

## **Annexure - III**

### **Part 2 – Works Requirements and Specifications**

## **PROJECT DETAILS**

### **BACKGROUND**

With the India Smart Cities Challenge, the Government of India has taken the first step towards realizing its vision of building 100 smart cities across the nation. As part of the India Smart Cities Challenge under Ministry of Urban Development, Government of India, Tirupati is one of the cities that was selected in Round 2 and was ranked 4th amongst a nation-wide competition between 67 cities.

Under Indian Smart Cities Mission, the projects focus is on retrofitting a selected area within the city known as Area-Based Development (ABD). Additionally projects at PAN City level has also been taken up. The projects focus is multi-sectoral. The emphasis is on creating liveable cities, Holistic development of the selected area such that it catalyzes the development of other areas and sets an example for other cities.

Tirupati is now working on an implementation plan to convert the Smart City Proposal (SCP) ideas into reality, beginning with retrofitting of the ABD that will catalyse future scalability to entire city and projects at PAN City. Tirupati Smart City ABD area is known as “Tirupati Town Center (TTC)

Tirupati is known as the spiritual center of Andhra Pradesh with about daily 75,000 pilgrims visit Tirumala for darshan of Lord Venkateshwara., besides other historical temples, and is referred to as the "Spiritual Capital of Andhra Pradesh". It was named the "Best Heritage City" for the year 2012-13 by Ministry of Tourism. Tirupati has strong cultural heritage and is a melting pot of various festivals, is considered the Medical Hub of Andhra Pradesh and is home to numerous hospitals.

Tirupati city is located in Chittoor district in the state of Andhra Pradesh. The Municipal Corporation Tirupati (MCT) spread is around 27.44Sq Km and includes 50 Wards. According to 2011 census, the City's population is around 3.74,260. TTC (ABD) area is around 3.01 sq Km with a population of around 1,12,000. The TTC area covers around 11% of MCT area and includes 30% of City's population.

The Smart City Plan for Tirupati revolves around the vision of creating - "**A 21st century pilgrimage city that promotes Arts, Innovation & Sustainable Growth**".

### **Municipal Corporation Tirupati**

Tirupati Municipal Corporation is the 1st largest ULB in the Chittoor district. It is located 550 Km from Capital city and 71 Km from District Headquarters. It was established as 3rd grade Municipality in the year 01/04/1886 and upgraded as Municipal Corporation with w.e.f. 02/03/2007.

It is spread over an area of 27.44 Sq.Kms. With a population of 3,74,260 (2011 census). MCT is also the headquarters of Tirupati (urban) mandal, and of the Tirupati revenue division. It is the 9th most populous city in Andhra Pradesh and seventh most urban agglomerated city in the state, with a population of 459,985.

### **Tirupati Smart City Corporation Limited (TSCCL)**

A Special Purpose Vehicle (SPV) was incorporated with the name “Tirupati Smart City Corporation Limited” (TSCCL) on 28th November 2016, to implement the projects proposed under the SCP.

### **The Project**

Aligning with the Smart City Vision, Tirupati will focus on modernizing its waste collection system. MCT has 10 sanitary division consisting 50 wards. Currently door to door collection is being done by using 47 push cart, 3 autos and 49 tri cycles which is shifted to secondary collection points which will be taken to landfill site at Ramapuram. The project is to procure 50 E-Vehicle (for door to door waste collection), Construction & O&M of Service cum battery charging station as described in table below:

<b>Part</b>	<b>Item of work</b>	<b>No.s</b>	<b>Ownership</b>	<b>Payment Mode as indicated SC and Fin Forms</b>	<b>Co-ordination by</b>
1	<b>Supply of E-Vehicle (for door to door Waste collection)</b> To Improved door to door collection, GPS Tracking, Public Announcement,	50	TSCCL	TSCCL	TSCCL
2	Construction of Service cum Battery Charging Station	2	TSCCL	TSCCL	TSCCL
3	O&M of Service cum charging centre	36 Months	To be maintained by Bidder	To be met with Servicing charges by bidder	Bidder reporting to TSCCL

## **1. Supply and Service Requirement**

### **1.1. Definitions**

In this Scope of work the following terms shall be interpreted

- 1.1.1. “The E-Vehicle” means E –Vehicle for door to door waste collection, and/or other materials which the Bidder is required to supply to the TSCCL under the Contract.
- 1.1.2. “Services” means services ancillary to the supply of the E-Vehicle, such as transportation and insurance, and any other incidental services, such as installation, provision of technical assistance and other obligations of the Bidder covered under the Contract;
- 1.1.3. “The Bidder” means the Successful Bidder supplying the E-vehicle and Services under this Contract
- 1.1.4. “The Project Site”, where applicable, means the “TIRUPATI” where the Motor/Battery Operated electric Vehicle will be supplied, installed and maintained against the purchase orders of the TSCCL.

### **1.2. Scope of work**

- 1.2.1. Scope of work covers four parts
  - 1.2.1.1. Supply of E-Vehicle (for door to door waste collection) as per the specifications (Provided in this Section under B. Specifications) and also numbers as specified in Financial Bid format within the Delivery period as mentioned in this section.
  - 1.2.1.2. Construction, Operation & Maintain of 2No of Service cum charging station with spare parts for Service Period as mentioned in this Section under ‘C. *Delivery Time & Date of Completion & handover*’ the same to TSCCL in Good Working condition to satisfaction of TSCCL.
  - 1.2.1.3. The above Table shows the clarity on Delivery of Goods, ownership and mode of payment are explained in the table below
  - 1.2.1.4. The bidder responsibility is to deliver as per the specifications cited in this RFP at Tirupati, Insurance for three year and registration at Tirupati RTO office.
  - 1.2.1.5. The Construction and O&M of Service cum charging station has to be carried out by the bidder only at no extra cost. Land for the station will be provided by TSCCL.
  - 1.2.1.6. The Construction and O&M of service cum charging station has to be carried out by the bidder only except land for service station and water and human resources at charging stations as specified in Financial formats.
  - 1.2.1.7. These Conditions shall apply to the extent that they are not superseded by any of the provisions in other parts of the Contract.

**1.3. Bench Marking and Standard**

- 1.3.1. The E-Vehicle (for door to door waste collection) supplied under this Contract shall confirm to the standards mentioned in the Technical Specifications or higher.

**1.4. Inspection & Tests**

Inspection and tests prior to delivery of E-Vehicle and at final acceptance are as follows:

**1.4.1. General**

- 1.4.1.1. The inspection of the E-Vehicle shall be carried out to check whether the Goods are in conformity with the technical specifications attached to the contract and the Conditions of Contract.
- 1.4.1.2. The TSCCL will test the equipment prior to their delivery/Distribution at Sites in the office / factory of the supplier. The Bidder will dispatch inspected & tested E-Vehicle by third party and TSCCL to the ultimate consignee along with manufacturer's warranty certificate. Complete hardware and software as specified in Specifications (Provided in this Section under 2. Specifications) should be supplied and tested properly against the purchase order of the TSCCL by the Bidder prior to commencement of performance tests, if not carried out by the TSCCL prior to their delivery at Sites.
- 1.4.1.3. The acceptance test / verification will be conducted by the team (Not exceeding 3 people – 1 Third Party and 2 TSCCL) nominated by the TSCCL. There shall not be any additional charges for carrying out acceptance tests. The acceptance will involve trouble-free operation during acceptance testing period. During acceptance tests, the E-Vehicle having the same or higher technical specifications as given in the contract shall only be accepted. All cost shall be borne by the bidder.
- 1.4.1.4. In the event of the E-Vehicle failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which the TSCCL reserves the rights to get the E-Vehicle replaced by the Bidder at no extra cost to the TSCCL.
- 1.4.1.5. Successful conducts and the conclusion of the acceptance test for the installed E-Vehicle shall also be the sole responsibility and at the cost of the Bidder.
- 1.4.2. The inspections and tests will be conducted on the premises of the Bidder/Manufacturer. For conducting the inspection and tests at the premises of the Bidder/Manufacturer, all required facilities/logistics including travel, boarding and lodging, inspection facilities, assistance etc., shall be provided by the Bidder at no charge to the inspection team of the TSCCL. Bidder shall intimate to the TSCCL that the E-Vehicle (for door to door collection of waste) are ready for inspection and the TSCCL can send their team for inspection. After receipt of such intimation from the Bidder, the TSCCL shall arrange for inspection.
- 1.4.3. Should any inspected or tested E-Vehicle fail to conform to the specifications, the TSCCL may reject the E-Vehicle and the Bidder shall either replace the rejected E-Vehicle or make alterations necessary to meet specification requirements free of cost to the TSCCL.
- 1.4.4. The TSCCL's rights to inspect, test and, where necessary, reject the E-Vehicle after the E-Vehicle arrival at Final Destination shall in no way be limited or waived by reason of the E-Vehicle having previously been inspected, tested and passed by the TSCCL or its representative.

### **1.5. Manual and Drawings**

- 1.5.1. Before the E-Vehicle (for door to door waste collection) are taken over by the representative(s) of the project site(s) i.e. Tirupati, the Bidder shall supply operation/user manual together with, if any. These shall be in such detail as will enable the TSCCL to operate all the equipment as stated in the specifications.
- 1.5.2. The manual shall be in the Telugu and English and in such form and numbers as stated in the purchase order. Unless and otherwise agreed, the E-Vehicle (for door to door collection of solid waste) shall not be considered to be completed for the purpose of taking over until such manuals, as stated in the purchase order, have been supplied to the TSCCL.

### **1.6. Packing**

- 1.6.1. The Bidder shall provide such packing of the E-Vehicle (for door to door collection of solid waste) as is required to prevent their damage or deterioration during transit to their final destination as indicated in the purchase order. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall be taken into Consideration where appropriate, the remoteness of the E-Vehicle final destination and the absence of heavy handling facilities at all points in transit.
- 1.6.2. The packing, making and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Agreement.

### **1.7. Delivery Documentation of E-Vehicle and Delay in the Bidder's Performance**

- 1.7.1. Bidder shall intimate to the TSCCL that the E-Vehicle (for door to door collection of solid waste) are ready for inspection and test. After receipt of such intimation from the Bidder, the TSCCL will arrange the inspection and test of the E-Vehicle (for door to door collection of solid waste)
- 1.7.2. Upon delivery of the E-Vehicle (for door to door waste collection) the Bidder shall notify in writing the TSCCL and the insurance company the full details of the delivery including purchase order number description of E-Vehicle quantity, name of the consignee etc. The Bidder shall mail the following documents to the TSCCL
  - (a) 3 copies of the Bidder's invoice showing E-Vehicle description, quantity, unit price, total amount.
  - (b) Delivery challans duly signed & stamped by the consignee i.e. by the representatives of project sites.
  - (c) Manufacturers/Supplier's warranty certificate;
  - (d) E-Vehicle inspection report.
  - (e) Insurance
  - (f) RTO Registration Copies (After registration from the local authorities in Tirupati upon delivery at site).
- 1.7.3. If, at any time, during performance of the Contract the Bidder should encounter conditions impeding timely delivery of the E-Vehicle and performance of Services, the Bidder shall promptly notify the TSCCL in writing of the fact of the delay, its likely duration and its cause(s) as soon as possible. After receipt of the Bidder's notice, the TSCCL shall evaluate the situation and may, at its discretion, extend the Bidder's time

for performance with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of the Purchase order.

**1.8. Incidental Services**

The following services shall be furnished and the cost shall be included in the Contract rates:

- (a) On-site delivery & satisfactory installation & execution of all the E-Vehicle as per purchase order;
- (b) Furnishing all the manuals as per purchase order to the project sites and
- (c) Maintenance and repair of the E-Vehicle at each location during the comprehensive warranty period including the cost of all spares.

**1.9. Spare Parts**

1.9.1. Bidder shall carry sufficient inventories to assure ex-stock availability of spares. Bidder shall ensure the availability of all spare parts for after sale service support for a period of complete Service period. At the end of Service Period the Bidder shall stock at least spares required for maintenance for next two years before hand over of the Service Centre.

**1.10. Construction of Charging Centre/ Service Station**

Bidder has to design the Charging station cum service station suitable to meet the number of E-Vehicle that are procured and get the same vetted by the project management consultants and TSCCL. Possibility of using solar power shall be checked by the bidder and alternatives have to be suggested by the bidder. The final design that has to be constructed shall be approved by TSCCL, upon submission of the design by the Bidder and the power supply to the charging station will be facilitated by Tirupati Municipal Corporation (TMC).

1.10.1. The Bidder shall be bound to established charging and servicing centre within 30 days from the date of the work order as per following criteria:

- (a) Service cum Battery charging centre for E-Vehicle Bidder shall provide Battery Charging Instruments at the place provided by Tirupati Municipal Corporation (TMC)

<b>1</b>	<b>Tirupati Municipal Corporation (TMC)</b>	Preferably 2 location according to no. of beneficiary and capacity of service centre in TMC in various specified places where E-Vehicles are being supplied.
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1.10.2. Bidder has to construct the Service centre and charging centres and maintain for 3 years and handover the same to TSCCL after maintenance period is over. If at any stage, it is found that the centres have not been opened or non-functional or have been closed down, then the Bid Security/ Performance Bank Guarantee shall be forfeited. The period will be extended further as mutually agreed terms and conditions.

1.10.3. The actual rate of charging of the batteries of E-Vehicle shall be determined and timely reviewed by a committee constituted by TSCCL. This will be obligatory for E-Vehicle provider companies.

- 1.10.4. This charging centre has to be provided with aesthetically good looking, also serve as charging station with facilities like Toilets, resting area, guard room etc. and entire cost has to be quoted in part 3 of Financial Bid
- 1.10.5. The bidder has to maintain man power for 2 shifts and necessary costing shall be assessed by bidder, which can be recovered from service and charging cost from customers. The bidder shall discuss and get the acceptance from TSCCL for the price. Any changes shall also be with the acceptance of TSCCL only.

### **1.11. Operation and Maintenance**

Following minimum staff is required for operating and Maintenance for E-Vehicle for 3 years by Bidder and the staff deployed by bidder shall be first vetted by Employer (M/s. TSCCL).

(a) Service Engineer -2 No

Should be a graduate in mechanical/ electrical engineer with 10 years' experience in maintenance of Any servicing center like Cars/ Bikes, E-Vehicle and Servicing and charging stations. Preference will be given for E-Vehicle maintenance.

(b) Mechanic / Technician – 3No.s

Should be a diploma holder in mechanical/ electrical engineer with 5 years' experience in maintenance of Any servicing center like Cars/ Bikes, E-Vehicle and Servicing and charging stations. Preference will be given for E-Vehicle maintenance.

(c) Helpers – 6No.s

The cost recovery of service station operation and maintenance shall be recovered from the charging rates and repairs (during warranty period the normal repair charges is not applicable. Only repairs of accidental cases or any such unnatural repairs may be entertained in the first year).

### **B. Notes for Bidding**

- (a) Bidder has to train the Employer (M/s. TSCCL) / TMC appointed manpower for repairs/ operations and maintenance.
- (b) The bidder has to maintain sufficient quantity of spares for maintenance of the vehicle.
- (c) If the bidder fails to maintain/satisfy above requirements PBG will be forfeited.



**2. SPECIFICATIONS**

<b>S. No</b>	<b>Description</b>	<b>Specification</b>	<b>Remarks</b>
1	Type of E-Vehicle (for door to door waste collection)	Fully Electrical, Battery Operated, Motor Driven, Minimum seating for 2 person	Minimum 1000 kg Carrying load
2	Gear	Minimum 2 forward + Reverse	
3	Maximum Speed	25 KMPH	To be tested on full load
4	Curb Weight (Weight of the Electric – Vehicle including the Battery)	350 Kg	Tentatively
5	Range	85 KM (minimum)	To be tested on full load on maximum speed
6	Motor Output	60v, 1500W or more	
7	Motor Type	Brushless Motor	
8	Motor Efficiency	85% or more	
9	Battery Capacity	120 Ah	
10	Battery Type	Lithium Ion Battery and high cycle life	Assurances to given for three years
11	Battery Charge	230 V nominal input Voltage, high efficiency	Charging time and efficiency shall be specified
12	Electric Power Supply Efficiency	95% or more	To be tested
13	Mechanical Power Transmission efficiency	95% or more	To be tested
14	Overall efficiency on energy of the E- Vehicle	75% or more	To be tested on full load on maximum speed
15	Body Paint	Anti-Corrosive body paint for whole body rubber coating inside the cart	
16	Hydraulic lifting of cart	Fully Auto Hydraulic system.	
17	GPS Device	Real Time Tracking, GPS+AGPS- for better accuracy 0 to 5metres, Unlimited Number Of Geo Fence	
18	Public Announcement System	30W power, 100db	

**Fitness, Compliance & Test Certificates to be submitted for the E- Vehicle**

- Fitness/Compliance Test as per the Ministry of Road Transport and Highways GSR No. 709 (E) dated 8 October 2014
- Compliance Certificate for the following test to be carried out as per the Safety Standards for E-Vehicles as per the Ministry of Road Transport and Highways Notification No. S.O. 2590 (E) dated 8 October, 2014.

S. No.	Parts/Component/Assemblies	Test Standard
1	Automotive lamps used in motor vehicles for the following applications: <ul style="list-style-type: none"> <li>• Head Lights Main and Dip</li> <li>• Parking Light</li> <li>• Direction Indicator Lamp</li> <li>• Tail Lamp</li> <li>• Reversing Lamp</li> </ul>	AIS – 034/2004
2	Wheel Rim	AIS – 073/2007
3	a) Installation requirement for lighting, light signaling devices b) Performance for requirement of lighting , light signaling devices	AIS – 0009/2001 AIS – 012/2004 AIS – 010/2004
4	The requirements for construction and functional safety of battery operated vehicles	AIS – 038/2003
5	The measurement of net power and the maximum thirty minute power and speed for battery operated vehicles	AIS – 041/2003
6	Traction batteries used in battery operated Vehicles	AIS – 048/2009
7	Requirement of handholds	AIS – 046/2009

Compliance/Test Certificates for the following Additional Tests to be Carried Out for the E-Vehicle:

8	Range	AIS-040
9	Overall Efficiency	AIS-039
10	Grade ability	Procedure as per AIS-003
11	Ground Clearance	IS – 9435

### **Other Requirements of the E-Vehicle**

#### **i. Type of Motor:**

The motor shall be of “Brushless Type” specifically designed for electric vehicles. These brushless type motors can be of DC type having high efficiencies at the rated output power delivered. These motors shall meet the relevant applicable available test standards of the Government of India approved test centers for automobiles (like ARAI, ICAT, etc.).

#### **ii. Motor Controller and the Power Supply System:**

The motor controller shall be capable of controlling the motor from start to maximum speed with no load to full load and also for slight overloads of 20% over and above the rated full load for shorter durations. They shall be able to continuously drive the motor once started with the

full load with maximum speed for the full declared range of the vehicle. The controllers shall be stable, robust and shall be capable of operating at all the conditions normally encompassed by the automobiles. The motor controllers used shall meet the relevant applicable available test standards of the Government of India approved test centers for automobiles (like ARAI, ICAT, etc.)

The power supply system to the motor from the storage battery which includes the ac/dc converter, and the motor driving circuit which may be a dc converter or an inverter as the case may be for the type of motor, along with the controller shall also meet the relevant applicable available test standards of the Government of India approved test centers for automobiles (like ARAI, ICAT, etc.). The efficiency of the power supply system which includes the ac/dc converter, and the motor driving circuit which may be a DC converter or an inverter as the case may be for the type of motor used (calculate as the input power at the motor terminals divided by the output power at the battery terminals) shall not be less than 95% when the motor is delivering the rated output power to its shaft.

**iii. Storage Battery:**

As the electric Vehicle is supposed to have frequent start-stop operations, and also varying speed and varying load operations, the battery used shall be able to survive these frequent variations. It shall be capable of supplying electric power as per the requirement and specifications of the vehicle for meeting its travel for the full range with full load. Therefore, the battery used shall be of Lithium Ion, and shall be EV grade deep discharge type with high cycle life. The batteries used in the electric E-Vehicle shall meet the relevant applicable available test standards of the Government of India approved test centres for automobiles (like ARAI, ICAT, etc.).

**iv. Mechanical Power Transmission:**

The mechanical power transmission from the motor shaft to the wheels shall be highly efficient. The direct mounting, or chain and sprocket or any other mechanical arrangement shall be highly reliable needing least maintenance and shall be tested for all its manoeuvres to be able to meet the E-Vehicle requirements of frequent start, stop and gradient climbing, etc. apart from its normal running with full load and full speed. The mechanical power transmission system used in the Electric-Vehicle shall meet the relevant applicable test standards of the Government of India approved test centres for automobiles (like ARAI, ICAT, etc.).

**v. Overall E-Vehicle Design:**

The overall electric E-Vehicle design shall meet all the requirements of safety, reliability, repeatability, efficiency, strength, smoothness in riding, ease of putting garbage, etc. The Vehicle shall not be noisy to cause discomfort for the driver/Surrounding Environment. It should have sufficient precautions not to have any electric shock for the driver as well as Helper. It should have the proper control and instrument panel to indicate the speed, state of charge of the battery (or the remaining charge or kilometers it can run), etc. It should have sufficient braking system, suspension system, start and stop buttons, key, front and back lights with parking lights too, power supply system for these auxiliaries, and proper covered battery compartment not to cause any problem for the Driver & helper, etc. The E Vehicle

should have the certification from any of the Government of India approved testing centers such as ARAI, ICAT, etc, so as satisfy the required performance of the electric Vehicle as a whole and also all the main components used in it such as the motor, battery, motor controller, mechanical power transmission system, its body, other auxiliary systems such as brakes, lighting and control, etc. and the overall safety. The Vehicle has to be fabricated with good quality steel properly plated/painted anti corrosive on entire body and rubber coating inside cart to avoid rusting for more than five years. The body shall be of good quality metal, and the roof shall be of fiber glass or a combination of fiber glass and metal of good quality. The seats have to be of very good quality with proper cushioning provided. It shall have sufficient height and shall be giving proper protection to the driver and helper from the direct sun light and rain. The vehicle integration, packaging of electrical and electronic wires and devices shall be such that the Vehicle can run even in rainy season/during the rain without any problems. The vehicle shall be also include Public announcement system, GPS device, Viper blades, LED headlamps and Rear portion of cart should be fully covered with watertight lid.

**vi. Supplier/Manufacturer Conditions:**

The supplier of the E-Vehicle shall preferably an original manufacturer/ Authorized Reseller of Motor/Battery Operated Electric Vehicle and should provide proper documentation of original parts. The supplier shall not be a trader/importer or simply an assembler for various components. The supplier shall have the facility and capability for the design, fabrication, assembly and testing of the offered E- Vehicle. The supplier can use the motors, controllers, batteries and battery charges procured preferably from various reliable and quality sources. All these components have to be tested at the supplier's site independently before assembling into the E- Vehicle. The supplier shall be capable of providing reliable and economical after-sales service including provision of spares for all components used. It will be the responsibility of the supplier of the E- Vehicle to get all the components used in the electric Vehicle and also the electric Vehicle as a whole to be tested by the Government of India approved testing centres such as ARAI, ICAT, etc.

**Specifications of the Service Centre cum charging centre**

The Service Centre cum charging centre being built should be of highest standard with latest technology used for repair and servicing

The Charging/ Service Centre should have the following minimum facilities. The facilities listed is not exhaustive but indicative

- I. Service staff Charging station with facility to Simultaneous Charge exclusively for each vehicles
- II. Open space for sufficient parking of vehicles coming for repair and repaired vehicles
- III. Covered space for washing of vehicles including sump and overhead tank for water storage of reasonable capacity depending in O&M. Closed space for repair and service of vehicles
- IV. Closed Space for store and spares room capable of storing spares for running 6 months
- V. Sitting area with drinking water facility

- VI. Record/ Accounts room
- VII. Toilets
- VIII. Room for Battery charge
- IX. Roof structure shall be constructed by the successful bidder whose area shall not be less than 500 sq.m
- X. Room's for Security persons

The facilities listed are not exhaustive but indicative.

The Charging/ Service Centre should have the following minimum specifications. The Charging/ Service Centre should be design and built as per latest version of Indian Standards/ National Building Codes.

1. The Charging/ Service Centre should have a boundary wall of minimum 1.5m height
2. The Charging/ Service Centre should be building should be -
  - i. Foundation of building in concrete with plinth height of 600mm above the abutting road
  - ii. Super structure in Steel (including columns and truss) with GI profiled colour roof. Columns to be concealed.
  - iii. Walls in red brick plastered with cement mortar both inside and outside
  - iv. Cement concrete vacuum dewatered flooring in covered areas
  - v. Enamel painting to all exposed steel structures and Oil bound distemper to all concrete/ wall surfaces
  - vi. All departments in the Charging/ Service centre should be clearly demarcated with paints in floor and name plates on wall/ poles.
  - vii. Toilets/ Rooms of security Guards/Wash room / locker room of staff as per NBC norms.
  - viii. Electrification of the centre with Concealed wiring while exposed on cable trays in the service centre with adequate lighting where required.
  - ix. Necessary power and water supply arrangements shall be made by bidder. Bidder to estimate kilowatt consumption for electricity and KLD consumption for water and to keep provision in bid pricing.
  - x. All internal electrification and plumbing should be done by the bidder
  - xi. MCT will allot Rent free site for establishing service station for a period of 3 years including warranty period of 1 year after completing the entire supply.

### **3. PAYMENTS**

#### **3.1. Contract Price:**

- 3.1.1. The Contract Price includes all duties, taxes, royalty and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor's equipment, Materials and supplies acquired for the purpose of this RFP and on the services performed under this RFP. Nothing in this RFP shall relieve the Bidder from its responsibility to pay any tax, that may be levied in India (by any of the Government departments) on work execution OR profits made by it in respect of this RFP.
- 3.1.2. Unless otherwise stated in the Agreement, the Contract Price covers all the Bidder's obligations for work under the Agreement and all things necessary for the Construction and the remedying of any Defects in the Work.
- 3.1.3. All payments under this Work Order shall be made in Indian Rupees.

**3.2. Payment statement for works**

<b>S.No</b>	<b>Item of Work</b>	<b>Percentage Payment (%) (Against Supply and Installation Cost)</b>
1	On Supply & Delivery of E Vehicles to the client. Payment against supply and delivery of E Vehicles shall be strictly done only after approval from Engineer-in-charge	20%
2	Construction & Testing of Service cum Charging Stations – 02 Nos. Payment shall be done after approval from Engineer-in-Charge	10%
3	Handing over of all the documents of supplied and it's allied equipment of E Vehicles. a) Comprehensive Warranty and Guarantee b) Manuals of Designs and Handling, c) Operation and Maintenance Manuals Payment shall be done after approval from Engineer-in-Charge	10%
4	<b>Operation &amp; Maintenance</b> *After issue of project completion certificate – Pro Rata Payment is made quarterly.	60%

**4. DELIVERY TIME AND DATE OF COMPLETION**

- 4.1. Delivery Period: The supply and delivery of E-Vehicle (for door to door waste collection) should be completed within 40 days from the date of issue of Work order
- 4.2. Service Period: The Charging should be maintained for a period of 3 years from the date of receipt of Delivery completion certificate from the Employer. The Date of Completion will be reckoned as the last day of the 3 years of Operation and maintenance.
- 4.3. The total period of completion of the contract is 3 years.