

**SCHEDULE –A**  
(See Clause 10.1)  
**SITE OF THE PROJECT**

**1 The Site**

1.1 Site of 32 (thirty two) Automated Driving Test Track Centres for 2-Wheelers and 3/ 4 Wheelers shall include land, test tracks, boundary wall and campus lighting as constructed and to be handed over, free of cost, on “as is where is” basis for further development and up-gradation as per provisions of Concession Agreement and Schedules to make them fully functional to meet with requirements.

1.2 An inventory of the Sites including the land, buildings, structures, road works, trees and any other immovable property thereon, or attached to, the Sites shall be inspected / prepared jointly by the Government Representative and the Concessionaire, and such inventory shall form part of the memorandum referred to in Clause 10.3.1 of the Agreement.

**1.3 Location of Proposed Automated Driving Test Track Centres**

The details of the locations of the various Automated Driving Test Track Centres are given in the table below:

**Table A**

<b>Sr. No</b>	<b>Place</b>	<b>Location</b>
1	Amritsar	Punjab Roadways Depot
2	Barnala	PRTC workshop at Barnala
3	Bathinda	Village Bibiwala, Panchyat Land
4	Faridkot	Government Land, Khasra Nagar
5	Fatehgarh Sahib	Panchyat Land at Village Mahadian
6	Fazilka	Vill Banwala Hanmanta, Panchyat Land
7	Fazilka (Abohar)	Dana Mandi, Abohar
8	Ferozpur	Office of RTA Ferozepur
9	Gurdaspur	Provincial Government Land, Village Kotali Nangal
10	Gurdaspur (Batala)	CTDC Complex, Batala
11	Hoshiarpur	Vill. Nallolia, Provincial Govt Land
12	Hoshiarpur(Dasyua)	Panchyat land of Village Kotli
13	Jalandhar	Punjab Roadways Jalandhar-1
14	Jalandhar (Phillour)	Dasonjh Khud Block Rurkan Kalan, Panchyat Land
15	Kapurthala	Ajit Nagar, Provincial Land
16	Kapurthala (Phagwara)	Baba Gadhian Stadium, Phagwara
17	Ludhiana (Jagraon)	PUDA Site
18	Ludhiana (Khanna)	Village Bullepur, Panchyat Land
19	Ludhiana I	GLADA Site

20	Ludhiana II	S.C.D Govt. College for Boys
21	Mansa	Village Mallikpur Khiala, Panchyat Land
22	Moga	Vill. Bhghipura, Panchyat Land
23	Mohali	Land at Vill- Jhanpur
24	Muktsar	Punjab Roadways
25	Nawan Shahar	GM Office Punjab Roadways
26	Pathankot	Punjab Roadways workshop
27	Patiala	Horticulture Deptt. Land near Sh. Lal Singh MLA residence
28	Patiala (Patran)	Government Kiti College, Nihal
29	Ropar	Vill- Bheora, on Ropar –Chandigarh Road
30	Sangrur	Office Zila Parishad
31	Sangrur (Malerkotla)	Village Tollewall on Malerkotla Nabha Road, Panchyat Land
32	Tarn Taran	GM Office, Punjab Roadways

**SCHEDULE - B**  
**(See Clause 2.1)**  
**DEVELOPMENT OF THE PROJECT**

**2.1 Concept of the Project**

Government of Punjab, with an objective to reduce the accidents\fatalities, for better service delivery with more transparency and accountability, intends to establish Automated Driving Test Tracks (ADTT) Centres across various locations in the State of Punjab. It is planned to have ADTT Centres in place to achieve the objective of checking the driving knowledge of an applicant for driving license and to ensure transparency while issuing driving licenses. This new initiative will also ensure that significantly higher bar is set for checking the driving skill of a prospective license holder.

Each ADTT Centre will use an electronic sensor-based technology and shall have total of 5 (five) tracks: 1 (one) track for two-wheelers and 4 (four) tracks for four-wheelers. Those seeking a two-wheeler license have to show their riding skills on an '8' shaped Driving test track (Serpentine Test Track). Those seeking a four-wheeler license will have to show their riding skills on an Up-Gradient Test Track, Forward '8' Shaped Test Track, Reverse Parallel Parking Test Track and Reverse 'S' Test Track. If the driver touches any of the sensors on either side of the track, sensors will pass signals to the computer system where it will be recorded and proportionate marks deducted. A person who touches more than specified number of sensors will be disqualified in the test. The application software developed for this purpose should be web-based.



*Two-wheeler Test Track:  
"Serpentine Test Track"*



*Four-wheeler Test Track No. 1:  
"Up-gradient Test Track"*



*Four-wheeler Test Track No. 2:  
"Forward '8' Shaped Test Track"*



*Four-wheeler Test Track No. 3:  
"Reverse Parallel Parking Test Track"*



*Four-wheeler Test Track No. 4:  
"Reverse 'S' Test Track"*

The Driving test tracks at each ADTT Centre along with boundary wall, campus lighting as executed and completed shall be handed over on "as is where is" basis which shall be maintained as per Standards and Specifications, Maintenance Requirements by the Concessionaire throughout the Concession Period.

## 2.2 Broad Scope of Work

The scope of work for Project includes but not limited to:-

### 2.2.1 Building Works

The Concessionaire shall construct and maintain an Administrative building at each ADTT Centre. The indicative layout plan is enclosed for perusal. The building shall be constructed in accordance with Standards & Specifications described in Schedule D. The building shall have the following services and furnishings:

1. Internal Water Supply
2. Internal Plumbing and Sanitary Work and installations
3. Water Proofing treatment
4. Internal Electrification and fittings
5. Complete internal furnishing i.e. furniture & fixtures
6. Fire detection, fire alarm and fire fighting system.

### 2.2.2 Electronic Equipment Works

The scope of work for electronic equipment works includes (as briefed in Table B-1 for general guidance, with requirement of latest technology, however, the Concessionaire shall have the option to supplement the same to meet) but not limited to procurement, development, installation, integration, any related civil works, cables, wires, poles/brackets etc, commissioning and testing, approval from competent authority, along with replacements, operations, maintenance and consumables during the Concession Period of required electronic equipments as required for the successful execution and efficient functioning of the Project throughout the Concession Period.

**Table B-1**

<b>Equipment</b>	<b>Number</b>
Surveillance Cameras with video viewing equipment at the Administrative Building at each ADTT Centre	To cover 100% campus area of each ADTT Centre
Camera	1 per Test Track
Digital Video Recorder, Video Management System and local server (Video recording backup for 3 months shall be maintained in a local server)	1 per ADTT Centre
Traffic signals	1 per Test Track
Public Address System	1 per ADTT Centre

### 2.2.3 IT Infrastructure, Computer Hardware and Networking Works

The salient features of the Proposed Automated Driving Track System shall be:

- a) A system of sensors along both sides of the tracks.
- b) Identification of candidate through biometric system
- c) Computer system to receive information from the sensors to monitor the vehicle movement to be within the specified boundaries of the track. It shall also monitor the time taken to drive the vehicle from the specified start and stop positions. The system shall award marks automatically. On completion of all the tests, the results shall be printed and handed over to the candidate immediately. The results generated shall also be stored in a database for future reference upto 6 months. Entire test shall be recorded and monitored with the help of CCTV cameras fitted on the driving test track.
- d) The sensors will automatically deduct points if the driver is caught making an error by hitting the sensor-fitted points while negotiating curves or speed breaker.
- e) If the driver scores the eligibility marks, he/she will be deemed to have passed driving test in order to get a driving license.

### **Details of the Proposed Automated Driving Track System:**

The following is the brief description of the functioning of the proposed system. The candidate appearing for the test will first report to the registration desk, where the Learning License and other personal data will be verified and a thumb impression of the candidate and a picture through webcam will be taken. If the candidate is found eligible to take the test, a unique ID number will be allotted. The candidate will be given identity slip containing such particulars which will be the document that will allow the candidate to take the tests. When the candidate's turn to take the test in individual track arrives, the candidate will drive as per track requirement. The computer system will monitor the test and record the results. When all the tests are completed, the results will be printed and handed over to the candidate immediately. The application software developed for this system should be web-based. Entire test shall be recorded and monitored with the help of CCTV cameras. The test results shall have to be transferred to the server provided by the DOT. The backup of these data shall be stored on an external medium like HDD/DVD. The test result will be entered into SARTHI database.

- **Registration:**

After the candidate arrives for taking the driving test, he/she would first approach the Registration Desk. The Registration Desk will have a PC and a printer. At the Registration desk a thumb impression of the candidate will be taken and matched with data of Learning License from Database of SARTHI server. The candidate will be allowed to appear for the test after comparing the data of candidate with that fetched from SARTHI.

The Candidate ID will be automatically generated by the system and it will be used as an identity of the candidate for all tests that he/she will be taking. A hard copy will be handed over to the candidate, which will contain such particulars as may be decided by DOT. The user fees will be collected from the candidate by the Concessionaire.

- **Placement of Sensors:**

Two Parallel lines of sensors will be placed at every one meter and the total length of the track shall be covered. As the vehicle crosses the Start Line, a Sensor will be activated and the timer in the dedicated computer will start. The computer will keep monitoring the time and touch with any sensors during the course of the test. When the vehicle crosses the Finish Line another Sensor will be activated, the test is completed, and the timer in the dedicated computer will stop. This timer will tell duration of the test. The test result will be generated automatically and will be uploaded to the server. The candidate will be successful only if he/she has finished the test within prescribed time and prescribed marks as decided by DOT. Entire test shall be recorded and monitored with the help of CCTV cameras. There will be three Test Enumerators at each ADTT Centre (one for 2-wheeler and two for 4-wheeler) to monitor the candidates performing test track. The result will contain the following information:

- Name of the Test
- Candidate ID
- Date of Test
- Photographs of the candidate
- Time allotted for the Test
- Entry Time
- Exit Time
- Serial Number of sensors touched.
- Count of sensors touched
- Time taken for the Test
- Marks obtained
- Maximum marks
- Result – Pass/Fail

- **Test for 4-wheelers:**

- **Up-gradient Test:**

In this test candidate should drive the four wheeler vehicle on an up-gradient without any backward movement. When the candidate is asked to proceed with the test, he/she should



position the car within the specified area. If the vehicle is in proper position, a green signal will glow then the candidate should switch off the engine and apply the vehicle's hand-brake (If the vehicle is not positioned properly the signal will be red). When the signal is green, the candidate will be given manual signal to start the vehicle and move forward. Any backward movement during the test is measured through appropriate number of sensors placed beneath the surface. Backward movement covering not more than 4 sensors will be considered pass.

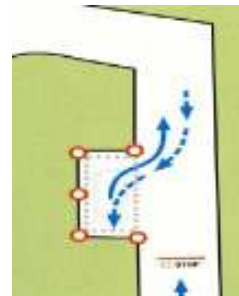
**The Forward '8' Test:**

In this test, the candidate should drive the vehicle, within a specified time, in the forward direction, on a track shaped like the digit '8'. Sensors shall be positioned to mark the track edge. The dedicated computer will monitor the time and touch with any sensor in the test area. The track shall have appropriate number of sensors placed parallel to the track surface. Sensors shall be ideally placed at every 1 mtrs. in the format shown in the figure.



**The Reverse Parallel Parking Test:**

In this test candidate has to park the vehicle in specified space. Once the green light glows, the candidate should start the vehicle, move forward to cross the stop/start line, reverse the vehicle and park within the specified area and within specified time. When the vehicle crosses the Start Line, a Sensor will activate the timer in the dedicated computer. The dedicated computer will monitor the time and touch with any sensor in the test area. This track shall have appropriate number of sensors placed at the edge of the track surface. Sensors shall be ideally placed at every 1 mtrs. in the format shown in the figure.



**Reverse 'S' Test:**

In this test the candidate has to drive in the backwards direction on a track shaped like the English alphabet 'S'. When the vehicle crosses the Start Line, a Sensor will activate the timer in the dedicated computer. The dedicated computer will monitor the time and touch with any sensor in the test area. This track shall have appropriate number of sensors placed at the edge of the track surface. Sensors shall be ideally placed at every 1 mtrs. in the format shown in the figure.



**Test for 2-wheelers:**

**Serpentine Test:**

In this test, the candidate should drive the vehicle, within a specified time, in the forward direction, on a narrow serpentine track with multiple turns as shown in figure. Sensors shall be positioned to mark the track edge. The dedicated computer will monitor the time and touch with any sensor in the test area. This track shall have appropriate number of sensors placed at the edge of the track surface. Sensors shall be ideally placed at every 1 mtrs. in the format shown in the figure.

**Scope of work for IT infrastructure, Computer, Hardware and networking works**

The scope of work for IT infrastructure, Computer, Hardware and networking works includes but not limited to development, procurement, supply, installation, integration, testing, commissioning, including replacements, operations, maintenance and consumables during the Concession Period of required computer hardware and networking works including development of software as required for the successful execution and efficient functioning of the Project during the entire Concession Period. The Concessionaire shall have develop, install and implement necessary software including the necessary database software to successfully implement registration, various tests, results, etc. and commissioning the system. The Application software so developed should be web-based. Minimum requirements with regard to Computer, Hardware and networking works are briefed in Table B-2 below:

**Table B-2**

S. No.	Hardware	Requirement
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S. No.	Hardware	Requirement
1	Desktop Computers	4 Nos. at each ADTT Centre - One computer at the Registration Desk - Two computer at the Test Supervisor's Desk to receive information from the sensors to monitor the vehicle movement [1 (one) computer for two-wheeler track and 1 (one) computer for four-wheeler tracks] - One computer for the Video Operator  Note: This shall be increased/ decreased as per site requirement.
2	Web Camera	1 Nos. at each ADTT Centre (for the computer at the Registration Desk)
3	Bio-metric Finger Print Scanner	1 Nos. at each ADTT Centre (at the Registration Desk)
4	Printer	3 Nos. at each ADTT Centre - One printer at the Registration Desk - Two printers at the Test Supervisor's Desk
5	LAN connectivity in offices	As required
6	UPS for all equipments and power back-up	Concessionaire shall also arrange for 24x7 power back-up at each ADTT Centre.

### 2.2.3 Electrical Works

The scope of work for electrical works includes, development, supply, installation, testing, commissioning, arranging service connection from concerned Government Instrumentality and seeking approval of competent authority including replacements, operations, maintenance and payment of deposits, payment of monthly bills/ consumption charges, all required consumables for the electrical equipments during the entire Concession Period of the Project as mentioned as for successful completion and efficient functioning. The work shall include the following but not limited to:

- a. Internal Electrification of the administrative buildings
- b. Electrification - internal area lighting of the administrative buildings
- c. Electrical Substation/transformer of required capacity – if required as per applicable law.
- d. Diesel Generator Set of 80% capacity requirement of ADTT Centre.
- e. Air Conditioners in administrative buildings.

All Charges shall be paid by the Concessionaire to the concerned Government Instrumentality for obtaining necessary service connection including security deposits, arranging approval of competent authority for approval of Electrical Sub-station/Installation as required under Applicable law and payment of consumption charges at no concessional rates as being paid by similar placed consumers.

### 2.2.5 Human Resource Requirement

Concessionaire will be responsible for engaging and posting of the qualified manpower as mentioned below for efficient functioning of the project throughout the Concession Period. The Concessionaire shall have the option to post additional staff at any ADTT Centre as per requirement for efficient functioning. The Concessionaire will be responsible for the employees deputed on Project and compliance of the Applicable Employment Laws, Acts and relevant provisions. All claims of the employees will be borne by the Concessionaire and it is clarified that Government will not be accountable for any claims/liability on account of human resource deployed for the Project.

Following Staff shall be engaged and posted by the Concessionaire during the Concession Period:

1. One Project Manager for the whole Project
2. Three Regional Managers
3. Two Test Supervisors at each ADTT Centre [one for monitoring the vehicle movement at two-wheeler track and for monitoring the vehicle movement at four-wheeler tracks]
4. One Video Operator at each ADTT Centre
5. Test Enumerators – As required
6. One personnel at Helpdesk
7. Housekeeping staff : As Required
8. Helpers : As Required
9. Security Staff : As Required

Concessionaire will engage and post back-up staff like Information Technology/Computer Engineer, Equipment Operator, Security Staff, etc as per requirements for efficient functioning of each ADTT Centre However, for any other requirement the actual strength shall be assessed by the Concessionaire and will be maintained at the Project Sites. It is clarified that while the staff specified in this section is to be made available for complying with the requirements, relevant rules and applicable law under overall control of the Government, the staff mentioned in this section is for the use of Concessionaire himself for efficiently managing and functioning the Project.



**SCHEDULE – C**  
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**SCHEDULE – D**  
**SPECIFICATIONS AND STANDARDS**

**PART-I**  
**BUILDING WORKS**

**SECTION-1**  
**GENERAL**

- 1.1 The Concessionaire shall construct administrative building at each ADTT Centre as per approved drawings, Standards and Specifications. The indicative layout for the same is enclosed for perusal.
- 1.2 Brief Specifications for some of the major items for building work are given below. However the Concessionaire shall have to construct all items as per Standards and Specifications of Central Public Works Department (CPWD) for Class 1 building works, standards given in the National Building Code (NBC) and Punjab PWD Specifications as amended and/or modified from time to time, in the order of priority.
- 1.3 All items of lighting works shall conform to CPWD Specifications for Electric Works (Part I and Part II). Makes of materials/manufacturers to be used shall be approved by the Engineer.
- 1.4 The Concessionaire shall provide and fix water storage capacity to ensure 24 hours water supply in the administrative building at each ADTT Centre. All sanitary and plumbing works shall be in conformity to provisions of National Building Code. In no case internal water supply shall be provided in PVC piping. Makes of materials/ manufacturers to be used shall be approved by the Engineer.
- 1.5 Cement to be used in the works shall be any of the following types with the prior approval of the Independent Engineer:
- a) Ordinary Portland cement, 33 Grade conforming to IS: 269
  - b) Ordinary Portland cement, 43 Grade conforming to IS: 8112
- Admixtures to be used shall conform to relevant Indian Standards and compatible with the grade and make of cement to be used.
- 1.6 Steel reinforcement to be used shall conform to IS: 1786. All steel reinforcement shall be procured from original producers; no re-rolled steel shall be incorporated in the work. Only new steel reinforcement shall be delivered to the site. Every reinforcing bar shall be inspected before assembling on the work and defective, brittle or burnt reinforcing bar shall be discarded. Cracked ends of reinforcing bars shall be discarded. Only Thermo Mechanically Treated (TMT) bars conforming to IS:1786 of grade Fe 500 or Fe 415 shall be used as reinforcing steel.
- 1.7 Burnt clay bricks shall conform to the requirements of IS: 1077. They shall be free from cracks and flaws and nodules of free lime. The brick shall have smooth rectangular faces with sharp corners and emit a clear ringing sound when struck.
- 1.8 For brick work cement sand mortar leaner than 1:6 shall not be used. External and internal damp-proof courses shall be provided. Brick wall shall be finished with cement plaster in cement sand mortar 1:6.
- 1.9 Aggregate shall consist of clean, hard, strong, dense, non-porous and durable pieces of crushed stone. They shall not consist of pieces of disintegrated stones, soft, flaky, elongated particles, salt, alkali, vegetable matter or other deleterious materials. All aggregate shall conform to IS: 383 and tests for conformity shall be carried out as per IS: 2386 Parts I to VIII. The maximum value of flakiness Index for aggregate shall not exceed 35 percent. 1.10 Fine aggregates shall not contain dust, lumps, soft or flaky materials, mica or other deleterious materials. Fine aggregates, having positive alkali-silica

reaction, shall not be used. All fine aggregates shall conform to IS: 383. The fineness modulus of fine aggregate shall neither be less than 2.5 nor greater than 3.5.

- 1.10 Water used for mixing and curing of concrete shall be potable water. Generally it shall be clean and free from injurious amount of oils, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete.
- 1.11 Concrete shall be mixed either in a Concrete Mixer with weigh batchers or in a Batching and mixing plant. Hand Mixing is not allowed. Mixing shall be continued till materials are uniformly distributed and a uniform colour of the entire mass is obtained and each individual particle of the aggregate shows complete coating of mortar, containing its proportionate amount of cement.
- 1.12 Concrete shall be transported and placed as near as practicable to its final position. Concrete shall not be freely dropped into place from a height exceeding 1.50 metres and it shall be compacted in its final position within 30 minutes of its discharge from the mixer. It shall be compacted thoroughly by vibration or other means during placing so as to produce a dense homogeneous void-free mass having the required surface finish. Bottom and side surfaces shall give a uniform texture, smooth surface and good appearance. Non uniform texture and rough surface of concrete shall be treated as defective work and it has to be remedied with 1:3 cement plasters.
- 1.13 Materials for finishing items shall conform to provisions of relevant Indian Standards.
- 1.14 All joinery work on the exterior facade and interior shall be in anodized aluminium.

**SECTION- 2**  
**TECHNICAL SPECIFICATION FOR BUILDING WORKS**

- 2.1 The Concessionaire shall undertake design, engineering, procurement, construction, up-gradation and maintenance during the Concession Period of Administrative buildings complete with all interiors, internal wiring, electrical and electronic equipments, furniture and fixtures, etc as required for the successful execution of the project. The building works, internal water supply and sanitary services and installations, internal electrical services and installation, fire-detection, fire-alarm and fire-fighting services, air-conditioning services, estate water supply, sewerage and other services for efficient functioning of the ADTT centres shall be planned, designed, constructed and maintained as per CPWD Specifications supplemented relevant provisions of National Building Code and relevant Indian Standards. The materials to be used shall conform to CPWD Specifications and provisions of relevant Indian Standards.
- 2.2 The building shall be well lighted using energy efficient lighting and air conditioned with well furnished interiors, work-stations, furniture and fixtures, storage space, circulation area etc. Each work station shall be provided with telephone connectivity, LAN connectivity and desk light. The Administrative building shall be architecturally beautiful, aesthetically pleasing, environmentally compliant, functionally efficient and operationally convenient as well as safe.
- 2.3 Public Conveniences: The Concessionaire shall within the Administrative building make provision for separate public convenience for staff and visitors (men and women) and drinking water fountains at easily accessible to Users
- The public conveniences shall have adequate provision of toilets (Indian and European style), urinals and hand basins with mirrors and other toilet accessories like soap dispensers, hand drier, napkin dispenser etc.
- The flooring, skirting and dado for toilets shall be of granite.
- Public Conveniences and each toilet facility should be designed to provide high quality ventilation and lighting and facilitate cleaning work so that it may offer comfort and convenience to the User.
- All sanitary fixtures shall be ISI Marked and of best quality.
- 2.4 All items of building works shall conform to CPWD Specifications, relevant provisions of National Building Code (NBC), Indian Standards as amended and/or modified from time to time, in the order of priority. The building shall be designed for 100 years design life. The building shall be designed for all type of loads including seismic load as per provisions of relevant Indian Standards
- 2.5 The building shall be conceived and constructed in RCC framed structure with R.C.C. footings, columns, beams, ties and slab. Alternatively the buildings shall have load bearing brick wall in cement sand mortar not leaner than 1:6 with ties at plinth level, lintel level and roof level including internal and external Damp Prevention Courses. Reinforced cement concrete slabs and beams spanning across brick walls and roof shall be finished with tile-terracing.
- 2.6 The materials to be used in the construction of building and providing of all category of services shall conform to CPWD Specifications and provisions of relevant Indian Standards. The Concessionaire shall develop Construction Quality Assurance programme, which must ensure that the constructed units meets or exceeds all design requirements, material and construction Specifications.
- 2.7 Construction Quality Assurance must include observations, inspections, tests and measurements sufficient to ensure:
- Structural stability and integrity of all components;
  - Proper construction of all components according to the specifications prescribed by Competent Authorities, the technical specifications and good engineering practices, and proper installation of all components according to design specifications; and

- Conformity of all materials used with design and other material specifications.

The Concessionaire shall carry out the tests as per the construction quality assurance plan developed in consultation with Engineer. The tests shall be conducted in accordance with applicable laws, Standards and Specifications. The Government through Engineer shall monitor the results of tests to determine its compliance.

- 2.8 Flooring except in the Public Conveniences shall be in vitrified tiles of approved size and make.
- 2.9 All doors and windows frames and shutters whether on exterior facade or interior shall be in anodized aluminium sections.
- 2.10 Glass for window shutters shall be plain or tinted glass of adequate thickness.
- 2.11 The painting for plastered walls, wooden surfaces and steel works shall be carried out with first quality paint/emulsions. For internal walls oil-bound distemper shall be used.

**PART-II  
ELECTRIFICATION WORKS**

## ELECTRIFICATION WORKS

### 1 Power Demand and Source of Supply:

- 1.1 The Concessionaire shall make arrangements for continuous supply of power so that there is no interruption in the operation and maintenance of functioning of the computers and surveillance systems at the ADTT Centres. The connection for public power shall be arranged from PSPCL by the Concessionaire at his own cost.
- 1.2 Standby Diesel Generating (DG) Set of adequate capacity shall be provided at each ADTT Centre to meet emergency load requirement or for backup during power failures at ADTT Centre.
- 1.3 The installation and operation of DG set shall conform to the guidelines stipulated by Central Pollution Control Board and/or MoEF as the case may be.
- 1.4 The standby power supply shall be ready to be operated and should be available 24 hours. The Standby power source shall be operational, secure and tested regularly.
- 1.5 The UPS of adequate capacity (125% of the total connected load) shall be provided for uninterrupted power supply to all electronic equipments including the computer system, like computers, printers, etc. The UPS shall have minimum 1 hour backup.
- 1.6 Integrity of electrical supply to essential and non-essential circuits and distribution network shall be maintained at all times.
- 1.7 Any disruption in power supply at Project Facility shall be rectified in six (6) hours.

### 2 Internal lighting:

The wiring shall done with PVC insulated FRLS - ISI MARKED ( IS 694) copper conductor multi strand, wire of 1100 volt grade insulation in heavy gauge HMS PVC Conduits (ISI marked IS 9537) and shall be concealed. The cable size 1.5 sq.mm for individual light point, 2.5 sq. mm for circuit wiring and 4 sq.mm for power wiring shall be used. The no of wires in single PVC conduit shall not be more than as specified below:-

Nominal cross section area mm <sup>2</sup>	Size of conduit (mm) outside diameter				
	20	25	32	38	50
Maximum Nos. of cables					
2.5	5	10	14	-	-
4.0	3	6	10	14	-
6	2	5	8	11	-
10	-	4	7	9	-
16	-	2	4	5	12
25	-	-	2	2	6
35	-	-	-	2	5
50	-	-	-	2	3

All switches/ sockets shall be non modular type of capacity 3/6 pin 6 Amp/ 16 Amp as per requirement of the apparatus wattages duly fitted in suitable metallic boxes. All controls switches shall be provided in phase conductor only. All 3/6 pin 6 Amp/ 16 Amp shall be properly connected to a terminals, all terminations shall be done with lug only energy saver ceiling fans conforming to IS 374-1979 with step type electronic regulator are to be provided.

Energy efficient fixtures or lamps (CFL), of suitable wattages to give illumination level of 200 lumens as per IS-10322 shall be provided. For circuit control circuit MCB DBs of double door of sheet metal box, sleek consumer unit type of suitable capacity as per IS 8828 shall be provided. All material to be used shall be ISI marked. In case of non modular switch board the Hylam sheet shall be not less than 3mm thick and metal box shall not be less than 5 cm deep and should be 18 SWG sheet.

### 3 Electrical Substation (optional depending on requirements at Project Sites)

The Concessionaire will be required to construct an outdoor type transformer substation to step down voltage from 33 KV to 0.433KV of suitable capacity as required as per assessed electric load of each ADTT Centre. The outdoor type 33/.433 KV transformer shall be copper wound delta to star, oil filled on cooling off load hand operated, tap changers, voltage with two earth terminals, oil level

gauge, drain valve with plug, temperature meter (temperature not to exceed 50° C on load), oil conservator.

Buchholtz relay, silica gel breather, suitable bushing terminals on 33 KV and 0.433 KV side for underground XLPE cable connectors, etc. as per IS 3156 Part I, III & IV. The transformer shall be protected with a 33 KV VCB with panel with suitable relays & LA(s) etc. The outgoing of the 33/.433 KV transformer shall be connected to the main LT panel through a 3½ core XLPE, 1100 Volt grade cable as per IS 1554-1100 Volts grade of suitable capacity. The main LT panel shall be located in generator room in the substation with suitable capacity MCCB/ACB. Load on each lighting circuit shall not exceed 500 W for lighting and 2000 Watts for power circuit. The panel shall be made of 16 SWG MS sheet fully compartmentalized and vermin proof, consisting of switch fuse units, bus bar and accessories of suitable capacities. The wiring shall be done 1100 Volt grade PVC insulated copper wire and aluminum bus bar, suitably designed for 1 sq mm per Amp strip and providing 2 earth terminals at bottom and both terminals to be interconnected by GI strip. The LT control panel shall have an incoming side and outgoing side MCCB/ACBs of suitable capacity with all associated measuring instruments, CTS, and protection relays. The boxes are to be painted suitably.

#### **4 Diesel Generator Set**

Each ADTT Centre will be provided with a diesel generator set of suitable capacity.

The noise less DG sets will be housed in the generator room of the substation and shall be provided with control panel having all measuring protection equipments. The output from the generator shall be connected through a 3½ core XLPE LT cable to main LT panel of the substation transformer automatic/manual change over switch facility. Totally enclosed silencer shall be provided for DG set. The fuel shall be taken through a set of FLV pipes to the scrubber and discharge as per Pollution Control Board requirements and guide lines.

#### **5 Earthing of substation and other installations**

Earthing shall be done in accordance with IS-3043 of 1987. The relevant provision of rules 33 and 61 of the Indian Electricity Rules, 1956 shall be complied with for equipments and installation of the earthing. The salient features of earthing arrangement will be as below:-

##### **5.1 Earth Electrodes**

A. Type: Earth plate electrodes shall be provided and they shall not be less than 60cm x 60cm x 3 mm in copper as per clause 9.2 of IS - 3043.

B. Installation: Electrodes shall as far as possible, be embedded below permanent moisture level. In addition, they shall be buried at a depth of not less than 3 metre. Complete installation shall be as per IS-3043.

C. Earth station shall be 60 cm x 60 cm x 3 mm copper buried in specifically prepared earth pit so as to keep top of earth plate 3 metre below ground with 40 Kgs charcoal and salt (with alternate layers of charcoal and salt) with 19mm dia. GI pipe provided with funnel with a wire mesh for watering and brick masonry block, CI cover etc. complete as per Para 9 of IS 3043 of 1987 with necessary length of double copper earth strip of adequate size bracing with lug to plate and covered in adequate size GI pipe 2.5 M long complete connected to the switch gear with end socket as per direction and duly tested by earth tester and recording results.

##### **5.2 Distance between two earth pits shall not be less than 6 Mtrs i.e. double the depth of each Electrode.**

##### **5.3 A) Sub Station Earthing (H.T.):** Earth pits shall be provided as given below.

- 1) 2 Nos. for neutral earthing of transformer.
- 2) 2 Nos. of body earth for transformer.
- 3) 2 Nos - 1 for VCB panel & 1 for servo voltage stabilizer.
- 4) 1 No for surge arrestors.

##### **B) L.T. Earthing**

Earth station shall be provided as follows:

- 1) LT panel - 2 Nos.
- 2) Emergency Lighting Panel - 2 Nos.
- 3) 2 Nos. for floor panels at different floors (All these pits shall be interconnected)



- 4) A.C. Panel - 2 Nos.
- 5) Fire fighting system - 2 Nos.
- 6) All electronic equipment - 2 Nos.
- 7) Computers and its peripherals - 1 Nos.

**5.4 General Rules Applying to all Systems of Earthing**

Method of earthing:

A. Connections to earthing conductors:

- 1) Main earthing copper strip shall be laid from the earth station provided in the substation. HT Equipment, VCB, Stabilizer, and Transformer shall be earthed in the substation as per the provisions of IS 3043 - 1987.
- 2) Main LT panel connection shall be taken from earth electrode provided near main LT panel room.
- 3) There will be copper strip of vertical risers from the earth pits independently provided for earthing of distribution floor panels located at different floors.
- 4) Interloping of sub panels to room DBS shall be done with PVC insulated copper conductor of appropriate size.

B. **Cable sheathing and armouring-**

These shall be earthed at the ends adjacent to switch boards at which they originate, or otherwise at the commencement of the run by an earthing conductor connected to an earth clip, clamp or gland in effective electrical contact with cable sheathing and armouring.

**5.5 Earthing Conductor**

Every earthing conductor shall be either stranded strips or circular or rectangular bar. Protection against mechanical injury shall be provided wherever necessary. The earth conductor may be of high conductivity copper. The sizes of earthing conductors shall correspond to the load current as given below:

**Size of earth conductors from main switchboard to sub main switches or DBs**

Cross sectional area of current carrying conductor copper (sq.mm)	Cross sectional area of earth continuity conductor Copper (sq.mm)	
	(sq.mm)	S.W.G
4	4	12
6	4	12
10	6	10
16	10	8
25	16	8
35	16	8
50	25	6
70	35	2
95	50	20x3 mm
120	70	25x3 mm

**Size of earth conductors for plug sockets for the use of portable appliances**

Cross sectional area of current carrying conductor copper/Aluminium (sq. mm)	Cross sectional area of earth continuity conductor
2.5	14
4	12
6	12

**Cables:** Design aspect-load, length, Voltage drop

**Switchgears:** Protection- rating, S.C. rating nominal rating, back up etc MCB/MCCB/ELCB/RCCB

**6 Air-conditioning**

Air conditioners shall be provided in the Administrative building. The capacity of air conditioners shall be decided on the basis of the volume of area to be air conditioned. The air conditioners of minimum 1 (one) tone capacity shall be provided for the volume of 1000 cuft. The type of Air conditioners to be installed should be preferably split type, with its condensing units installed outside suitably connected by copper tubing of required diameter and properly insulated. The air conditioners should be electrically fed by the power point installed nearby with not less than 04 sqmm copper wire, with suitable earthing.

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## **8 LIGHTNING PROTECTION SYSTEM**

### **8.1 General**

i) Installation of lightning Protection system shall be provided as per guidelines given in IS: 2309-1989 and entire installation shall be strictly in accordance with it.

ii) The buildings shall be provided Lightning Protection System.

Number of Air Terminations are to be decided as per IS 2309-1989

### **8.2 Zone of Protection**

The zone of protection of a lightning conductor defines the space within which a lightning conductor provides protection against a direct lightning stroke by diverting the stroke to itself and to ground. For a single vertical conductor and with an angle called as protective angle. For the purpose of providing an acceptable degree shall be considered as 45 deg. between two or more vertical conductors of equal height spaced at a distance not exceeding twice their height, the protective angle within the space bounded by the air termination shall be taken as 60 deg. to the vertical, while protective angle away from the conductor will be taken as 45 deg. to the vertical.

### **8.3 Material and Dimensions**

The materials of lightning conductor, down conductor, earth termination etc. shall be copper and shall be protected against corrosion.

Air termination and down conductors shall be of copper and shall conform to IS: 2309-1989.

### **8.4 Joints and Bonds**

The lightning protection system shall have as minimum joints as possible. Wherever joints in the conductor are necessary, they shall be mechanically and electrically effective and shall be riveted and brazed in an approved manner.

### **8.5 Earth Terminations**

Each down conductor shall have an independent earth termination and earth electrode as per IS: 3043. All the earth termination shall be provided with isolation box for testing.

### **8.6 Air Terminations**

Air termination mesh on terrace shall be provided such that no point is more than 9m away from the mesh as per IS: 2309-1989. Number of down conductors shall also be provided as per guidelines included in the IS: 2309-1989.

### **8.7 Fasteners**

Conductors shall be securely fixed to the building to be protected by the fasteners, which shall not be more than 1.2m apart for horizontal run and 1.0m for vertical run.

**PART-III  
ELECTRONIC WORKS**

**1. TRAFFIC SIGNAL LIGHTS:**

Minimum specifications shall be as follows:

Traffic Signal light (Red & Green)
Mounting Pole at least 100 mm dia 3 meters, height

**2. Public Address System:**

Minimum Specifications shall be as follows:

Complete set of system with zone wise call, all call, and selective 10 zone or better digital centralized control panel and key board.
Complete set of mounted 10 call stations with 100 W Horn units. 30 W Horn speakers and 100 V line. power amplifiers (500 W RMS) with features like 7 Micro inputs, 2 aux in-put, line input, pre amp out box/ driver unit
2 core armored 1.5 Sq mm power cable
1 pair signal cable, 2 core speaker wire pulled in PVC/GI conduits

**3. Video Viewing Equipments:**

Minimum specifications shall be as follows:

<b>LCD /LED Screen</b>
The LCD/LED Screen should be of minimum of 40 inch with narrow bezel (max 1.1 cm), mat finish and without speakers.
The resolution should be 1024 x 768 pixels or better.
Contrast — 2000:1 or better

**4. Video Management System (VMS):**

Minimum specifications shall be as follows:

Sr. No.	Technical Specifications
	Surveillance Management Software
<b>4.1</b>	<b>Features</b>
	<p>Software should be able to manage up to 32 IP cameras on a single screen.                      It should have the Wizard mode for quick and easy configuration.                      It should have Expert mode provides advanced functions and enhanced features.                      It should be able to monitor cameras via Map or Video mode.                      It should provide the controls to View schedule, alarm, and manual recordings with video playback.                      It should have the option to Freeze video display to temporarily pause live images.                      It should have Split-screen display layout.                      It should automatically patrol selected vicinity preset by user.                      It should be able to capture images directly from live video with snapshot.                      It should locate important events in recorded video using a motion histogram.                      Start a conversation with 2-way audio.                      It should be able to create custom surveillance maps that show camera orientation and location.                      It should have the Search option for recorded files by date, time, and event.                      It should be able to Control video speed in both Video and Event playback.                      It should have the Help menu which can provide descriptions, definitions, and details of the ip surveillance software.                      Event action relay to multiple cameras and I/O devices.                      It should have Intuitive user interface design.                      It should have the function for Camera auto-discovery</p>
<b>4.2</b>	<b>General</b>
	<p>It should support a minimum of 32 IP cameras to be managed from a single screen.                      It should have JPEG/MPEG-4 support                      It should have 2-way audio support                      It should provide the option for Live monitoring                      It should be able to do simultaneous Playback</p>

	<p>It should support 30 FPS maximum recording per camera (subject to camera and video server capacity)</p> <p>It should have the control to Auto-discover the devices</p> <p>It should support On-the-fly configuration changes</p> <p>It should have Modulation Mode (NTSC &amp; PAL)</p> <p>It should be Compatible with high-level central management systems</p> <p>It should have Help menu and step-by-step on-screen instructions to create any management scenario</p>
<b>4.3</b>	<b>System User Management</b>
	<p>It should support User validation</p> <p>It should have User password restriction</p> <p>It should support User profiling</p>
<b>4.4</b>	<b>Recording</b>
	<p>It should support Multiple storage locations for different recording types</p> <p>It should support Record by schedule (template or custom)</p> <p>It should be able to record by event (general motion detection and digital input)</p> <p>It should support Pre-event buffers</p> <p>It should support Manual recording with Min. 30 video channel support</p>
<b>4.5</b>	<b>Data Search and Playback</b>
	<p>It should have General motion smart video search</p> <p>It should have Video playback control</p> <p>IT should have Histogram quick search for video</p> <p>It should have Video stamp feature</p> <p>It should support Video extract by snapshot</p> <p>it should support Video extract by AVI (supporting cue in/out)</p>
<b>4.6</b>	<b>Video Mode</b>
	<p>It should be able to monitor display by auto-scan</p> <p>It should be able to monitor display by video drag and drop from device navigation</p> <p>It should have Camera preview window</p> <p>It should have control to Freeze monitor video (for bandwidth release)</p> <p>It should have Device information index (displays clear camera and event status)</p>
<b>4.7</b>	<b>Map Mode</b>
	<p>It should support Multiple map support</p> <p>It should have Alarm notification</p> <p>It should have Customized map background support</p> <p>It should have Camera preview window</p>
<b>4.8</b>	<b>I/O Feature</b>
	<p>It should have Output port control</p> <p>It should have Input port trigger on event</p> <p>It should have Output port relay when event detected</p>
<b>4.9</b>	<b>Backup</b>
	<p>It should create Backup database for log and configuration</p> <p>It should create Backup files</p>

## 5. CCTV Camera:

Minimum specifications are as follows:

- 600TVL IR Outdoor Camera
- 600TVL IR Indoor Camera
- Weather Proof, 40 M IR Distance
- True Day/ Night with 350 degree Motor / Rotator for CCTV Camera.
- Camera Rack , Adapter, mounting kit
- DVR 16 Channel, 16 Ch Video, 1Ch Audio, CIF Real- Time, 1 TB SATA, VGA1280\*1024, CMS

**PART-IV**  
**IT INFRASTRUCTURE, HARDWARE AND NETWORKING WORKS**

## MINIMUM SPECIFICATIONS FOR IT INFRASTRUCTURE, HARDWARE AND NETWORKING WORKS

- A. Concessionaire needs to access his own Data Storage, sizing and Storage calculations
- B. Concessionaire cannot supply/ install any hardware, software or any equipment with END OF LIFE.
- C. Specifications mentioned below are as on date of issue of RFP document, Concessionaire shall install latest upgraded model of the specified Specifications at the time of execution of the Project and shall be required to upgrade the system, as and when required during the Concession Period.
- D. The Specifications elaborated herein are the minimal requirements as per the preliminary assessment based on the information available. The Concessionaire shall therefore propose architecture/equipment with same/better Specifications based on the requirements of the complete solution they envisage and propose. The Concessionaire must further take a note that the sizing of the equipment must be done considering the fact that the system must be capable of running smoothly for at-least next 12 (twelve) years. Any corresponding factors (both direct & indirect) should therefore be duly accounted for in the design/equipment being proposed. The system will also have several integration points with the existing/legacy systems in place currently. The bidder must further ensure thorough consideration of the non-functional implicit requirements comprising scalability, robustness, security, reliability, resilience, portability, interoperability, extensibility, compliance, high-availability, fault-tolerance, statutory & regulatory adherence etc.
- E. The Concessionaire shall supply and install of all kind of Hardware, System Software, other peripherals and other items necessary for the establishment of the system.
- F. The Concessionaire shall carry out post-Installation support, operation, maintenance and monitoring of the system.
  - (1) The maintenance of the Automated Driving Test Track System will be comprehensive i.e. it shall include maintenance services and new installations, if required during the Concession Period of civil as well as IT infrastructure. The spares shall be of the same make and specification as initially supplied at the time of installation and commissioning. The Concessionaire shall maintain inventories of consumables and spares so as to achieve an uptime of not less than 8 hours per day.
  - (2) The Concessionaire is expected to carry out the following maintenance procedures to achieve uninterrupted operation of Automated Driving Test Track System. These maintenance procedures are only indicative in nature. The Concessionaire is expected to carry out all those procedures indicated by the machinery supplier and/or which it believe is necessary to achieve required performance.
    - a. Preventive maintenance/ Operational Maintenance  
Under this head, routine & periodic checks, of the various equipments and civil infrastructure, will be carried out fortnightly or as recommended by the manufacturers. Time to be taken for maintenance will be pre-scheduled and notified by the bidder preferably during the holidays. In case of any wear and tear the relevant parts will be replaced. Off time will be not considered as downtime. Routine & periodic checks/maintenance shall not be carried out during the driving test periods so as not to affect the operation of the ADTT centre.
    - b. Breakdown maintenance  
Breakdown maintenance, for all the equipments shall be done by the Concessionaire, within 12 hours of reporting of the break-down.
    - c. Logbook  
Operational and Downtime logbook of the test track shall be maintained by the Concessionaire.

ITEM	EXPECTED MINIMUM CONFIGURATION
Computer	<ul style="list-style-type: none"> <li>• Mandatory Certifications: TCO 05 certified monitor, Energy Star 5.0 or above or BEE star certified, 80 Plus Energy efficiency, RoHS for environmental safety</li> <li>• Processor: Intel core i3 processor @3.30 Ghz, 3 MB cache</li> <li>• Motherboard: OEM motherboard</li> <li>• Chipset: Intel H61 or better on Intel/OEM Motherboard</li> <li>• Memory: 4 GB 1066 MHz DDR3 SDRAM expandable to 8 GB; Min. 1 DIMM slot free for future upgrades</li> <li>• HDD: 500 GB 7200 Serial ATA HDD or higher</li> <li>• Monitor: 18.5" wide TFT monitor 1024 x 768; Same make of PC</li> <li>• Keyboard: USB (without use of adaptor) Heavy duty Bi-lingual (INSCRIPT) Etched Membrane Keyboard</li> <li>• Mouse: Optical Scrolling mouse with Mouse pad</li> <li>• Optical Device: DVD R/W Drive</li> <li>• Ports: 4 USB 2.0 Ports (with at least 2 in front), Line-in (stereo / microphone) – 1, Line-out (headphone / speaker) – 1, Parallel port – 1, RJ-45 – 1, VGA – 1</li> <li>• Network Features: 10/100/1000 on board integrated Network Port with remote booting facility remote system installation, remote wake up</li> <li>• Multimedia: Integrated Audio and Graphic Controller</li> <li>• Operating System: Preloaded MS Windows 7 professional 32 Bits with Certificate of Authenticity recovery / restore media CD along with patches and updates for 5 years</li> <li>• Antivirus: Pre-installed of the following OEMS: McAfee/ Symantec/ eScan /Quick Heal Internet security and Antivirus Software latest Version along with patches and updates for 5 years</li> </ul>
Web Camera	<ul style="list-style-type: none"> <li>• Connection Type : USB</li> <li>• USB Type : USB 2.0</li> <li>• USB VID_PID : 0829</li> <li>• UVC Support : Yes</li> <li>• Microphone : Yes</li> <li>• Microphone Type : Mono</li> <li>• Lens and Sensor Type : Plastic</li> <li>• Focus Type : Fixed</li> <li>• Optical Resolution : True 640x480, Interpolated 1.3MP</li> <li>• Diagonal Field of View (FOV) : 68°</li> <li>• Focal Length : 2.3 mm</li> <li>• Image Capture : (4:3 SD) 320x240, 640x480, 1.3MP*</li> <li>• Frame Rate (max) : 30 fps @640 x 480</li> <li>• Indicator Lights (LED) : Yes</li> <li>• Universal Clip Adjustability (range) : 71mm</li> <li>• Cable Length : 4 Feet, 121.92 CM</li> </ul>
Bio Metric Finger Print Scanner	<ul style="list-style-type: none"> <li>• Finger Capture Mechanism: Silicon/Optical Sensor Based</li> <li>• Resolution: 500 DPI Minimum</li> <li>• Linearity and Rectilinearity: Less than 1 Pixel</li> <li>• Image Area /Platen Size: 12.5 mm x 12.5 mm</li> <li>• Illumination Uniformity in case of optical : Less than 50% variation center to corners</li> <li>• Interface to host: USB/Com Port with 3 meter Cable.</li> <li>• Supported Operating System: Windows 2000, XP and Linux</li> <li>• Biometric Image format: BMP, JPG, GIF, TIF</li> <li>• Supported Development Tool: Active-X (VB), JAVA Beans</li> <li>• SDK: Development tools should provide enroll, verify, authenticate and save a template in any industry standard format without any data loss. It should also provide one to one matching functionality.</li> <li>• Applicability (Optional): Device must be useful for Access control / Attendance monitoring legal authenticity Verification type of applications in government.</li> </ul>



	<ul style="list-style-type: none"> <li>• False Finger Acceptance Ratio: Less than 1 percentage</li> <li>• False Rejection Ratio: Less than 1 percentage</li> </ul>
Printer	<ul style="list-style-type: none"> <li>• 1200 x 1200 DPI</li> <li>• A4, Letter, Legal</li> <li>• Parallel Port</li> <li>• 15 PPM</li> <li>• 7000 Pages Per Month</li> <li>• A4, A5, letter, legal, executive</li> <li>• PCL 3 Enhanced or Above Windows XP and above</li> </ul>
5KVA Online UPS	<ul style="list-style-type: none"> <li>• At least 4 hours backup</li> <li>• Maintenance free batteries (preferably from the same OEM)</li> <li>• Regulation should be less than 1%</li> <li>• Full load distortion should be less than 2%</li> <li>• SNMP interface</li> <li>• Overall efficiency to be more than 90%</li> <li>• With sufficient capacity to provide power backup for the entire infrastructure of the project</li> </ul>
Generator	<ul style="list-style-type: none"> <li>• Engine type: Multi cylinder, in accordance with IS 10002 with latest amendments.</li> <li>• Method of starting: Electric start 12 V DC</li> <li>• Type of cooling: Water cooled /Air cooled/ Radiator Cooled</li> <li>• Type of governor: Class A2 governing as per IS10000 (All latest specs of engines are as per IS10000 &amp; class A2 governing)</li> <li>• Type of fuel: Diesel/ Petrol</li> <li>• Rated speed: Min. 1500 RPM</li> <li>• Over load capacity: 10% overload – 1 hour</li> </ul>
Technology	<p><b><u>Systems, Sensors and Network</u></b></p> <ul style="list-style-type: none"> <li>• A sensor, which is digitally addressable, for sensing any movement of the vehicle beyond the drive path. The sensor detects and sends a signal to the computer.</li> <li>• A Sensor will be fixed for sensing Start and Stop time of a vehicle in a particular track. The sensor sends out infra red beam, which is interrupted when the vehicle crosses the line. The interruption is transmitted to the computer.</li> <li>• The heart of the Sensor electronics is a Micro-controller. When it receives the signal from the sensor, it sends the sensor number over a serial link to the controlling computer.</li> <li>• Power and Data Cables laid under the track provide the power and data connectivity between the Control room and the sensor electronics located in the field.</li> <li>• A dedicated computer controls each track. It monitors the test, captures the test results and forwards the same to the server.</li> <li>• The Test Supervisors controls the dedicated computer for the 2-wheeler and 4-wheeler test tracks. It stores all the candidates' data as well as the test results. The test results are printed from this system. A LAN network connects the server and the dedicated computers.</li> <li>• The CCTV cameras fitted on the driving test tracks will be used to record and monitor the driving test</li> </ul> <p><b><u>Software:</u></b></p> <p><b><u>Operating System:</u></b></p> <ol style="list-style-type: none"> <li>a. Microsoft Windows 2008 for Server</li> <li>b. Windows XP Professional for clients</li> </ol> <p><b><u>Video-Player:</u></b></p> <p>Video player application is provided to play the stored videos from the video server with provision for checking videos for a particular candidate by entering candidate ID and the track to view.</p>

Web-based Application Software:

Application software should have enhanced graphics with dynamic screen with 3D view for all track applications. Software interface looks should be elegant. The website based application software should have optimized interfacing and communication with track electronics and hardware. Application Software should be web-based and should comprise of the following modules

- a. Registration Module.
- b. Sensor Monitoring Module
- c. Database module
- d. Networking module
- e. Result Module
- f. MIS Module.

Database:

The Database used will be MS SQL.

Development Tools:

Using .net technology (ASP.net or VB.net) or Java.

**Application Software Details:**

Registration Module:

The registration module record the following details of candidate:

- a. Registration Number
- b. Date of Test
- c. Candidate ID
- d. Thumb Impression and electronic signature

Registration sheet printing is to be done with DOT logo water mark which prevents sheets to be generated outside the driving track.

Multilingual support should be provided. i.e. language should be configurable in this module as Hindi, Punjabi and English.

Sensor Module:

This is a two-layered task that will do the following:

- a. Monitoring Sensors
- b. Refreshing Screen Display.
- c. Monitoring the time of each test.
- d. The sensors modules are different for different tracks.

Database module:

This module will update the database tables. The task of this module is defined as follows:

- a. Validate candidate's registration and application number at the time of Registration.
- b. Database will be in encrypted format. So that data tampering can be prevented.
- c. Update the database with candidate's details at registration desk.
- d. Real-time updating the database of each test taken by individual candidate.
- e. Storing, displaying and updating candidate's information.
- f. Candidate picture captured during the registration process is stored directly in the database.
- g. The video record for each and every candidate is recorded with a date time stamp, candidate ID, and the track name, which appears on top of the video screen. This feature will prevent video tampering.
- h. Log information is recorded and stored for every user actions and events.
- i. Test track configurations are machine independent. All tracks configuration are saved centrally in the database.
- j. Database communications with the applications should be optimized.

Networking module:

The complete system for Driver's test utilizes two types of Networks. They are classified as:

- a. Network wired around the sensor serial data link
- b. Network wired through Ethernet port.

The functions of these networks are

Sensor Network:

- a. Real-time monitoring of the status of proximity sensors.
- b. Real-time monitoring of optical sensors.

Ethernet Network:

- a. Connects to database server for updating tables.
- b. Validating the candidate before the start of each test.
- c. Connects to database server for printing result and registration sheet.

Result Module:

- a. This module will generate display and print the result of candidates as per the requirement of DOT
- b. Result sheet printing is with DOT logo watermark which prevents sheets to be generated outside driving track.

**Storage of the Data:**

The Concessionaire shall be responsible for the backup storage of all data in the external medium preferably DVD/HDD. However the primary storage of all data should be in the server.

**Security and Access Control:**

Adequate security features should be embedded into the proposed system to protect it from unauthorized access to documents, data or other critical information. Enhanced security with different levels and user privileges should be provided.

**PART-V  
HUMAN RESOURCES**

## HUMAN RESOURCES

The Concessionaire will be responsible for engaging and posting the required qualified manpower as mentioned in the Schedule for the efficient functioning of the Project at each Project Site during the Concession Period as per the requirement and directions of the Government and Engineer and the Concessionaire will be responsible for the employees deputed on Project /Project Sites and compliance of the Acts and legislation pertaining to employment, Applicable laws and provisions of the Departments etc.

1. The Concessionaire shall keep with it, the deployed staff members' present and permanent address, educational and technical qualification, specimen signature, two passport size photographs and furnish these details/information to concerned Government Instrumentalities, as and when called for.
2. The Concessionaire shall supply valid I-cards to all the professionals, personals deployed for the Project and at Project Sites.
3. The Concessionaire will provide specific description of the prior experience and expertise of individuals in being deployed on the Project and Project Sites.
4. The personals and professionals deployed on Project shall not develop any direct/indirect business/commercial relationship with the Users/ Government/ Confirming Party /Engineer.
5. In case, any professional is found engaged in doing any work other than the project work or his/her performance/conduct is not found to be satisfactory or is absent from the project site for more than one week, the Concessionaire shall arrange replacement within one week.
6. The supplied manpower shall maintain office decorum. They shall be Courteous, Polite, Co-operative and committed to the Project. They may be required to work on holidays and beyond office hours as per project requirements.
7. The Concessionaire will ensure that no information, about the Project and the policies of the Government is taken out in any form including electronic form or otherwise, from the Project Sites.
8. The Concessionaire shall submit monthly report of the location wise professionals, personals deployed by them in the Project and Project Sites, along with payments being made to them by 15th of every month including particular relating to compliance under various Labour Laws and Regulation e.g. deposit of EFP with the competent authorities.
9. The manpower so hired is for the Project and Project Sites only. Their deployment would in no way will be construed as employment either with Government or Confirming Party.
10. The Government / Confirming Party stands absolved for any liability on account of death or injury sustained by any personnel deployed on the Project or Project Sites, or agency who supplied manpower during the performance of this Agreement and also for any damages or compensation due to any dispute between the Concessionaire and manpower as deployed on the Project or Project Sites.
11. The personnel to be deployed on the Project and Project Sites shall possess the Education qualification and experience for the position as per Technical Job requirement.

Following managerial staff needs to be provided by the Concessionaire during the Concession Period:

### **(i) Project Manager**

- Minimum Qualification: B.E. / B.Tech. / MBA / Master's degree in Science, Maths, Statistics, Economics or Commerce; and
- Experience: Prior project management experience of at least 10 years of handling Information Technology projects and should have operating knowledge of computers and networking.

### **(ii) Regional Manager**

- Minimum Qualification: B.E. / B.Tech. / MBA / Master's degree in Science, Maths, Statistics, Economics or Commerce; and
- Experience: Prior project management experience of at least 5 years of handling Information Technology projects and should have operating knowledge of computers and networking.

**(iii) Test Supervisor**

- A pass in 10+2 or a pre-engineering course or a diploma in computer application or a certification course (of six (6) months or more duration) in computer applications from a reputed institution;
- Adequate computer skills and knowledge of application modules like DMS;
- Proficiency in computer applications such as MS Office with a typing speed of at least 6000 key depressions per hour); and
- At least 6 (six) months experience in data entry.

**(iv) Test Enumerator**

A pass in 10+2 or a pre-engineering course or a Diploma from a reputed institution with a minimum work experience of 2 years

**(v) Video Operator**

- The minimum qualification of Video Operator shall be B E./B.Tech. /MCA/ Master's degree in Science, Maths, Statistics, Economics or Commerce; and
- One Year experience working on video camera and monitoring equipments.

**(vi) Housekeeping staff**

- A pass in 10+2 having passed with diploma course in hotel management; and
- 6 (six) months experience in housekeeping works.

**(vii) Helpers**

A pass in 10+2 with 6 months experience as helper.

**(viii) Security Staff**

- A pass in 10+2 with training as Security Guard; and
- 2 years experience as security staff or retired from Army forces.

**SCHEDULE –E**  
(See Clause 4.1.3)  
**APPLICABLE PERMITS**

**1 Applicable Permits**

- 1.1 The Concessionaire shall obtain, as required under the Applicable Laws, the following Applicable Permits on or before the Appointed Date, save and except to the extent of a waiver granted by the Government in accordance with Clause 4.1.3 of the Agreement:
- (a) Permission of the Punjab Urban Development Authority in respect of Administrative Building;
  - (b) Permission of Chief Electrical Inspector in respect of Diesel Generating Set(s) and transformer;
  - (c) Permission of Competent Authority as regard IT Infrastructure and networking, if applicable; and
  - (d) Any other permits or clearances required under Applicable Laws.
- 1.2 Applicable Permits, as required, relating to environmental protection and conservation shall have been procured by the Government as a Condition Precedent.

**SCHEDULE – F**  
(See Clause 9.1)  
**PERFORMANCE SECURITY**

**Punjab State Transport Society,**  
Chandigarh

**WHEREAS:**

- (A) ..... (the **“Concessionaire”**), Department of Transport, Government of Punjab (**the “Government”**) and Punjab State Transport Society (**Confirming Party**) have entered into a Concession Agreement dated ..... (the **“Agreement”**) whereby the Government has agreed to the Concessionaire undertaking Development, Construction, Operation and Maintenance of Automated Driving Test Track Centres for 2-Wheelers and 3/4 Wheelers” at 32 locations in the State of Punjab on design, build, finance, operate and transfer (**“DBFOT”**) basis, subject to and in accordance with the provisions of the Agreement.
- (B) The Agreement requires the Concessionaire to furnish a Performance Security to the Confirming Party in a sum of Rs. \*\*\*\* (Rupees \*\*\*\*\* crore) (the **“Guarantee Amount”**) as security for due and faithful performance of its obligations, under and in accordance with the Agreement, for a period of 180 (one hundred eighty) days beyond the Concession Period as defined in the Agreement).
- (C) We, ..... through our Branch at ..... (the **“Bank”**) have agreed to furnish this Bank Guarantee by way of Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Concessionaire’s obligations during the Concession Period and 180 (one hundred eighty) days beyond the Concession Period, under and in accordance with the Agreement, and agrees and undertakes to pay to Confirming Party, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Concessionaire, such sum or sums upto an aggregate sum of the Guarantee amount as the Confirming Party shall claim, without the Government/ Confirming Party being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Confirming Party, under the hand of an Officer not below the rank of \_\_\_\_\_, that the Concessionaire has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that Government shall be the sole judge as to whether the Concessionaire is in default in due and faithful performance of its obligations during the Construction Period under the Agreement and its decision that the Concessionaire is in default shall be final, and binding on the Bank, notwithstanding any differences between the Government/ Confirming Party and the Concessionaire, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Concessionaire for any reason whatsoever.
3. In order to give effect to this Guarantee, Confirming Party shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Concessionaire and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.



4. It shall not be necessary, and the Bank hereby waives any necessity, for the Confirming Party to proceed against the Concessionaire before presenting to the Bank its demand under this Guarantee.
5. The Government/ Confirming Party shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/or performance of all or any of the obligations of the Concessionaire contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Government/ Confirming Party against the Concessionaire, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Government/ Confirming Party, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Government/ Confirming Party of the liberty with reference to the matters aforesaid or by reason of time being given to the Concessionaire or any other forbearance, indulgence, act or omission on the part of the Government or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Government in respect of or relating to the Agreement or for the fulfilment, compliance and/or performance of all or any of the obligations of the Concessionaire under the Agreement.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force until expiry of 180 (one hundred eighty) days beyond the Concession Period and unless a demand or claim in writing is made by Government on the Bank under this Guarantee, no later than 6 (six) months from the date of expiry of this Guarantee, all rights of the Government under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. Left Blank
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Confirming Party in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred Branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Government/ Confirming Party that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect for a period of \_\_\_\_\_ or until it is released earlier by Confirming Party pursuant to the provisions of the Agreement

Signed and sealed this ..... day of ....., 20..... at .....

SIGNED, SEALED AND DELIVERED  
 For and on behalf of the  
 BANK by:

(Signature)  
 (Name)

(Designation)  
(Code Number)  
(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch.

**SCHEDULE –G**  
(See Clause 12.1)  
**PROJECT COMPLETION SCHEDULE**

**1 Project Completion Schedule**

During Construction Period, the Concessionaire shall comply with the requirements set forth in this Schedule-G for each of the Project Milestones and the Scheduled Completion Date (the “**Project Completion Schedule**”). Within 15 (fifteen) days of the date of each Project Milestone, the Concessionaire shall notify the Government of such compliance along with necessary particulars thereof.

**2 Project Milestone-I**

2.1 Project Milestone-I shall occur on the date falling on the 60<sup>th</sup> (sixtieth) day from the Appointed Date (the “**Project Milestone-I**”).

2.2 Prior to the occurrence of Project Milestone-I, the Concessionaire shall have developed software, finalized design and development of IT infrastructure, specifications and makes of equipment, completed Administration Block construction up to lintel level at all 32 locations and expended not less than 25% (twenty five per cent) of the total capital cost set forth in the Financial Package.

**3. Project Milestone-II**

3.1 Project Milestone-II shall occur on the date falling on the 120<sup>th</sup> (one hundred and twentieth) day from the Appointed Date (the “**Project Milestone-I**”).

3.2 Prior to the occurrence of Project Milestone-I, the Concessionaire shall have developed software, undertaken procurement of IT infrastructure, equipment for all 32 locations, laying of flooring and services in Administration Block in advance stage at all 32 locations and expended not less than 65% (sixty five per cent) of the total capital cost set forth in the Financial Package.

**4. Scheduled Project Completion Date**

4.1 The Scheduled Project Completion Date shall occur on the 180<sup>th</sup> (one hundred eightieth) day from the Appointed Date.

4.2 On or before the Scheduled Project Completion Date, the Concessionaire shall have completed all the works as stipulated in accordance with this Agreement.

**5 Extension of period**

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

**SCHEDULE-H  
DRAWINGS**

1. As-built drawings of the Driving Test Tracks, Boundary Wall, Campus Lighting shall be provided on completion of construction work at respective Sites.
2. Architectural drawings (Plan, Terrace Plan, Elevations, Sections) and Structural drawings and detailing of Administration Building for all 32 locations as per requirements of the Project at respective Sites..
3. Drawings showing layout of services and installations (sanitary and plumbing; internal electrical services and installations) for the Administration Building at respective Sites..
4. Drawings showing layout and location of Equipment, CCTV cameras, other pertinent controls for the intending purpose of monitoring driving test by the applicant with all the cabling and appliances including main video and control panel at respective Sites..
5. Drawings showing details of IT infrastructure with hardware and software including LAN (Local Area Network) cabling etc. complete in all respects at respective Sites.
6. As-built drawings of all the works and services, equipment, IT Infrastructure including hardware and software at respective Sites.
7. Any other pertinent drawings and detailing to facilitate operation and maintenance of systems and services at respective Sites.
8. Operating and Maintenance Manuals for the equipment and services as provided and installed at the respective Sites.

**SCHEDULE-I**  
(See Clause 14.1.2)  
**TESTS**

**1. Schedule for Tests**

- 1.1 The Concessionaire shall, no later than 30 (thirty) days prior to the likely completion of Project at respective Project Sites, notify the Engineer and the Government of its intent to subject the Project to Tests, and no later than 7 (seven) days prior to the actual date of Tests, furnish to the Engineer and the Government detailed inventory and particulars of all works and equipment forming part of Project.
- 1.2 The Concessionaire shall notify the Engineer of its readiness to subject the Project to Tests at any time after 7 (seven) days from the date of such notice, and upon receipt of such notice, the Engineer shall, in consultation with the Concessionaire, determine the date and time for each Test and notify the same to the Government who may designate its representative to witness the Tests. The Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 14 and this Schedule-I.

**2. Tests**

- 2.1 Visual and physical Test: The Engineer shall conduct a visual and physical check of construction work and all type of equipment as installed at the Project sites to determine that all works and equipment forming part thereof conform to the provisions of this Agreement.
- 2.2 Test drive: The Engineer shall undertake a test drive of the Project sites by a 2-Wheeler and 3/4 Wheelers to determine that the quality of works as executed, services as provided and equipment as installed conforms to the provisions of the Agreement.
- 2.3 IT Infrastructure including hardware and software: Extensive tests to examine and establish that the system fulfil the functional requirements in all respect including input and output data. The software as regards transfer of part User Fee collected to the Government and Confirming Party is fully functional and output as regard day's collection and transfer is fully depicted and functional.
- 2.4 The equipment as installed conform to the makes, Standards and Specifications, are fully functional and compatible with the IT infrastructure and final output. The equipment as installed cannot be tempered with.
- 2.5 Structural Test: All structures constructed by the Concessionaire shall be subjected to the Rebound Hammer and ultrasonic Pulse Velocity tests, to be conducted in accordance with the procedure described in relevant Indian Standards.
- 2.7 Other Tests: The Engineer may require the Concessionaire to carry out or cause to be carried additional Tests at all or any Project Site, in accordance with Good Industry Practice, for determining the compliance of the Project with Specifications and Standards.
- 2.8 Computerization Tests and Audit: The Engineer shall carry out a detailed check to determine functional and accuracy of the hardware and software as installed including linking up with Data Centre. The Representative of Government/ Confirming Party shall be fully associated. It shall also include providing of all Manuals in respect of software and its functional features etc.
- 2.9 Environmental audit: The Engineer shall carry out a check to determine conformity of the Project with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 2.10 Safety Review: Safety audit of the Project at all project sites shall have been undertaken by the Engineer as set forth in Schedule-L, and on the basis of such audit, the Engineer shall determine conformity of the Project with the provisions of this Agreement.

2.11 It shall also include any other tests and audits including that as may be prescribed by Government/ Confirming Party to assure that the Project is fully conforming to, meets with standards, Specifications, requirements and functional aspects as described in detail in Schedule-D to this Agreement.

2.12 The Government and Confirming Party shall examine and check the adequacy and competency of the human resources as deployed to their satisfaction.

**3. Agency for conducting Tests**

All tests set forth in this Schedule-I shall be conducted by the Engineer in association with Punjab State Transport Society or such other agency or person as it may specify in consultation with the Government.

**4. Completion / Provisional Certificate**

Upon successful completion of Tests, the Engineer shall issue the Completion Certificate or the Provisional Certificate, as the case may be, in accordance with the provisions of Article 14.

**SCHEDULE-J**  
(See Clause 14.2 & 14.3)  
**COMPLETION CERTIFICATE**

- 1 I, .....(Name of the Engineer), acting as Engineer, under and in accordance with the Concession Agreement dated .....(the “**Agreement**”), for Development of Automated Driving Test Tracks Centres (at 32 locations) for 2-Wheelers and 3/ 4 Wheelers in the State of Punjab (the “Project”) on design, build, finance, operate and transfer (DBFOT) basis, through .....(Name of Concessionaire), hereby certify that the Tests specified in Article 14 and Schedule-I of the Agreement have been successfully undertaken to determine compliance of the Project with the provisions of the Agreement, and I am satisfied that the Project can be safely and reliably placed in commercial service of the Users thereof.
  
- 2 It is certified that, in terms of the aforesaid Agreement, all works, services, IT infrastructure including hardware and software and equipments forming part of development of Project have been completed, and the Project is hereby declared fit for entry into commercial operation on this the .....day of .....20.... .

SIGNED, SELAED AND DELIVERED  
For and on behalf of ENGINEER by:

(Signature)  
(Name)  
(Designation)  
(Address)

**PROVISIONAL CERTIFICATE**

1. I, \_\_\_\_\_ (Name of the Engineer), acting as Engineer, under and in accordance with the Concession Agreement dated.....(the “**Agreement**”), for Development of Automated Driving Test Tracks Centres (at 32 locations) for 2-Wheelers and 3/4 Wheelers in the State of Punjab (the “Project”) on design, build, finance, operate and transfer (DBFOT) basis through .....(Name of Concessionaire), hereby certify that the Tests specified in Article 14 and Schedule-I of the Agreement have been undertaken to determine compliance of the Project with the provisions of the Agreement.
  
2. Construction Works / providing and laying of services/ providing and installation of equipment / IT infrastructure including hardware and software that were found to be incomplete and/or deficient have been specified in the Punch List appended hereto, and the Concessionaire has agreed and accepted that it shall complete and /or rectify all such works in the time and manner set forth in the agreement. [Some of the incomplete works have been delayed as a result of reasons attributable to the Government or due to Force Majeure and the Provisional Certificate cannot be withheld on this Account. Though the remaining incomplete works have been delayed as a result of reasons attributable to the Concessionaire,] I am satisfied that having regard to the nature and extent of such incomplete works, it would not be prudent to withhold commercial operation of the Project, pending completion thereof.
  
3. In view of the foregoing, I am satisfied that the Project can be safely and reliably placed in commercial service of the Users thereof, and in terms of the Agreement, the Project is hereby provisionally declared fit for entry into commercial operation on this the .....day of .....20....

ACCEPTED, SIGNED, SEALED  
AND DELIVERED  
For and on Behalf of  
CONCESSIONAIRE by:

(Signature)  
(Name and Designation)  
(Address)

SIGNED, SELAED AND  
DELIVERED  
For and on behalf INDEPENDENT  
ENGINEER by:

(Signature)  
(Name and Designation)  
(Address)



**SCHEDULE-K**  
(See Clause 17.2)  
**MAINTENANCE REQUIREMENTS**

**1. Maintenance Requirements**

1.1 The Concessionaire shall, at all times, operate and maintain the Project and Project Sites in accordance with the provisions of the Agreements, Applicable Laws and Applicable Permits. In particular, the Concessionaire shall, at all times during the Operation Period, conform to the maintenance requirements set forth in this Schedule-K (the “**Maintenance Requirements**”).

1.2 The Concessionaire shall repair or rectify any defect or deficiency set forth in Paragraph 2 of this Schedule-K within the time limit specified therein and any failure in this behalf shall constitute a breach of the Agreement. Upon occurrence of any breach hereunder, the Government shall be entitled to recover Damages as set forth in Clause 17.8 of the Agreement, without prejudice to the rights of the Government under the Agreement, including Termination thereof.

**2. Repair/rectification of defects and deficiencies**

The obligations of the Concessionaire in respect of Maintenance Requirements shall include repair and rectification of defects and deficiencies specified in Annex-I of the Schedule-K within the time limit set forth therein.

**3 Other defects and deficiencies**

3.1 In respect of any defect or deficiency not specified in Annex-I of this Schedule-K, the Concessionaire shall undertake repair or rectification in accordance with Good Industry Practice.

3.2 In respect of any defect or deficiency not specified in Annex-I of this Schedule-K, the Engineer may, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards, and any deviation or deterioration beyond the permissible limit shall be repaired or rectified by the Concessionaire within the time limit specified by the Engineer.

**4. Extension of time limit**

Notwithstanding anything to the contrary specified in this Schedule-K, if the nature and extent of any defect or deficiency justifies more time for its repair or rectification than the time specified herein, the Concessionaire shall be entitled to additional time in conformity with Good Industry Practice. Such additional time shall be determined by the Engineer and conveyed to the Concessionaire and the Government with reasons thereof.

**5. Emergency repairs/ restoration**

Notwithstanding anything to the contrary contained in this Schedule-K, if any defect, deficiency or deterioration in the Project poses a hazard to safety or risk of damage to property, the Concessionaire shall promptly take all reasonable measures for eliminating or minimising such danger.

**6. Daily Inspection by the Concessionaire**

The Concessionaire shall, through its Engineer, undertake a daily visual inspection of the Project and maintain a record thereof in a register to be kept in such form and manner as the Engineer may specify. Such record shall be kept in safe custody of the Concessionaire and shall be open to inspection by the Government and the Engineer at any time during office hours.

**7. Divestment Requirement**

All defects and deficiencies specified in this Schedule-K shall be repaired and rectified by the Concessionaire so that the Project conforms to the Maintenance requirements on the Transfer Date.

Annex-I  
(Schedule-K)

**Repair / Rectification of Defects and Deficiencies**

The Concessionaire shall repair and rectify the defects and deficiencies specified in this Annex-I of Schedule-K within the time limit set forth herein.

Nature of defect or deficiency		Time Limit for repair/rectification
<b>(a)</b>	<b>Carriageway and paved shoulders</b>	
(i)	Breach or blockade	- Temporary restoration of traffic within 24 hours; permanent restoration within 7 days
(ii)	Pot holes	- 48 hours
	Cracking in more than 5% of road surface in a stretch of 1 km	- 10 days
(iii)	Rutting exceeding 10mm in more than 2% of road surface in a stretch of 1 km (measured with 3 m straight edge)	- 10 days
(iv)	Bleeding/skidding	- 7 days
(v)	Ravelling/Stripping of bitumen surface exceeding 10 sq m	- 7 days
<b>(b)</b>	<b>Hard/earth shoulders, side slopes, drains</b>	
(i)	Variation by more than 2% in the prescribed slope of camber/cross fall	- 15 days
(ii)	Edge drop at shoulders exceeding 40 mm	- 7 days
(iii)	Variation by more than 15% in the prescribed side (embankment) slopes	- 30 days
(iv)	Rain cuts/ gullies in slope	- 7 days
<b>(c)</b>	<b>Road side furniture including road signs and pavement marking</b>	
(i)	Damage to shape or position; poor visibility or loss of retro-reflectivity	- 24 hours
<b>(d)</b>	<b>Campus Lighting</b>	
(i)	Any major failure of the system	- 24 hours
(ii)	Faults and minor failures	- 8 hours
<b>(e)</b>	<b>Trees and plantation</b>	
(i)	Obstruction in a minimum head-room of 5 m above carriageway or obstruction in visibility of road signs	- 24 hours
(ii)	Deterioration in health of landscaping	- Timely watering and treatment

<b>(h)</b>	<b>Other Project Facilities and Approach roads</b>	
(i)	Damage or deterioration in Approach Roads,	- 15 days
<b>(g)</b>	<b>Building works, internal water supply and sanitary installation, internal electrical services and installation, Estate water supply, sewerage, Electrification</b>	
	Strictly as per relevant CPWD Maintenance Norms, Ordinary Repairs and Special Repairs including Annual Maintenance (at the cost of the Concessionaire)	-
	For items for which such Norms are not available in CPWD – It shall be decided by the Engineer as per Good Engineering Practice in the Industry	-
<b>(h)</b>	<b>IT infrastructure, Computer, Hardware and networking works</b>	- 12 hours

**SCHEDULE-L  
INTENTIONALLY LEFT BLANK**

**SCHEDULE-M**  
(See clause 19.5)  
**MONTHLY USER FEE STATEMENT**

1. NAME OF CENTRE:

Month:

Applicant for Driving Test for Type of Vehicle	For corresponding month of previous year		For preceding month		For the month reported upon		
	No. of Applicants	Fee collected (in lakh Rs.)	No. of Applicants	Fee collected (in lakh Rs.)	Fee per Applicant (in Rs.)	No. of Applicants	Fee collected (in lakh Rs.)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2-Wheeler							
3/4 Wheelers							
Both 2-Wheeler and 3/4 Wheelers							
<b>Grand Total</b>							

**Note:** The said format can be changed as per the requirement of Government/ Confirming Party.

**SCHEDULE -N  
DELETED**

**SCHEDULE-O  
DELETED**

**SCHEDULE-P  
DELETED**

**SCHEDULE – Q**  
(See clause 23.2.1)  
**TERMS OF REFERENCE FOR ENGINEER**

**1. Scope**

- 1.1 These Terms of Reference for the Engineer (the “TOR”) are being specified pursuant to the Concession Agreement dated.....(the “**Agreement**”), which has been entered into between the Government and .....(the “**Concessionaire**”) for Development of Automated Driving Test Track Centres (at 32 locations) for 2-Wheelers and 3/4 Wheelers in the State of Punjab on design, build, finance, operate and transfer (DBFOT) basis, and a copy of which is annexed hereto marked as Annex-A to form part of this TOR.
- 1.2 This TOR shall apply to development, construction, operation and maintenance of the Project.

**1. Definitions and interpretation**

- 2.1 The words and expressions beginning with or in capital letter used in this TOR and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.
- 2.2 References to Articles, Clauses and Schedules in this TOR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this TOR.
- 2.3 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, *mutatis mutandis*, to this TOR.

**3. Role and functions of the Engineer**

- 3.1 The role and functions of the Engineer shall include the following:
- (i) review of the Drawings, Proposals and Documents as set forth in Paragraph 4;
  - (ii) review, inspection and monitoring of Construction Works as set forth in Paragraph 5;
  - (iii) conducting Test on completion of construction, installation of equipment to make the Driving Test Track Centres functional and issuing completion/ Provisional certificate as set forth in Paragraph 5;
  - (iv) review, inspection and monitoring of O&M as set forth in Paragraph 6;
  - (v) review, inspection and monitoring of Divestment Requirements as set forth in Paragraph 7;
  - (vi) determining, as required under the Agreement, the costs of any works or services and/or their reasonableness;
  - (vii) determining, as required under the Agreement, the period or any extension thereof, for performing any duty or obligation;
  - (viii) assisting the Parties in resolution of disputes as set forth in Paragraph 9; and
  - (ix) undertaking all other duties and functions in accordance with the Agreement.
- 3.2 The Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.

**4. Development Period**

- 4.1 During the Development Period, the Engineer shall undertake a detailed review of the Drawings and Proposals to be furnished by the Concessionaire along with supporting data, including the geo-technical; equipment, electronic equipment, software development, IT infrastructure including hardware and software proposed to be procured and installed. The Engineer shall complete such review and send its comments/observations to the Government and the Concessionaire with 15 (fifteen) days of receipt of such drawings and proposals. In particular, such comments shall specify



the conformity or otherwise of such Drawings and Proposals with the Scope of the Project and Specifications and Standards including for the services, that of equipment, electronic equipment, IT infrastructure including hardware and software.

- 4.2 The Engineer shall review any modified Drawings, Proposals or supporting documents including that of services, equipment, electronic equipment, IT infrastructure including hardware and software sent to it by the Concessionaire and furnish its comments within 7 (seven) days of receiving such Drawings or Documents.
- 4.3 The Engineer shall review the Drawings including that of services, equipment, electronic equipment, IT infrastructure including hardware and software sent to it by the Concessionaire in accordance from Safety consideration and furnish its comments thereon to the Government and the Concessionaire and the Concessionaire within 7 (seven) days of receiving such Drawings and Proposals.
- 4.4 The Engineer shall review the detailed design, construction methodology, quality assurance procedures, procurement, engineering and construction time schedule and procurement schedule for equipment, electronic equipment, IT infrastructure including hardware and software sent to it by the Concessionaire and furnish its comments within 15 (fifteen) days of receipt thereof.
- 4.5 Upon reference by the Government, the Engineer shall review and comment on the EPC contract or any other contract for construction, procurement of equipment, electronic equipment, IT infrastructure including hardware and software, operation and maintenance of the Project, and furnish its comments within 7 (seven) days from receipt of such reference from the Government.

## **5. Construction Period**

- 5.1 In respect of the Drawings, Proposals, Documents received by the Engineer for its review and comments during the Construction Period, the provisions of Paragraph 4 shall apply, *mutatis mutandis*.
- 5.2 The Engineer shall review the monthly progress report furnished by the Concessionaire and send its comments thereon to the Government and the Concessionaire within 7 (seven) days of receipt of such report.
- 5.3 The Engineer shall inspect the Construction Works, procurement and installation of equipment, electronic equipment, software development, IT infrastructure including hardware and software and the Project sites once every month, preferably after receipt of the monthly progress report from the Concessionaire, but before the 20<sup>th</sup> (twentieth) day of each month in any case, and make out a report of such inspection (the “**Inspection Report**”) setting forth an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of Construction Works, equipment, electronic equipment, IT infrastructure including hardware and software with the Scope of the Project and the Specifications and Standards. In a separate section of the Inspection Report, the Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in the construction and equipment of the Project. The Inspection Report shall also contain a review of the maintenance of the existing driving test tracks and existing equipment and installations in conformity with the provisions of the Agreement. The Engineer shall send a copy of its Inspection Report to the Government and the Concessionaire within 7 (seven) days of the inspection.
- 5.4 The Engineer may inspect the Project more than once in a month if any lapses, defects or deficiencies require such inspections.
- 5.5 For determining that the Construction Works conform to Specifications and Standards, the Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests on a sample basis, to be specified by the Engineer in accordance with Good Industry Practice for quality assurance. The Engineer shall issue necessary directions to the Concessionaire for ensuring that the tests are

conducted in a fair and efficient manner, and shall monitor and review the results thereof. The provisions of this Clause shall apply *mutatis mutandis* to equipment, electronic equipment, IT infrastructure including hardware and software.

- 5.6 The sample size of the tests, to be specified by the Engineer under Paragraph 5.5, shall comprise 20% (twenty per cent) of the quantity or number of tests prescribed for each category or type of tests in Quality Control Manuals; provided that the Engineer may, for reasons to be recorded in writing, increase the aforesaid sample size by up to 10% (ten per cent) for certain categories or types of tests.
- 5.7 The timing of tests referred to in Paragraph 5.5, and the criteria for acceptance/ rejection of their results shall be determined by the Engineer in accordance with the Quality Control Manuals and Indian Standards. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice.
- 5.8 In the event that the Concessionaire carries out any remedial works for removal or rectification of any defects or deficiencies, the Engineer shall require the Concessionaire to carry out, or cause to be carried out, tests or determine that such remedial works have brought the Construction Works, equipment, electronic equipment, IT infrastructure including hardware and software into conformity with the Specifications and Standards, and the provisions of this Paragraph 5 shall apply to such tests.
- 5.9 In the event that the Concessionaire fails to achieve any of the Project Milestones, the Engineer shall undertake a review of the progress of construction, procurement and installation of equipment, electronic equipment, IT infrastructure including hardware and software and identify potential delays, if any. If the Engineer shall determine that completion of the Project is not feasible within the time specified in the agreement, it shall require the Concessionaire to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Concessionaire forthwith, the Engineer shall review the same and send its comments to the Government and the Concessionaire forthwith.
- 5.10 If at any time during the Construction Period, the Engineer determines that the Concessionaire has not made adequate arrangements for the safety of workers in the zone of construction or that any work is being carried out in a manner that threatens the safety of the workers, it shall make a recommendation to the Government forthwith, identifying the whole or part of the Construction Works that should be suspended for ensuring safety in respect thereof.
- 5.11 In the event that the Concessionaire carries out any remedial measures to secure the safety of suspended works, it may, by notice in writing, require the Engineer to inspect such works, and within 3 (three) days of receiving such notice, the Engineer shall inspect the suspended works and make a report to the Government forthwith, recommending whether or not such suspension may be revoked by the Government.
- 5.12 If suspension of Construction Works is for reasons not attributable to the Concessionaire, the Engineer shall determine the extension of dates set forth in the Project Completion Schedule, to which the Concessionaire is reasonably entitled, and shall notify the Government and the Concessionaire of the same.
- 5.13 The Engineer shall carry out or cause to be carried out, all the Tests specified in Schedule-I and issue a Completion Certificate or Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 5.13 and all matters incidental thereto, the Engineer shall act under and in accordance with the provisions of Article 14 and Schedule-I.
- 5.14 Upon reference from the Government, the Engineer shall make a fair and reasonable assessment of the costs of providing information, works and services as set forth in Article 16 and certify the reasonableness of such costs for payment by the Government to the Concessionaire.

5.15 The Engineer shall aid and advise the Concessionaire in preparing the Maintenance Manual.

## **6 Operation & Maintenance**

6.1 The Engineer shall review the annual Maintenance Programme furnished by the Concessionaire and send its comments thereon to the Government and the Concessionaire within 15 (fifteen) days of receipt of the Maintenance Programme.

6.2 The Engineer shall review the monthly status report furnished by the Concessionaire and send its comments thereon to the Government and the Concessionaire within 7 (seven) days of receipt of such report.

6.3 The Engineer shall inspect the Project Sites once every month, preferably after receipt of the monthly status report from the Concessionaire, but before the 20th (twentieth) day of each month in any case, and make out an O&M Inspection Report setting forth an overview of the status, quality and safety of O&M including its conformity with the Maintenance Requirements. In a separate section of the O&M Inspection Report, the Engineer shall describe in reasonable detail the lapses, defects or deficiencies observed by it in O&M with particular reference to defects and deficiencies. The Engineer shall send a copy of its O&M Inspection Report to the Government and the Concessionaire within 7 (seven) days of the inspection.

6.4 The Engineer may inspect any Project Site more than once in a month, if any lapses, defects or deficiencies require such inspections.

6.5 The Engineer shall in its O&M Inspection Report specify the tests, if any, that the Concessionaire shall carry out, or cause to be carried out, for the purpose of determining that the Project Sites and equipment is in conformity with the Maintenance Requirements. It shall monitor and review the results of such tests and the remedial measures, if any, taken by the Concessionaire in this behalf.

6.6 In respect of any defect or deficiency referred to in Paragraph 3 of Schedule-F, the Engineer shall, in conformity with Good Industry Practice, specify the permissible limit of deviation or deterioration with reference to the Specifications and Standards and shall also specify the time limit for repair or rectification of any deviation or deterioration beyond the permissible limit.

6.7 The Engineer shall determine if any delay has occurred in completion of repair or remedial works in accordance with the Agreement, and shall also determine the Damages, if any, payable by the Concessionaire to the Government for such delay.

6.8 The Engineer shall examine the request of the Concessionaire for closure of any lane(s) of the carriageway for undertaking maintenance/repair thereof, keeping in view the need to minimize disruption in traffic and the time required for completing such maintenance/repair in accordance with Good Industry Practice. It shall grant permission with such modifications, as it may deem necessary, within 3 (three) days of receiving a request from the Concessionaire. Upon expiry of the permitted period of closure, the Engineer shall monitor the re-opening of such lane(s), and in case of delay, determine the Damages payable by the Concessionaire to the Government under Clause 17.7.

6.9 The Engineer shall monitor and review the curing of defects and deficiencies by the Concessionaire as set forth in Clause 19.4.

6.10 In the event that the Concessionaire notifies the Engineer of any modifications that it proposes to make to the Project / Project Sites, the Engineer shall review the same and send its comments to the Government and the Concessionaire within 15 (fifteen) days of receiving the proposal.

## **7 Termination**

- 7.1 At any time, not earlier than 90 (ninety) days prior to Termination but not later than 15 (fifteen) days prior to such Termination, the Engineer shall, in the presence of a representative of the Concessionaire, inspect the Project Sites for determining compliance by the Concessionaire with the Divestment Requirements set forth in Clause 38.1 and, if required, cause tests to be carried out at the Concessionaire's cost for determining such compliance. If the Engineer determines that the status of the Project Sites is such that its repair and rectification would require a larger amount than the sum set forth in Clause 39.2, it shall recommend retention of the Performance Security beyond the specified period.
- 7.2 The Engineer shall inspect the Project Highway once in every 15 (fifteen) days during a period of 90 (ninety) days after Termination for determining the liability of the Concessionaire under Article 39, in respect of the defects or deficiencies specified therein. If any such defect or deficiency is found by the Engineer, it shall make a report in reasonable detail and send it forthwith to the Government and the Concessionaire.

## **8 Determination of costs and time**

- 8.1 The Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.
- 8.2 The Engineer shall determine the period, or any extension thereof, that is required to be determined by it under the Agreement.

## **9 Assistance in Dispute resolution**

- 9.1 When called upon by either Party in the event of any Dispute, the Engineer shall mediate and assist the Parties in arriving at an amicable settlement.
- 9.2 In the event of any disagreement between the Parties regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on good industry practice and authentic literature.

## **10 Other duties and functions**

The Engineer shall perform all other duties and functions specified in the Agreement.

## **11 Miscellaneous**

- 11.1 The Engineer shall notify its programme of inspection to the Government and to the Concessionaire, who may, in their discretion, depute their respective representatives to be present during the inspection.
- 11.2 A copy of all communications, comments, instructions, Drawings or Documents sent by the Engineer to the Concessionaire pursuant to this TOR, and a copy of all the test results with comments of the Engineer thereon shall be furnished by the Engineer to the Government forthwith.
- 11.3 The Engineer shall obtain, and the Concessionaire shall furnish in two copies thereof, all communications and reports required to be submitted, under this Agreement, by the Concessionaire to the Engineer, whereupon the Engineer shall send one of the copies to the Government along with its comments thereon.
- 11.4 The Engineer shall retain at least one copy each of all Drawings, proposals and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.

- 115 Upon completion of its assignment hereunder, the Engineer shall duly classify and list all Drawings, Documents, Proposals, results of tests and other relevant records, and hand them over to the Government or such other person as the Government may specify, and obtain written receipt thereof. Two copies of the said document shall also be furnished in micro film form or in such other medium as may be acceptable to the Government.

**SCHEDULE –R**  
(See Clause 27.1.1)

**USER FEE & CONCESSIONAIRE'S SHARE IN USER FEE**

From Commercial Operations Date (COD), the Concessionaire shall have the right to collect and appropriate User Fee {i.e. an amount over and above the fee quoted by the Bidder, considering the Government Fee (as stipulated in the Motor Vehicle Act) and the share of Punjab State Transport Society (for the initial investment made on the construction of Automated Driving Test Tracks Centres from the Users, for conducting the driving tests for 2-Wheelers and 3/4 Wheelers)}.

The Concessionaire's Share in User Fee for conducting Driving Tests for 3/4 Wheelers and both type of vehicles (2 Wheeler and 4 Wheeler) shall be based on the below mentioned formula:

2-Wheeler = Rs X per testing

3/4 Wheelers = Rs X + 40 per testing

2-Wheeler and 3/4 Wheelers = Rs X + 80 per testing

\*The amount shall be rounded off to nearest Rs 10.

The Concessionaire's Share in User Fee shall be increased at the rate of 5% every year over the previous share.

After considering the mandatory Government Fee (as stipulated in the Motor Vehicle Act), the Government shall fix/ notify the User Fee to be charged from the Users for different categories of vehicles.

Here, the Concessionaire shall collect, from the User, the notified amount (i.e. User Fee) and distribute the amount under following heads:

- (i) Government Fee (as per the Motor Vehicle Act);
- (ii) Concessionaire Share in User Fee, to be retained by Concessionaire (as quoted by the Successful Bidder); and
- (iii) The balance share to be transferred to Punjab State Transport Society.

**SCHEDULE- S**  
**DELETED**

**SCHEDULE -T**  
*(See Clause 33.2.1)*

**PANEL OF CHARTERED ACCOUNTANTS**

**1 Panel of Chartered Accountants**

Pursuant to the provisions of Clause 33.2.1 of the Agreement, the Government and the Concessionaire shall prepare a mutually agreed panel of 10 (ten) reputable firms of Chartered Accountants having their registered offices in India (the "**Panel of Chartered Accountants**"). The criteria for preparing such Panel and the procedure to be adopted in this behalf shall be as set forth in this Schedule-T.

**2 Invitation for empanelment**

2.1 The Government shall invite offers from all reputable firms of Chartered Accountants who fulfil the following eligibility criteria, namely:

- (a) the firm should have conducted statutory audit of the annual accounts of at least one hundred companies registered under the Companies Act, 1956, of which at least ten should have been public sector undertakings;
- (b) the firm should have at least 5 (five) practicing Chartered Accountants on its rolls, each with a minimum experience of ten years in the profession;
- (c) the firm or any of its partners should not have been disqualified or black-listed by the Comptroller and Auditor General of India or the Government; and
- (d) the firm should have an office in the State or in an adjacent State with at least 2 (two) practicing Chartered Accountants on its rolls in such State.

2.2 Interested firms meeting the eligibility criteria shall be required to submit a statement of their capability including the bio-data of all the practicing Chartered Accountants on its rolls. In particular, each firm shall be required to furnish year-wise information relating to the names of all the companies with an annual turnover exceeding Rs.25,00,00,000 (Rs. twenty five crore) whose annual accounts were audited by such firm in any of the preceding 5 (five) Accounting Years.

**3 Evaluation and selection**

3.1 The information furnished by each firm shall be scrutinized and evaluated by the Government and 1 (one) point shall be awarded for each annual audit of the companies specified in Paragraph 2.2 above. (For the avoidance of doubt, a firm which has conducted audit of the annual accounts of any such company for five years shall be awarded five points).

3.2 The Government shall prepare a list of all the eligible firms along with the points scored by each such firm and 10 (ten) firms scoring the highest points shall be identified and included in the draft Panel of Chartered Accountants.

**4 Consultation with the Concessionaire**

The Government shall convey the aforesaid panel of firms to the Concessionaire for scrutiny and comments, if any. The Concessionaire shall be entitled to scrutinize the relevant records of the Government to ascertain whether the selection of firms has been undertaken in accordance with the prescribed procedure and it shall send its comments, if any, to the Government within 15 (fifteen) days of receiving the aforesaid panel.

**4 Mutually agreed panel**

5.1 The Government shall, after considering all relevant factors including the comments, if any, of the Concessionaire, finalize and constitute a panel of 10 (ten) firms which shall be deemed to be the mutually agreed Panel of Chartered Accountants.

- 5.2 After completion of every five years from the date of preparing the mutually agreed Panel of Chartered Accountants, or such earlier period as may be agreed between the Government and the Concessionaire, a new panel shall be prepared in accordance with the provisions of this Schedule-T.



**SCHEDULE -U**  
*(See Clause 38.3)*  
**VESTING CERTIFICATE**

- 1 The Department of Transport, Government of Punjab (the "**Government**") refers to the Concession Agreement dated..... (the "**Agreement**") entered into between the Government, Punjab State Transport Society (the Confirming Party) and .....(the "**Concessionaire**") for Development of Automated Driving Test Tracks for 2-Wheelers and 3/4 Wheelers" (the "**Project**") on design, build, finance, operate and transfer ("**DBFOT**") basis.
  
- 2 The Government hereby acknowledges compliance and fulfillment by the Concessionaire of the Divestment Requirements set forth in Clause 38.1 of the Agreement on the basis that upon issue of this Vesting Certificate, the Government shall be deemed to have acquired, and all title and interest of the Concessionaire in or about the Project shall be deemed to have vested unto the Government, free from any encumbrances, charges and liens whatsoever.
  
- 3 Notwithstanding anything to the contrary contained hereinabove, it shall be a condition of this Vesting Certificate that nothing contained herein shall be construed or interpreted as waiving the obligation of the Concessionaire to rectify and remedy any defect or deficiency in any of the Divestment Requirements and/or relieving the Concessionaire in any manner of the same.

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_ at .....

AGREED, ACCEPTED AND SIGNED  
For and on behalf of  
CONCESSIONAIRE by:

(Signature)  
(Name)  
(Designation)  
(Address)

SIGNED, SEALED AND DELIVERED  
For and on behalf of  
GOVERNMENT OF PUNJAB by:

(Signature)  
(Name)  
(Designation)  
(Address)

In the presence of:

1.

2.

**SCHEDULE - V**  
*(See Clause 40.3.1)*  
**SUBSTITUTION AGREEMENT**

THIS SUBSTITUTION AGREEMENT is entered into on this the..... day of..... 20.....

**AMONGST**

- 1 **The Department of Transport**, Government of Punjab, having its principal offices at Chandigarh (hereinafter referred to as the "**Government**" which expression shall unless repugnant to the context or meaning thereof include its administrators, successors and assigns);
- 2 Punjab State Transport Society, having its principal offices at Chandigarh (hereinafter referred to as the "**Confirming Party**" which expression shall unless repugnant to the context or meaning thereof include its administrators, successors and assigns);
- 3 .....Limited a company incorporated under the provisions of the Companies Act, 1956 and having its registered office at ....., (hereinafter referred to as the "**Concessionaire**" which expression shall unless repugnant to the context or meaning thereof include its successors and permitted assigns and substitutes);
- 4 .....(name and particulars of Lenders' Representative) and having its registered office at ....., acting for and on behalf of the Senior Lenders as their duly authorised agent **with** regard to matters arising out of or in relation to this Agreement (hereinafter referred to as the "**Lenders' Representative**", which expression shall unless repugnant to the context or meaning thereof include its successors and substitutes);

**WHEREAS:**

- (A) The Government has entered into a Concession Agreement dated..... with the Concessionaire (the "**Concession Agreement**") for Development of Automated Driving Test Track Centres for 2-Wheelers and 3/4 Wheelers" (the "**Project**") in the State on design, build, finance, operate and transfer basis ("**DBFOT**"), and a copy of which is annexed hereto and marked as Annex-A to form part of this Agreement.
- (B) Senior Lenders have agreed to finance the Project in accordance with the terms and conditions set forth in the Financing Agreements.
- (C) Senior Lenders have requested the Government to enter into this Substitution Agreement for securing their interests through assignment, transfer and substitution of the Concession to a Nominated Company in accordance with the provisions of this Agreement and the Concession Agreement.
- (D) In order to enable implementation of the Project including its financing, construction, operation and maintenance, the Government has agreed and undertaken to transfer and assign the Concession to a Nominated Company in accordance with the terms and conditions set forth in this Agreement and the Concession Agreement.

**NOW, THEREFORE**, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

**1 DEFINITIONS AND INTERPRETATION**

**1.1 Definitions**

In this Substitution Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

**"Agreement"** means this Substitution Agreement and any amendment thereto made in accordance with the provisions contained in this Agreement;

**"Financial Default"** means occurrence of a material breach of the terms and conditions of the Financing Agreements or a continuous default in Debt Service by the Concessionaire for a minimum period of 3 (three) months;

**"Lenders' Representative"** means the person referred to as the Lenders' Representative in the foregoing Recitals;

**"Nominated Company"** means a company, incorporated under the provisions of the Companies Act, 1956, selected by the Lenders' Representative, on behalf of Senior Lenders, and proposed to the Government for assignment/transfer of the Concession as provided in this Agreement;

**"Notice of Financial Default"** shall have the meaning ascribed thereto in Clause 3.2.1; and

**"Parties"** means the parties to this Agreement collectively and **"Party"** shall mean any of the Parties to this Agreement individually.

## **1.2 Interpretation**

1.2.1 References to Lenders' Representative shall, unless repugnant to the context or meaning thereof, mean references to the Lenders' Representative, acting for and on behalf of Senior Lenders.

1.2.2 References to Clauses are, unless stated otherwise, references to Clauses of this Agreement.

1.2.3 The words and expressions beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein, and the words and expressions used in this Agreement and not defined herein but defined in the Concession Agreement shall, unless repugnant to the context, have the meaning ascribed thereto in the Concession Agreement.

1.2.4 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Concession Agreement shall apply, *mutatis mutandis*, to this Agreement.

## **2 ASSIGNMENT**

### **2.1 Assignment of rights and title**

The Concessionaire hereby agrees to assign the rights, title and interest in the Concession to, and in favour of, the Lenders' Representative pursuant to and in accordance with the provisions of this Agreement and the Concession Agreement by way of security in respect of financing by the Senior Lenders under the Financing Agreements.

## **3 SUBSTITUTION OF THE CONCESSIONAIRE**

### **3.1 Rights of substitution**

3.1.1 Pursuant to the rights, title and interest assigned under Clause 2.1, the Lenders' Representative shall be entitled to substitute the Concessionaire by a Nominated Company under and in accordance with the provisions of this Agreement and the Concession Agreement.

3.1.2 The Government hereby agrees to substitute the Concessionaire by endorsement on the Concession Agreement in favour of the Nominated Company selected by the Lenders' Representative in accordance with this Agreement. (For the avoidance of doubt, the Senior Lenders or the Lenders' Representative shall not be entitled to operate and maintain the Project as Concessionaire either individually or collectively).

### **3.2 Substitution upon occurrence of Financial Default**

- 3.2.1 Upon occurrence of a Financial Default, the Lenders' Representative may issue a notice to the Concessionaire (the "Notice of Financial Default") along with particulars thereof, and send a copy to the Government for its information and record. A Notice of Financial Default under this Clause 3 shall be conclusive evidence of such Financial Default and it shall be final and binding upon the Concessionaire for the purposes of this Agreement.
- 3.2.2 Upon issue of a Notice of Financial Default hereunder, the Lenders' Representative may, without prejudice to any of its rights or remedies under this Agreement or the Financing Agreements, substitute the Concessionaire by a Nominated Company in accordance with the provisions of this Agreement.
- 3.2.3 At any time after the Lenders' Representative has issued a Notice of Financial Default, it may by notice require the Government to suspend all the rights of the Concessionaire and undertake the operation and maintenance of the Project in accordance with the provisions of Article 36 of the Concession Agreement, and upon receipt of such notice, the Government shall undertake Suspension under and in accordance with the provisions of the Concession Agreement. The aforesaid Suspension shall be revoked upon substitution of the Concessionaire by a Nominated Company, and in the event such substitution is not completed within 180 (one hundred and eighty) days from the date of such Suspension, the Government may terminate the Concession Agreement forthwith by issuing a Termination Notice in accordance with the provisions of the Concession Agreement; provided that upon written request from the Lenders' Representative and the Concessionaire, the Government may extend the aforesaid period of 180 (one hundred and eighty) days by a period not exceeding 90 (ninety) days. For the avoidance of doubt, the Government expressly agrees and undertakes to terminate the Concession Agreement forthwith, upon receipt of a written request from the Lender's Representative at any time after 240 (two hundred and forty) days from the date of Suspension hereunder.

### **3.3 Substitution upon occurrence of Concessionaire Default**

- 3.3.1 Upon occurrence of a Concessionaire Default, the Government shall by a notice inform the Lenders' Representative of its intention to issue a Termination Notice and grant 15 (fifteen) days time to the Lenders' Representative to make a representation, stating the intention to substitute the Concessionaire by a Nominated Company.
- 3.3.2 In the event that the Lenders' Representative makes a representation to the Government within the period of 15 (fifteen) days specified in Clause 3.3.1, stating that it intends to substitute the Concessionaire by a Nominated Company, the Lenders' Representative shall be entitled to undertake and complete the substitution of the Concessionaire by a Nominated Company in accordance with the provisions of this Agreement within a period of 180 (one hundred and eighty) days from the date of such representation, and the Government shall either withhold Termination or undertake Suspension for the aforesaid period of 180 (one hundred and eighty) days; provided that upon written request from the Lenders' Representative and the Concessionaire, the Government shall extend the aforesaid period of 180 (one hundred and eighty) days by a period not exceeding 90 (ninety) days.

### **3.4 Procedure for substitution**

- 3.4.1 The Government and the Concessionaire hereby agree that on or after the date of Notice of Financial Default or the date of representation to the Government under Clause 3.3.2, as the case may be, the Lenders' Representative may, without prejudice to any of the other rights or remedies of the Senior Lenders, invite, negotiate and procure offers, either by private negotiations or public auction or tenders for the take over and transfer of the Project including the Concession to the Nominated Company upon such Nominated Company's assumption of the liabilities and obligations of the Concessionaire towards the Government under the Concession Agreement and towards the Senior Lenders under the Financing Agreements.
- 3.4.2 To be eligible for substitution in place of the Concessionaire, the Nominated Company shall

be required to fulfill the eligibility criteria that were laid down by the Government for pre-qualify and shortlisting the bidders for award of the Concession; provided that the Lenders' Representative may represent to the Government that all or any of such criteria may be waived in the interest of the Project, and if the Government determines that such waiver shall not have any material adverse effect on the Project, it may waive all or any of such eligibility criteria.

3.4.3 Upon selection of a Nominated Company, the Lenders' Representative shall request the Government to:

- (a) accede to transfer to the Nominated Company the right to construct, operate and maintain the Project in accordance with the provisions of the Concession Agreement;
- (b) endorse and transfer the Concession to the Nominated Company, on the same terms and conditions, for the residual Concession Period; and
- (c) enter into a Substitution Agreement with the Lenders' Representative and the Nominated Company on the same terms as are contained in this Agreement.

3.4.4 If the Government has any objection to the transfer of Concession in favour of the Nominated Company in accordance with this Agreement, it shall within 15 (fifteen) days from the date of proposal made by the Lenders' Representative, give a reasoned order after hearing the Lenders' Representative. If no such objection is raised by the Government, the Nominated Company shall be deemed to have been accepted. The Government thereupon shall transfer and endorse the Concession within 15 (fifteen) days of its acceptance/deemed acceptance of the Nominated Company; provided that in the event of such objection by the Government, the Lenders' Representative may propose another Nominated Company whereupon the procedure set forth in this Clause 3.4 shall be followed for substitution of such Nominated Company in place of the Concessionaire.

### **3.5 Selection to be binding**

The decision of the Lenders' Representative and the Government in selection of the Nominated Company shall be final and binding on the Concessionaire. The Concessionaire irrevocably agrees and waives any right to challenge the actions of the Lenders' Representative or the Senior Lenders or the Government taken pursuant to this Agreement including the transfer/assignment of the Concession in favour of the Nominated Company. The Concessionaire agrees and confirms that it shall not have any right to seek revaluation of assets of the Project or the Concessionaire's shares. It is hereby acknowledged by the Parties that the rights of the Lenders' Representative are irrevocable and shall not be contested in any proceedings before any court or Government and the Concessionaire shall have no right or remedy to prevent, obstruct or restrain the Government or the Lenders' Representative from effecting or causing the transfer by substitution and endorsement of the Concession as requested by the Lenders' Representative.

## **4 PROJECT AGREEMENTS**

### **4.1 Substitution of Nominated Company in Project Agreements**

The Concessionaire shall ensure and procure that each Project Agreement contains provisions that entitle the Nominated Company to step into such Project Agreement, in its discretion, in place and substitution of the Concessionaire in the event of such Nominated Company's assumption of the liabilities and obligations of the Concessionaire under the Concession Agreement.

## **5 TERMINATION OF CONCESSION AGREEMENT**

### **5.1 Termination upon occurrence of Financial Default**

At any time after issue of a Notice of Financial Default, the Lenders' Representative may by a notice in writing require the Government to terminate the Concession Agreement forthwith, and upon receipt of such notice, the Government shall undertake Termination under and in accordance with the provisions of Article 37 of the Concession Agreement.

### **5.2 Termination when no Nominated Company is selected**

In the event that no Nominated Company acceptable to the Government is selected and recommended by the Lenders' Representative within the period of 180 (one hundred and eighty)

days or any extension thereof as set forth in Clause 3.3.2, the Government may terminate the Concession Agreement forthwith in accordance with the provisions thereof.

### **5.3 Realisation of Debt Due**

The Government and the Concessionaire hereby acknowledge and agree that, without prejudice to their any other right or remedy, the Lenders' Representative is entitled to receive from the Concessionaire, without any further reference to or consent of the Concessionaire, the Debt Due upon Termination of the Concession Agreement. For realisation of the Debt Due, the Lenders' Representative shall be entitled to make its claim from the Escrow Account in accordance with the provisions of the Concession Agreement and the Escrow Agreement.

## **6 DURATION OF THE AGREEMENT**

### **6.1 Duration of the Agreement**

This Agreement shall come into force from the date hereof and shall expire at the earliest to occur of the following events:

- (a) Termination of the Agreement; or
- (b) no sum remains to be advanced, or is outstanding to the Senior Lenders, under the Financing Agreements.

## **7 INDEMNITY**

### **7.1 General indemnity**

7.1.1 The Concessionaire will indemnify, defend and hold the Government and the Lenders' Representative harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of any breach by the Concessionaire of any of its obligations under this Agreement or on account of failure of the Concessionaire to comply with Applicable Laws and Applicable Permits.

7.1.2 The Government will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Government to fulfil any of its obligations under this Agreement, materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement or this Agreement, other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Government, its officers, servants and agents.

7.1.3 The Lenders' Representative will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Lenders' Representative to fulfil its obligations under this Agreement, materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement, other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Lenders' Representative, its officers, servants and agents.

### **7.2 Notice and contest of claims**

In the event that any Party hereto receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under Clause 7.1 or in respect of which it is entitled to reimbursement (the "**Indemnified Party**"), it shall notify the other Party responsible for indemnifying such claim hereunder (the "**Indemnifying Party**") within 15 (fifteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, such approval not to be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim, it may conduct the proceedings in the name of the Indemnified Party and shall bear all costs involved in contesting the same. The Indemnified Party shall provide all cooperation and assistance in contesting any claim and shall sign all such writings and documents as the Indemnifying Party may reasonably require.

## **8. DISPUTE RESOLUTION**

### **8.1 Dispute Resolution**

8.1.1 Any dispute difference or claim arising out of or in connection with this agreement, which is not resolved amicably, shall be decided finally by reference to arbitration to a Board of Arbitrators

comprising one nominee of each Party to the dispute, and where the number of such nominee is an even number, the nominees shall elect another person to such Board. Such arbitration shall be held in accordance with provisions of the Arbitration and Conciliation Act, 1996.

- 8.1.2 The Arbitrators shall issue a reasoned award and such award shall be final and binding on the Parties. The venue of arbitration shall be Chandigarh and the language of arbitration shall be English.

**8.2 Adjudication by Punjab Infrastructure Regulatory Authority**

Notwithstanding anything to the contrary contained in Clause 8.1, all Disputes shall, instead of reference to arbitration under Clause 8.1, be adjudicated upon by the Punjab Infrastructure Regulatory Authority in accordance with the provisions of the Punjab Infrastructure (Development and Regulation) Act, 2002 and all references to Dispute Resolution Procedure shall be construed accordingly so long as the Authority is duly constituted and functioning. For the avoidance of doubt, the Parties hereto agree that the adjudication hereunder shall not be final and binding until an appeal against such adjudication has been decided by the Punjab & Haryana High Court, or no such appeal has been preferred within the time specified in the Applicable Law.

**9 MISCELLANEOUS PROVISIONS**

**9.1 Governing law and jurisdiction**

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the Courts at Chandigarh shall have jurisdiction over all matters arising out of or relating to this Agreement.

**9.2 Waiver of sovereign immunity**

The Government unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Government with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

**9.3 Priority of agreements**

In the event of any conflict between the Concession Agreement and this Agreement, the provisions contained in the Concession Agreement shall prevail over this Agreement.

**9.4 Alteration of terms**

All additions, amendments, modifications and variations to this Agreement shall be effectual and binding only if in writing and signed by the duly authorised representatives of the Parties.

**9.5 Waiver**

**9.5.1 Waiver by any Party of a default by another Party in the observance and performance of any provision of or obligations under this Agreement:**

- (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- (b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and
- (c) shall not affect the validity or enforceability of this Agreement in any manner.

9.5.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to another Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

**9.6 No third party beneficiaries**

This Agreement is solely for the benefit of the Parties and no other person or entity shall have any rights hereunder.

**9.7 Survival**

9.7.1 Termination of this Agreement:

- (a) shall not relieve the Parties of any obligations hereunder which expressly or by implication survive termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such termination or arising out of such termination.

9.7.2 All obligations surviving the cancellation, expiration or termination of this Agreement shall only survive for a period of 3 (three) years following the date of such termination or expiry of this Agreement.

**9.8 Severability**

If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to dispute resolution under Clause 8 of this Agreement or otherwise.

**9.9 Successors and assigns**

This Agreement shall be binding on and shall inure to the benefit of the Parties and their respective successors and permitted assigns.

**9.10 Notices**

All notices or other communications to be given or made under this Agreement shall be in writing, shall either be delivered personally or sent by courier or registered post with an additional copy to be sent by facsimile or e-mail. The address for service of each Party, its facsimile number and e-mail address are set out under its name on the signing pages hereto. A notice shall be effective upon actual receipt thereof, save that where it is received after 5.30 (five thirty) p.m. on any day, or on a day that is a public holiday, the notice shall be deemed to be received on the first working day following the date of actual receipt. Without prejudice to the foregoing, a Party giving or making a notice or communication by facsimile or e-mail shall promptly deliver a copy thereof personally, or send it by courier or registered post to the addressee of such notice or communication. It is hereby agreed and acknowledged that any Party may by notice change the address to which such notices and communications to it are to be delivered or mailed. Such change shall be effective when all the Parties have notice of it.

**9.11 Language**

All notices, certificates, correspondence and proceedings under or in connection with this Agreement shall be in English.

**9.12 Authorised representatives**



Each of the Parties shall by notice in writing designate their respective authorised representatives through whom only all communications shall be made. A Party hereto shall be entitled to remove and/or substitute or make fresh appointment of such authorised representative by similar notice.

**9.13 Original Document**

This Agreement may be executed in four counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

**IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.**

THE COMMON SEAL OF CONCESSIONAIRE has been affixed pursuant to the resolution passed by the Board of Directors of the Concessionaire at its meeting held on the .....day of ....., 20.... hereunto affixed in the presence of ....., Director, who has signed these presents in token thereof and ....., Company Secretary / Authorised Officer who has countersigned the same in token thereof in the presence of<sup>s</sup>:

SIGNED, SEALED AND DELIVERED  
For and on behalf of  
THE GOVERNMENT OF PUNJAB by:

(Signature)  
(Name)  
(Designation (Address))  
(Fax No.)  
(e-mail address)

SIGNED, SEALED AND  
DELIVERED  
For and on behalf of  
THE PUNJAB STATE  
TRANSPORT SOCIETY by:

SIGNED, SEALED AND DELIVERED  
For and on behalf of  
SENIOR LENDERS by the Lenders' Representative:

(Signature)  
(Name)  
(Designation)  
(Address)  
(Fax No.)  
(E-mail address)

(Signature)  
(Name)  
(Designation)  
(Address)  
(Fax No.)  
(E-mail address)

In the presence of:

1.

2.

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