pressurized air/water into the chamber dislodges the sedimented solids, which combine with the liquefied effluent to form sludge. This is then collected into the tank by operating the system in the vacuum mode.

The Roots type trilobe Blower shall be of imported Aerzen/ Robuschi/ Jurop/ Dresser make of international repute having an ample airflow of min 4200 cum/hr and capable of creating 80% vacuum. It should be capable to empty chambers from depths of approximately 20 meters. The blower shall be driven by an independent Prime mover (auxiliary engine) of min. 150 HP or more.

The blower shall be of simple design principle and limited number of moving parts. They are to be dependable in operation and to have modest maintenance requirement. Even when operated continuously, this blower to often attend overhaul intervals of several years. The system shall be provided with SS filter mesh to protect the system from ingress of dust particles in to the blower. Acoustic enclosure for Aux. Engine and Exhauster Blower housing to be provided and it shall be ensured that noise level is under the permissible level.

2.1.2 Prime Mover for Suction System

The tri lobe exhauster blower shall be driven by an independent Diesel Prime mover (auxiliary engine) of suitable capacity to create the desire suction. The Water Cooled Auxiliary Engine shall be of reputed Ashok Leyland / Cummins / Greaves / Kirloskar make producing min 150HP power output.

The Diesel engine shall be water-cooled type with direct injection four stroke inline cylinder configuration. The Diesel Engine shall be fitted with the necessary standard accessories like the fuel tank, fuel filter for feeder pump suction, instrument panel with RFP indication, hour gauge, engine temperature, etc. The engine shall be provided with a suitable control panel to enable the control of engine. The radiator shall be industrial type with air blast and equipped with heady duty type air cleaners. The diesel engine should have all standard features and protection necessary for the satisfactions operation & performance of the machine.

2.1.3 Safety Devices for Suction System:

- Cyclone: This device is designed for the safety of the blower to be based on the principle of cyclone separator. This shall be mounted on dump tank vehicle.
- Air filter for blower inlet: Cleaning filter housing with SS mesh type filter cartridge shall be fitted in the vacuum line before the blower to filter the air.
- Instrumentation: Shall include required instrumentation & protection devices including over pressure safety valve, pressure regulator unloader vale, water filter at pump inlet

2.1.4 Ancillaries for Suction System

The complete system to be supplied with Air filter, exhaust silencer, cooling inlet silencer in super sucker unit and vacuum relief valve in suction dump tank.

2.1.5 Suction Hose & Hose Storage

Suitable arrangement for storage of suction hose to be fitted on the side of the tank and 5 Nos. of non-collapsible, 4-meters long and 6 inch (150mm) internal diameter heavy duty suction hose with suitable quick release couplings to be supplied. Quick-fix "Muller" design coupling (male female) shall be provided. One end suction hose of 150mm shall be provided with snorkel (deep suck tool) for pneumatic conveying of the material.

2.1.6 Prime Mover for Jetting System

Drive or the high-pressure jetting pump shall be tapped from a split shaft power take off unit. The power take off unit to be fitted with independent output drive shafts and the complete unit to be mounted in the center of the auxiliary frame and between the vehicle's gear box and the differential. The hydraulic pump shall be driven independently by the side PTO of the chassis. PTO shall be of imported PZB-Italy/ SKIBL Germany/ OMSI-Italy make

2.1.7 Tank

Tank Construction

- Tank to have volumetric capacity of appropriate capacity of fresh water
- Tank Construction: The whole tank to be made of steel plate of 6-mm thick and will confirm the IS 2062 Grading 'A' standard. The tank to be an all electrically continuous welded construction. Elliptical dished ends, Material plates for shell, dished ends & internal compartment walls as per IS 1079.
- The tank will be fitted with 2 No. anti surge baffles to provide dynamic stability to the vehicle when in motion.
- A 360-400 micron water strainer will be fitted externally to ensure clean water supply to the jetting pump. This provision allows for not only easier and regular cleaning of the strainer, but also reduces the risk of having a defective and a choked filter with the tank completely full.
- The tank will be provided with a manhole, at the front of the tank to allow man entry for maintenance. The man-way lid will be gasketed.
- A ladder will be provided on the tank for accessibility to the tank top. Filler port with cap will be provided on the tank top. Level indicator of thick-walled transparent acrylic tubing will be provided on either side of the tank and in a suitable position.

Tank Mounting

The tank to be mounted on an auxiliary frame of ISMC 150 section and to be adequately strengthened to render it torque resistant. The auxiliary frame shall be of an all electrically welded construction.

2.1.8 High Pressure Jetting Pump

High Pressure Jetting system to work on the principle of hydrodynamic cleaning by water pressure and suitable for cleansing, de-silting and de-chocking of drain/sewer lines respectively. The high pressure jetting pump shall be driven by split shaft total power take off unit and to have a pressure of min 150 bar and flow of min 390 liters/minute. The high-pressure system shall be adequately protected by incorporating suction filter, relief valve, pressure regulation valve in this system to be provided. The High Pressure Jetting Pump shall be of imported Myers-USA/

Pratissoli-Italy/ Woma-Germany make.

2.1.9 Hose Reel Drum & Sewer Jetting Hose

Fitted on the sub frame rear side of the chassis the hose reel to be of the fixed type. The rotation of the hose about its axis to be affected manually and through a rotation 180 degrees by guide hose assembly. Delivery and recovery of the jetting hose shall be done via a low speed, high torque hydraulic motor drive. The machine shall be delivered complete with min 120 mtrs. of min 32 mm dia light weight high pressure sewer jetting hose in single length. The pressurized water shall be directed in to the hose through a specially designed rotary swivel joint, fitted at one end of the hose reel drum.

Parameter	Description/ Value
Design	Subject hose of min 32 mm diameter & min 120m length shall be designed in such a manner so as to facilitate replacement on a powered hose reel without interfering with the original manufacturer's intended minimum bend radius.
Construction	Subject hose shall be constructed to the following exact specification. Exception to the following will render alternate hoses not acceptable. The hose shall be Piranha- USA/ Trelleborg-Sweden / Parker-USA, equivalent Imported make.
Inner Core	Inner core shall be constructed of a special water and grease resistant styrene – butadiene rubber polymers (SBR) / Polyolefin thermoplastic material
Reinforcing Material	Special Synthetic textile braided.
Cover	A smooth styrene – butadiene rubber polymers (SBR) / Natural Rubber, (NR) / Polyester – urethane of 1.65 – 1.7mm thick cover shall be provided
Minimum Bend Radius	200 mm approx
Strength of Hose	Tensile Strength – Shall be around 45 KN
Filling Pull Off	Permanently attached fitting shall be a minimum of 35 KN.
Pressure Ratings	Burst Pressure – Shall be minimum of 6250 psi (440 bar). Working Pressure – Shall be minimum of 2500 psi (175 bar)
Dimensions	Outside diameter for hose shall be minimum approx. 46 mm for 32 mm inside diameter hose
Weight of Hose	Weight of subject hose shall be approx. for 100 meter length – 75 – 90 Kg

	for 32 mm dia. Hose
Temperature Limits	40 ⁰ C to 50 ⁰ C

The jetting hose drum should be suitably location to ensure it is easy to operate and the operator can supervise and control the movement of the suction nozzles by winding/ unwinding the drum with the help of hydraulic motor and also should have a clear display of the water pressure & vacuum pressure ratings. Suitable guide supports should be provided at the manhole entrance as well as sewer line inlet to allow a smooth movement of the hose and prevent its damage due to abrasion.

2.1.10 Hydraulic System & Plant

A hydraulic pump of ample capacity to meet the operational requirements of the system to be driven off by the chassis fitted PTO. The hydraulic system to be provided with an oil storage tank of suitable capacity, suction and return line filters, direction control valves and counter balance valves for the tank tipping cylinder. All hydraulic connections to be a combination of high pressure seam less pipes and flexible hoses to facilitate easy replacement/ repairs.

2.1.11 Instrumentation & Control / Control Panel

All indicators and control elements required for system control and monitoring to be installed in a Control Panel located at the rear of the vehicle and on the left hand side.

All indicators, control elements and pressure gauges to be fitted on suitable location and control panel fitted at the rear most ends of the chassis and on the left hand side.

Acceleration lever shall be located in the control panel provided the engine design allows for the same. Alternatively, an accelerator clamping arrangement to be provided to achieve and maintain the engine speed, suitable to drive the jetting pumps at the required speed.

2.1.12 Piping

All waterline connections shall be of a combination of high pressure seamless pipes and flexible hoses, to facilitate easy replacements/repairs. The pipes shall be clamped sufficiently to absorbed vibrations and to be easily accessible for maintenance.

2.1.13 Accessories (Set of Nozzles)

All nozzles to suit pump rating and from manufacturer of ISO 9001 Company for manufacture of Jetting Nozzle.

- 45⁰ forward jet nozzle (5 rear & 1 forward) – 03 nos.
- 45⁰ tangential nozzle (6 rear jets) – 03 nos.
- 35⁰ piercing nozzle (5 rear & 1 forward) -03 nos.
- 35⁰ tangential nozzle (6 rear jets) – 03 nos.

2.2 Super Dump Tank

The tank is a truck mounted container unit which cyclones for separation and collection of sludge/ slurry being suctioned from the sewer lines through Truck mounted Vacuum Loader machine.

The cyclonic container shall comprise of:

- Tank
- Hydraulic System & Controls
- Cyclonic Separators

2.2.1 Tank

The whole tank shall be made of steel plate of 6 mm thick and will conform the IS 2062 Grading 'A' standard. Tank shall have total volumetric capacity of 10000 liters out of which 2000 ltrs shall be for fresh water and 8000 ltrs for sewer water.

Tank Construction

- The tank shall have one dished end welded at the cabin end and other dished end door located on top hinge joints at the rear end. The tank shall be designed to withstand suction and over pressure operating conditions. The dished end rear door opening shall be hydraulic operation. Sludge shall be sucked through the suction valve which could also be used to discharge excess sewer water back into a chamber during a blow back operation. The entire tank contents can be drained under gravity/pressure through the drain valve. Pressure relief and vacuum relief valves will be mounted on the system to protect the tank from over pressure and collapse due to excessive vacuum respectively. A float valve to prevent water from entering the pumping system will be provided inside the tank. The tank to be an all electrically welded construction. The tank interior to be duly painted with anti-corrosive gray epoxy paint. The tank exterior to be spray painted with polyurethane paint of a reputed make
- Rear door opening of tank to be operated by two hydraulic cylinders.
- Tank tipping arrangement to be provided.
- Tank shall be provided with pre filter cyclone.
- Fixed piping and valves shall be of diameter 150 mm and provided in the circuit.

Tank Mounting

- The tank to be mounted on an auxiliary frame of ISMC 150 section and to be adequately strengthened to render it torque resistant.
- The auxiliary frame shall be of an all electrically welded construction.

2.2.2 Lateral Cleaning System:

The high pressure jetting pump shall be provided for lateral cleaning system. Pump shall be of reputed make having a flow of min 60lpm and pressure of 120 bar. The water required for lateral cleaning system shall be taken from tank compartment having 2000 ltrs capacity. This system shall be mainly used for washing of tank. Hose reel provided shall be fixed type and Trigger type wash gun also shall be provided.

2.2.3 Jetting Hose:

Suitable and reputed High Pressure ½" inner diameter jetting hose of 25 meter length shall be provided.

2.2.4 Prime Mover for Lateral Cleaning System:

Lateral Cleaning System's Jetting Pump shall be driven by the power tapped from Chassis's engine through Chassis's Power Take Off Unit.

2.2.5 Painting:

Both exterior and interior of the tank shall be sand blasted prior to spray painting. The tank exterior shall be spray-painted with two coats of superior quality anti-corrosive primer and two coats of polyurethane paint of a reputed make. The colour shade shall be of customer choice. To resist corrosion due to weak acids/sewage the tank interior shall be coated with 2-coat anti-corrosive gray epoxy paint of reputed make.

All necessary finishing shall be carried out prior painting. The under chassis parts and the portion shall be painted with anticorrosive material. Complete unit including cross and super structure member shall be painted with superior quality antirust paint.

The compacting unit shall be painted with anti-corrosive primer before painting with two coats of polyurethane paint of ISI approve make. All necessary indicative labels shall be pasted on for easy operation.

- a. All welding work must be MIG welding only. The welding wire shall be of ESAB/ ADOR/ L&T only.
- b. All angle and channels and other raw materials shall be as per Indian standard.
- c. All MS material shall be of Tata/ SAIL/ Jindal/ Vishakhapatnam steel/ Essar/ Ispat as suggested in the tender (for angle/channel if not available of above brand then it shall be of IS/ISO approved make) only. Contractor has to submit necessary test report and/or invoice copies.
- d. Paint must be of standard brand only like Asian, Esdee, Grand Polycoats, Nerolac, Berger, ICI, Dulux and Shalimar only.

2.2.6 Accessories:

The following accessories shall be supplied along with each unit.

- Set of Nozzles as per Clause No. 1.13 for Super Sucker only.
- Al chequered plate special maintenance platform with railing between cabin & tank–1No.
- Al chequered plate catwalk with ladder – 1 No.
- Al Chequered plat lockable tool box – 1 No.
- Float switch with indicator and hooter for low water level (in jetting tank of super sucker only) – 1 No.
- Rotating beacon with cabling – 1 No.
- Flash lamp – 1 No.
- Reverse audio visual horn – 1 No.
- Mud guards – 2 Nos.
- Mud Flaps – 4 Nos.
- Visual indicating light for PTO – 1 No.
- Filler hose – 10 meters with super sucker unit only

- Standard Spare wheel with carrier mounted on chassis and Tool Kit shall be provided
- During Warranty period there should be no limit on Distance (km)
- There should be Lowering/Lifting and locking/unlocking of Rear Dumper Discharge Container.

3 INSPECTION & TESTING OF EQUIPMENT

All described Inspection & Testing at manufacturer's works must be carried out on risk and cost of the contractor for Jetting cum suction machine as per the terms of this tender.

3.1 Quality Assurance Plan (QAP)

The supplier shall also provide the detailed technical specification along with the bid submission for the part of fabrication & installation of Super Sucker mechanism on the prime mover along with the internal Quality Assurance program. The supplier shall submit a Quality Assurance Plan of the vehicle manufacturer for information. The supplier shall submit the QAP for approval of the client within 30 days of placement of order. The test where client / its authorized representative shall witness the test and where review of test reports shall be done shall be clearly identified.

First unit/ sample shall be inspected/ verified by authorized representative/s of VSCDL and third party with the specification of VSCDL & on approval of first unit/ sample; bidder shall have to supply rest of units.

All facilities required during inspection & testing viz. travel, transportation, lodging & boarding etc. should be provided to CLIENT'S representative at no extra cost by contractor.

Equipment inspection shall be carried out by authorized representative of VSCDL. The client at its discretion shall carry out stage inspection at the various critical stages at Bidder's works-

- a) On Purchase and delivery of CAB Chassis with PTO
- b) On assembly of complete unit on chassis including Auxiliary engine, vacuum blower, tank container, etc.
- c) Final inspection including all accessories including jetting cum suction test, stability, operation and dimensional check.
- d) Apart from inspection, which may be carried out by purchaser's representative or authorized inspecting agency, Bidder shall furnish Test Certificates for all bought out components and also details of their own in- house inspection carried out.
- e) All costs towards inspection shall be borne by bidder, arrangements for arranging the tests shall be provided by Bidder, within scope of technical parameters of e-tender.
- f) It shall be the Bidder's responsibility to raise inspection call in writing to purchaser at least 10 days prior to each stage as above. Bidder shall be provided an opportunity to rectify defects but without any extension in the delivery period.

3.2 At works

Inspection and checking of details of various components specified in the specifications and agreed by the bidder, particularly the details of engine, drive system, brakes, hydraulic system, electrical system, vacuum system, hydro-test of tanks, etc including their capacity, make, dimensions, etc.

Tests on equipment at manufacturer's works/field test shall be carried out as per applicable standards / codes and specifications.

- All inspection, testing and examination shall be carried out in presence of Client's engineer/ engineers.
- The certificate of the materials of the individuals units as well as internal test certificate for the complete unit shall be submitted.

The inspection & test witness shall be particularly carried out at works:

1. Pressure Test - Pressure Pump, Jetting Pipe, Tank, all types of Valves.
2. Vacuum Test –Vacuum Pump, Tank, Suction Pipe, Valves.
3. Hydraulic Test - Hydraulic Pump, Hydraulic System, Tanks.

3.3 Field Test

The field tests shall be carried out as per design standards given by the bidder at the bidding stage / approved documents at a site in Vadodara.

- Functional test of Mechanical power road vacuum Super Sucker to check its specified/ guaranteed capacity by operating the machine continuously for four to six hours,
- Field trial for 2 days (6 to 8 hours in two shifts running per day) by operating the machine to assess functional performance of the machine.
- During testing, it shall be clarified that the unit is capable of sucking the debris, etc. without straining the prime mover along with the jetting operation.

3.4 Technical Data Sheet is an important part of Tender

Specification/ Document and the same shall be checked/verified with supporting documentary proofs, wherever applicable/necessary and shall be duly filled in at the time of Pre-Dispatch Inspection in the presence of inspecting officers/ team/ 3rd party inspection agency and copy of certified/signed sheet has to be submitted to the tendering authority or their authorized personnel and get dispatch clearance letter/certificate prior to delivery of machine(s) from manufacturers works to the CLIENT'S. The Technical Data Sheet with applicable details (except product serial no.) shall be filled in and submitted along with the tender.

3.5 Certificate of Origin (for imported items)

The contractor shall submit copy of certificate of origin, bill of landing letter of credit, proof of custom duty paid and principal's (manufacturer) invoice of the imported components before dispatching machine without which the machine shall not be accepted.

4 PERFORMANCE REQUIREMENT OF SUPPLIED EQUIPMENTS

4.1 Technical Performance

The Authority reserves the right to impose financial penalty in a month in case the work is not found up to the mark, during the routine inspection carried out by the Client's staff. The decision on amount of penalty within the limit is sole discretion of the Authority & maximum 10% of the bill amount.

4.2 Timeliness of Material supply

Detailed dimensional drawings with bill of material for each type of equipment & CPM/PERT Chart shall be submitted to VSCDL in triplicate for approval within 15 days of issuance of Work Order.

4.3 Transportation

After satisfied inspection & testing of combined machines done by Authority's Engineers at your works, successful bidder should be responsible for supply & delivery of machines from works to VSCDL, Vadodara, Gujarat at his risk and expenses like e.g. temporary R.T.O. passing, transportation, drivers, diesel, Road insurance, Octroi, etc.

4.4 Pollution Norms

Truck Chassis required for Machines is also in the scope of contractor. He must opt for TATA / Ashok Leyland / Eicher /MAN make chassis confirming to EURO- IV specification.

4.5 Vehicle Registration

Registration of the truck chassis must be done at Vadodara R.T.O. only. Registration of Chassis must be done in favour of "Chief Executive Officer, VSCDL". Purchase of Chassis shall be in the name of "Chief Executive Officer, VSCDL" at the time of purchase of chassis itself.

4.6 Equipment Guarantee

Operator must have back up guarantee from the original manufacturer of imported components like jetting pump / Vacuum pump / Roots Blowers PTO and also confirm the spares supplied by manufacturer to the bidders minimum for the period of 10 years. Operator shall guarantee the manufacturing, design, materials, workmanship and performance of all goods to be supplied under the order for a period of 12 months from the date of initial operation.

For all the equipments supplied under this tender the Bidder would give guarantee that the Machines/ Equipments conform to the technical parameters, quality standards and/or guaranteed operational parameters as specified in the RFP and as specified in the submitted bid document submitted by the Bidder.

If within a period of 120 days from the supply and successful commissioning of the equipment the CLIENT finds any major deviation in the quality, technical parameter or equipment it may issue notice to the Bidder to rectify the same within a period of 60 days. In the event the Bidder is

unable to rectify the same and the machine is found to be unable to operate as per the equipment guaranteed parameters the CLIENT may reject the Machines/ Equipments and return the equipment and recover all payments made to the Bidder under the Contract.

If during the O & M period the machine / equipment undergoes regular breakdowns and its availability is affected by more than 15 days during the first 180 days of any financial year or more than 30 days within 365 days of any financial year and that notwithstanding the fact that the CLIENT may have expected and/or approved the said Machines /Equipments, the CLIENT may impose liquidated damages equal to the O&M Charges for the number of days the Machines/Equipments were not available for service beyond the maximum duration of 30 days in any financial year.

In the event the said Machines/equipments be discovered not to conform to the aforesaid technical specifications, quality or guaranteed operational parameters during the O&M period or if the Bidder is unable to furnish records of having carried out O&M of the equipment or replenish the spare & tools at the beginning of each year, the CLIENT will be entitled to deduct the amounts upto to the value of performance BG of the Machines/Equipments or such portion thereof as may be discovered not to conform to the said description and quality, as a fair and undisputed damages to the CLIENT for such non-performance or such portion thereof as not meeting the specified quality, technical specification or operational performance specified in the RFP by the CLIENT, otherwise the bidder shall pay such damage as may arise by reason of the breach of the condition herein contained. Nothing herein contained shall prejudice any other right of the in that behalf under this contract or otherwise.

4.7 Equipment Spares

The successful bidder shall guarantee availability of spare parts and supply the same throughout the life of the equipment as and when ordered, within a reasonable time period. The equipment supplier shall submit a detailed spare part list with lead time for delivery of the spares along with the O&M Manual.

4.8 Imported Equipment supplies

In case of imported equipment, current valid Letter of Authority and support letter in favor of the Client for providing after sales service and spares parts support for 10 years duly notarized to be enclosed with the bid. In case of order, bill of lading, custom clearance certificate and other supportive import documentation in original has to be submitted by the Bidder to the Client for verification.

4.9 O & M Manual

The bidder shall submit the operation & maintenance manual of the supplied model of the equipment showing detailed operation procedures including list of Do's and Don'ts, blown up views of all major components and sub-assembly, detailed procedure for overhauling and replacement of each component, trouble shooting and remedie3s lubrication schedule and preventive maintenance checklist for daily, 2,500 hourly, 10,000 hourly and 25,000 hourly and 40,000 hourly schedule, Successful bidder shall provide 1 set of O & M Manual with each machine.

5 O & M SCOPE OF SERVICES

5.1 Scope of Work

The scope of work shall consist of full comprehensive operation and maintenance of above equipment including supply of all type of consumable and spares, Hose pipe, tyres, Diesel and Engine oil and shall include the following services:

- Provide Services of two supervisors, two mechanics for all machines, 2 drivers cum operators, one skilled and four unskilled labour per unit including Technical back up Support of Engineer/Technician as per requirements. The sanitary staff for handling the suction hose and Jetting hose shall also be provided as actual required onsite for ease & effective output of machine at his own cost.
- Routine maintenance and servicing of machine including replacement of filters for hydraulic oil, engine oil etc as & when required.
- Provide consumables such as lubricants, hydraulic oil, oil for compressor, filters, jetting hose, suction hoses, nozzles, tyres, diesel and engine oil etc as & when required.
- All Minor and major repairs of machine including spares as per requirement.
- Payment of road tax and insurance of the equipment to cover unforeseen events like theft, accident, fire, riots, earthquake etc.
- Contractor has to maintain all records regarding weight of de-silting material/operation and no. of trips and time required emptying the same.
- Record to be submitted on day to day basis/weekly/monthly/quarterly as demanded & as suggested in the format by Client.

The equipment shall be operated on single shift basis of 8-hours for six days a week which shall include the time taken for moving the Machine from parking place to place of work and back, and moving the machine from one work area to another. The operator shall be responsible for parking and garage facilities with washing facility, electric and water supply.

5.2 List of Major and Minor Maintenance

Minor Maintenance	:	Major Maintenance
Routine oiling and greasing of Complete Super Sucker machine.	:	Repair/Replacement of Gear box
Clutch Setting	:	Repairing/Replacement of PTO
<i>Filter cleaning and refitting</i>	:	Repair/Replacement of Jetting pump
Oil seal and O-ring replacement of Pump	:	Repairing/Replacement of Vacuum Pump
Minor patching, welding and painting	:	Repairing/Replacement of Hydraulic pump

Replacement of Clamp & coupling of Hosepipe and pressure pipe.	:	Repairing of Engine.
Replacement of Tyre, Tube and Battery.	:	Repairing of Cylinder tank
	:	Major patching, welding and painting
	:	Replace of Clutch Plate and Pressure Plate

5.3 General Guidelines during O&M Contract

- The O & M charge should include all electrical and mechanical parts repairing and replacing with minor spares.
- The contractor should have to attend the breakdown if any as early as possible and should have to complete the work without unavoidable delay.
- Contractor shall have to provide experienced operator and workers.
- Operator / workers shall have to perform his duties for 8 hours / day as directed by Client, within the jurisdiction of CLIENT’s area.
- Contractor must be registered with labour laws Act. They shall have to Act and obey as per govt. rules and regulations.
- In case of Accident or death of Employer’s of Contractor or third party, CLIENT will not be responsible in any manner / Manners.
- In case of damage of machines due to Accident, CLIENT will not be responsible.
- In any case, contractor is not allowed to work inside the manhole or sewer lines.
- The operator and workers shall be Contractor’s employees.

5.4 Detailed requirements during O&M Contract

- The contractor shall have to maintain logbooks & shift register, present register of the staff. Contractor has to get work certificate from the concerned dept./officer of CLIENT where/ under whom machine put in use in the machine Log diary along with satisfactory Chassis maintenance certificate of Central workshop, CLIENT & copy of same must be enclosed along with monthly bill CLIENT for payment procedure.
- Minor work: Routine service, Hose replacement, electrical work, external leakages (oil/ water/ diesel), mechanical/hydraulic settings, vehicle & transmission related job, brake job etc. These shall be carried out at site or at Operators parking place / at dept.’s site if available.
- Major work: Structural damages, Major chassis repairing, Engine o/h related, Vacuum / suction side major work including pump repairing/ replacement work etc.
- It is in the scope of the contractor to replace the hose pipe or nozzle, if it is trapped or jammed in the drainage line / manhole.
- The contractor shall be required to take comprehensive insurance for all the machines during the contract period. It will be the responsibility of the operator to have insurance coverage of their operating staff. They are requested to note that there will not be any reimbursement in this regard by CLIENT. As regards any mishap / accident happened on

the road or at site, the operator will have to shoulder the complete responsibility of the same, right from registration of Police complaint, lodging / follow up of the insurance claim and facing the court trials etc. It shall be the responsibility of operator to set right the machine without raising any extra bills / claim against the same for reimbursing the same from CLIENT. However, they shall be liable to receive all the payments received by CLIENT against the settlement of insurance claims from the Insurance Institutions. CLIENT authorities shall give the full cooperation to the operator by signing the requisite documents necessary for raising the insurance claim upto settlement of the same.

- The work force provided by the contractor shall have to be properly dressed in uniform and shoes, all the time. Each person provided by the contractor shall have to display the Identity Card on the uniform, with photo.
- Contractor has to arrange for all drivers, helpers, operators, labour, etc. & incur their salaries, wages, etc./ & all liabilities and responsibilities lies with him.
- The Contractor shall ensure that his personnel report to works everyday at designated time and continue working throughout the day. The Contractor shall make provision for presence of requisite manpower during national holidays and festivals if required. No separate payments will be made by the CLIENT for working on holidays, national holidays and festivals. The Contractor should ensure presence of his workforce at the specified time.
- The Contractor shall be solely responsible for any consequences under laws, arising out of any accident caused by his vehicles, equipments or his employees to the property or personnel of the CLIENT.
- The CLIENT shall not be responsible for any claim / compensation that may arise due to damages / injury / death pilferage to the Contractor's vehicles, equipments, property, staff and any third party or the property under any circumstances while providing services under the Contract
- Mobile phone shall have to be provided for each machine and to the supervisor for effective communication.
- At the end of O & M contract period, Contractor has to hand over the machines in satisfactory working conditions acceptable to Chief Executive Officer &/or his authorised representative. Otherwise penalty will be imposed by CLIENT at the discretion of Chief Executive Officer & shall be binding to the contractor.
- CLIENT officers/manhole workers shall only to show manhole covers & direction of flow/lines. It is in the scope of the contractor to barricade the site with drums & ribbons for avoiding any accident.
- Any machine which goes into breakdown shall have to be repaired within the stipulated period for major & minor repairs. Non-availability of the machine beyond this stipulated duration shall be liable for penal damages as specified in the contract.

5.5 Daily Operation & Coordination

- The contractor shall prepare and implement an effective operation and maintenance program in consultation with VSCDL. VSCDL will not provide any skilled or unskilled work force, machinery, or equipment other than that specified in the TD. It is absolute

responsibility of contractor to look after all sorts of maintenance whether preventive or breakdown.

- The quality of all consumable and spare as per manufacture recommendation shall be made available at site/workshop all the time and will be verified by the CLIENT.
- The contractor shall be responsible for keeping up-to-date record of documents including day to day work of all the vehicles put in use as per requirements of VSCDL. The contractor shall maintain and update logbook, in which details of operational parameters are recorded in every shift and at regular interval or as decided mutually.
- The Contractor shall maintain separate checklist register for daily, weekly, fortnightly, monthly, quarter yearly, half yearly and yearly activities. Also during checking if any abnormalities found it must be brought to the notice of VSCDL officer in charge and rectified by the contractor.
- The contractor shall be responsible to carry out day-to-day as well as periodic maintenance, necessary to ensure smooth and efficient performance/running of all equipments, machinery as per manufacturer's specification and maintaining the record of the same. Maintenance of all vehicles will be supervised by VSCDL. Contractor has to carry out all the related work under intimation and supervision of them.
- The contractor shall have to issue identity cards with photographs, uniform to all the staff employed for Operation and maintenance including transportation.
- The Contractor shall not reassign the work under the contract to any other party without prior written approval of the CLIENT
- The contractor shall employ all required staff including operation manager, technical experts, skilled and unskilled labors, drivers, labor etc. required for such services.
- Contractor shall comply with all safety rules and regulations and all inter disciplinary measures as followed by the VSCDL.
- The VSCDL shall not be responsible for any accident /injury to the staff of the contractor. It is contractor's responsibility to take insurance of his employee, medical facility, work compensation etc. as per workman compensation act and all other relevant laws. Further the VSCDL will not provide any insurance, medical facility, workman compensation, etc. to the staff of contractor.
- Due to strike by the contractor's employees, the operation and maintenance of machines must not be affected and the property of VSCDL should not be damaged. In such case any dispute/ discrepancy occurs, the decision of Chairman, VSCDL will be final and will be binding to the contractor. Also if any expense is required to be made on this account by VSCDL, it will be deducted from Contractor's bill/ SD.
- All Central/State Government/Semi-Government/Local Body's Rules and Regulations pertaining to this contract shall be strictly followed and observed by the contractor without any extra cost to the VSCDL.
- The duration of the contract shall be for 5 (Five) years from the date of actual work commencement of machines. However VSCDL reserves the right to terminate the contract at any time by giving 02 months (60 days) notice to the contractor.
- All these works shall be done as per standard practices and by following MSW rule, labour, factory, electrical, GPCB, and all other old and new law and order, Indian standards etc. as applied by Local, State and Central Govt. of India.

- At the end of O & M contract period, contractor shall hand over the machines in satisfactory working conditions acceptable to VSCDL/ its authorized representative. Otherwise penalty equivalent to the cost of repairs will be imposed by VSCDL at the discretion of CEO & shall be binding to the contractor.
- In case the successful bidder fails to deliver the services as stipulated in the tender, the CEO reserves right to get it done from alternate sources at risk, cost and responsibility of successful bidder.
- If it is observed that the Contractor carrying out the work fail to comply with instructions given by the authorities during execution of work thrice, the work will be terminated and will be carried out at the risk and cost of the contract & penal action will be taken against them. This decision will not be subject to arbitration.
- The above condition will be in addition to the relevant condition in General Conditions of Contract regarding cancellation of full or part of the work, finality of the decision of the disputes, differences or claims raised by the contractors relating to any matter arising out of the contract

5.6 Contract Price & Payment

- For O & M Contract Price will be as per the price bid and will be inclusive of all expenses necessary for the continuance of O & M services under the contract. The scope of work and the price includes providing necessary manpower for carrying out the operation of the machines including disposal of accumulated silt to the designated sanitary landfill site through mechanical transport.
- Rates quoted by Contractor shall be inclusive of GST and other taxes/ duties etc. as may be applicable
- For O & M Contract Price will be as per the price bid submitted online by and will be inclusive of all expenses necessary for the continuance of the supply and O & M services under the contract. Such expenses shall include but not restricted to payments to RTA, Labour Authorities, Local and Municipal Authorities, Semi Govt., or any charges, deposits, dues, taxes, fuel, oil, lubricants, levies, toll taxes, service tax, insurance(if any) etc., connected with the service.
- In Tender usual payment terms are 30 to 45 days after submission of monthly bills. The Bidder has to quote for O & M charges for 5 years considering 330 shifts per machine per year with each shift of 08 hours per day of around 40 KM. No extra payment for additional KM would be made. The equipment shall be operated on single shift basis of 08 hours/day for six day a week which shall include the time taken for moving the machine from parking place to place of work and back and also moving the machine from one work area to another. If vehicle would be operated for more than shift hours than for the extra hours, additional payment will be done at the proportionate rate of approved rate accordingly. CLIENT decision & rate calculation in such event/s will be final & binding to all. CLIENT will pay the bill of actual shift/day to the contractor on the submission of satisfactory performance certificate from users department of the CLIENT within 30 to 45 days. If machine is under repair or no requirement that particular day VSCDL will not pay the bill.
- The O & M Contract Price shall be fixed during entire contract period. Only diesel price (Fuel Price) variation and taxation changes during the contract period will be considered. No other increase will be given during the entire contract period.

- The CLIENT (i.e. CEO) reserves the right to increase or decrease the scope of work by 25%. Contractor shall have to carry out 25% extra work at the same rate, terms and conditions if asked to do so.
- On specific occasions, the CLIENT reserves the right to ask the contractor to provide additional cleaning services. The Contractor is bound to provide the same at a short notice of few hours. The rates for additional services requested by the CEO will be mutually agreed upon between the Contractor and the CEO.

5.7 Price Adjustment

Change in Fuel Price will be given to the contractor for each particular month after the actual start of O & M contract work. The base rate of fuel considered for calculation will be the rate applicable on the date of award of contract. Fuel cost increase or decrease will be allowed for each month. The average fuel price during each month (diesel price schedule for particular month have to been submitted by contractor along with monthly bill) will be taken in to account for calculating change in Operational contract price. No change will be given for maintenance contract price during entire contract period. New O & M cost will be calculated as below.

Only diesel price variation during the contract period will be considered for which bidder must have to clearly specify the % loading towards diesel part in the operation contract price without fail, which will be consider for diesel price variation. The formula for determining the increase or decrease in the rate from the base rate will be as under.

Change in diesel part Rs.

$$= \text{rate of Operation cost} * \% \text{ of loading of diesel part} * \left\{ \frac{\text{rate of diesel for particular month}}{\text{base rate of diesel}} - 1 \right\}$$

New Rate of operation cost for particular month

$$= (\text{Rate of operation cost as per work order}) \pm \text{Change in diesel part}$$

New O& M Contract price for particular month

$$= \text{Rate of Maintenance cost as per work order} + \text{New Rate of operation cost for particular month}$$

5.8 Manpower Management

- The contractor shall provide well-trained, disciplined, honest, and sincere workforce, throughout the contract period and supervise their work regularly.
- The Contractor shall have to take valid labour license & any other relevant license from statutory bodies as required for this type of contract. Necessary documents shall be submitted by contractor.
- They should not pose any problem, nuisance to the general public. The contractor shall be solely responsible for the behaviors and honesty of its workforce.
- The contractor shall appoint at least one supervisor to ensure that services are rendered effectively. They must be available on site &/or at their office during the working hours.
- The supervisor shall qualified person and competent and authorized by the contractor to take decisions at site. Such supervisor shall be deemed to have full authority of the contractor and any instructions given to him by the corporation officers shall be deemed to

have been given to the contractor. The supervisors should be easily accessible at all times and should have a mobile phone with them at all times. The Contractor shall ensure that the supervisor or any other authorized representative shall invariably be available either in person or over the telephone within the city every day for taking necessary instruction and for proper co-ordination

- The bidder shall indicate the manpower including supervisor & their labors he proposes to deploy and the methodology to be adopted. No decrease in the workforce shall be done once notified without prior written approval of the CEO. The CEO may deduct suitable payments to the contractor if it is noticed that the workforce is reduced without prior approval.
- Contractor shall provide suitable uniform to all their staff including shoes and photo identity card.
- The contractor must verify antecedents of the employees to be provided by the contractor before deployment. The contractor shall engage no person having criminal record or who is not the citizen of India.
- The contractor may, at his own cost and responsibility, consider increasing his workforce, equipment, and materials in order to discharge contractual obligation.
- The CEO reserves the right to ask for the replacement of the personnel not found fit or suitable for undertaking the task assigned. The contractor shall do replacement without any extra cost to the corporation within one week of the order.
- Contractor shall pay salaries /wages etc. to his workforce adhering to the laws in force & all liabilities and responsibilities in respect of persons engaged by him shall lie with the contractor.
- To avoid mishap or accident during the operation, the Contractor shall ensure that only skilled staff / drivers with sufficient experience in their respective trade and physical fitness are deployed on the job and are not put to over exertion as per prevailing labor laws of the State and / or Central Governments.
- The staff/drivers deputed by the contractor during the course of contract must behave decently with the corporation’s officer and staff. The Contractor shall withdraw such person who is found to be indiscipline, misbehaving, under or the influence of any intoxicant or whose services are considered detrimental to the corporation’s Interest. On giving intimation to do so by the CEO or his authorized representative. The corporation will serve a Notice to the contractor if he fails to comply. Failure to replace the personnel after issuance of notice by the corporation will be considered to be is sufficient ground for termination of the contract. It will not be binding to the corporation to justify the reasons to the Contractor for advising such withdrawal of staff.
- The Drivers of the contractor must be in possession of a valid professional driving license and the driving license should be at least three years old.

5.9 Service Levels & Benchmarking

The contractor shall be liable for penalty as mentioned in the penalty table.

Sr.	Type of default	Penalty to be impost
1	If contractor fails to load-Unload MSW &/Or other waste &/or carry out carry out the work etc. as per	Rs. 1000/- for each such event.

	the scope of work	
2	In case the contractor fails to paint the machines (if original color found damaged)	Rs.1000/- per machine per month till the same are painted.
3	The Super Sucker machines shall be exclusively used for VMC work only. Any deviation from this shall attract penalty. (in absence of VMC instruction)	Rs. 1000/- for first such incidence and then after Rs. 5000/- for such incidence.
4	If the Supervisor/Employee is not found on the work (either at any site or at their control office) during the prescribed working hours	Rs. 500/- per such incidence
5	If the Machine bodywork is found damaged and not repaired	Rs. 1000/- per month till it is repaired
6	If the minor and major repairing work is not carried out as per stipulated time given in tender	RS. 500/- per machine per day till the work completed.
7	If the labour is not found on the work during the prescribed working hours on machine/s	Rs. 200/- per such event.
8	Not keeping valid driving license while machine is working conditions.	Rs. 200/- for each such event.

The penalty will be deducted from the monthly bill of the contractor. Further in above circumstances CLIENT will be at liberty to use machines with an alternate arrangement. During such circumstances if any damage occurs to the machine, same also must be set right by the contractor for which no extra payment / claim will be reimbursed to the contractor by CLIENT. This shall be binding on the contractor.

The bidder / contractor shall keep the machines in perfect working condition to the satisfaction of CLIENT.

If he fails to perform his contractual obligations besides any other action; the CEO may decide to take as per the terms of the contract.

Penalty shall be imposed on the contractor for delay in work or for non-maintenance of vehicles, also

- The contractor shall be required to take full /Third party insurance for all the vehicles/ machines etc during the contract period. Copy of policy should be submitted to the CLIENT. It will be the responsibility of the successful bidder to have insurance coverage of their operating staff also. There will not be any reimbursement in this regard by CLIENT. If any mishap / accident occur on the road or at site, the successful bidder will have to shoulder the complete responsibility of the same, right from registration of Police complaint, lodging / follow up of the insurance claim and facing the court trials etc. It shall be the responsibility of successful bidder to set right the vehicles/machines without raising any extra bills / claim against the same for reimbursing the same from CLIENT. However, in case of full insurance taken by contractor, they shall be liable to receive all the payments received by CLIENT against the settlement of insurance claims from the Insurance Institutions. CLIENT authorities shall give the full co-operation to the successful bidder by signing the requisite documents necessary for raising the insurance claim up to settlement of the same.

The penalty will be deducted from the monthly bill of the contractor. Further in above circumstances CLIENT will be at liberty to use vehicles by an alternate arrangement and during

such circumstances if any damage occurs to the machine/s, same also must be set right by the contractor for which no extra payment / claim will be reimbursed to the contractor by CLIENT. This shall be binding on the contractor.

5.10 General Conditions

- The contractor shall employ all required staff including operation manager cum technical experts, skilled and unskilled labors, drivers, labour, etc. required for such services.
- Contractor shall comply with all safety rules and regulations and all inter disciplinary measures as followed by the VSCDL and required for such services.
- The VSCDL shall not be responsible for any accident /injury to the staff of the contractor. It is contractor's responsibility to take insurance of his employee, medical facility, work compensation etc. as per workman compensation act and all other relevant laws. Further the CLIENT will not provide any insurance, medical facility, workman compensation, etc. to the staff of contractor.
- Due to strike by the contractor's employees, the operation and maintenance of plant must not be affected and the property of CLIENT should not be damaged. In such case any dispute/discrepancy occurs the decision of CEO will be final and will be binding to the contractor.
- The contractor shall at his own expenses arrange for the safety precautions as required by the CLIENT/necessary for such services, in respect of all labour directly or indirectly employed for performance of the works and shall provide all facilities in connection therewith. In case the contractor fails to provide such facilities, the CLIENT shall be entitled to do so and recover the costs thereof from the contractor.
- Contractor has to provide necessary security and safety provision at their own for machines during the contract period at the work &/or parking place etc provided to them.
- Successful bidder will have to follow all the provisions of, Labor laws, P.F. Act, E.S.I. Act, Minimum Wages Act etc. & have to incorporate changes made if any during contract period also.
- Contractor will have to strictly follow the provisions of Factory Act 1947 (if required), wages Payment Act 1936, Bonus Act 1965, Employees Provident Fund & Miscellaneous Provisions Act 1952 & other Industrial & Labour Laws with latest amendments related to this Operation & Maintenance Work & will have to inform accordingly to the Department. Contractor will not be given any relaxation regarding these provisions.
- Upon failure of the Contractor to comply with any instructions given in accordance with the provisions of this contract, the CLIENT has the alternative right, instead of assuming charge of entire work, to place additional labour force, tools, equipments and materials on such parts of the works, as the CLIENT may designate or also engage another Contractor to carry out the work. In such cases, the CLIENT shall deduct from the amount which otherwise becomes due to the Contractor, the cost of such work and materials with 10% added to overall departmental charges and should the total amount thereof exceed the amount due to the Contractor, the Contractor shall pay the difference to the CLIENT. It should be specifically noted that wherever bank guarantee is required to be submitted, it should be from Nationalized Banks/scheduled bank only (As per CLIENT norms).
- Contractor has to paint all the vehicles at least once during whole contract period as and when required or instructed by CLIENT officials and the inside of the tank of all machines

has to be coated with anti-corrosive gray epoxy paint of reputed make end of the every year during contract period.

- This work is also inclusive of painting of vehicles atleast one time in whole period of contract in normal case and as and when required in accidental/repairing situation. The CLIENT department will verify this. However, if any unit/ mechanism will found to have some defect in paintwork at any time, the Contractor has to repaint the same under the instruction of CLIENT Engineer.
- The bidder shall make arrangements for washing of all the machines and equipments at least once a week.
- The successful bidder shall provide all the required tools and tackles for the operation and maintenance of the equipments and vehicles to their staff.
- Communication system/ equipments including GPS system shall be provided by CLIENT for controlling and monitoring of vehicles by CLIENT officials. A public address system shall also be provided (in emergency condition) by CLIENT to enable the machine operator to guide the public as and when required during working at the site in the event of any emergency, mishap etc. Necessary control room facility shall be provided by CLIENT centralized.
- Each machine shall be provided with fire extinguisher and first aid kit along with other necessary tool-tackles and accessories.

5.11 Operational Instructions to the Bidders

- The contractor shall have to commence the O & M work within 5 months from the date of order.
- Planning of rendering the services shall be based on 8 hours operational shift. However based on department requirement contractor has to provide machine for extra shifts.
- The rate of the O & M is on the basis of shift/day. CLIENT will pay the bill of actual shift/day to the contractor. If machine is under repair or no requirement that particular day CLIENT will not pay the bill.
- As far as parking arrangement of the machines are concerned, the parking place shall be made available by the CLIENT.
- A successful bidder shall maintain log sheet to enter the information about the day today works allotted to them by the representative of their concerned Dy. Health Officer of the zone.
- For any default of service performance a penalty of amount equivalent or not more than to the O&M cost of the specific machine and the length of the default area (at the rate accepted by CLIENT) shall be deducted /charged from the running bills. The details of the events of default and the exact rate of penalties shall be as specified in tender terms.
- As regards servicing routine and scheduled maintenance of the each machine, the same shall be carried out by the successful bidder through their maintenance staff preferably on Sundays in rotation/or as per CLIENT'S instructions and prior schedule.
- The operator shall utilize its own workshop facilities at their own cost to carry out routine & breakdown maintenance activities. The repairs & maintenance shall be carried out, as per the practice prescribed by manufacturer.

- The operator shall carry out break down and accidental maintenance of machines, through own field maintenance staff and other in-house staff as and when required.
- The CLIENT has the right to charge the contractor for any damage caused to its assets and the same shall be recovered from the contractor with immediate effect.
- Operator has to keep enough spare/stand by units for preventive and breakdown maintenance of all the equipments as per the unit/equipment manufacturer's guideline for smooth and uninterrupted working of Mechanical Super Sucker machines.
- The Contractor will ensure that the waste materials stored in the close containers' vehicles are not dumped/emptied at any place other than the one specified by the CLIENT. Disposal of waste in any other area will be termed as Deficiency of Service and CLIENT reserves the rights to charge penalty as well as terminate the Contract for Deficiency of Service.
- The shift of one machine is for 8-hours/day (i.e. 330-shift/year/machine). However, if required machine shall work for maximum 3-shift per day i.e. having more than 1-shift shall be limited to 100-nos shift/machine/year for that additional shift VMSS will pay the approved rate accordingly.