EXHIBIT "A"

SCOPE OF SERVICES

STATISTICS TRAFFIC DATA COLLECTION

F.P.I.D. NO. 202073 1 12 07

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This Exhibit forms an integral part of the Agreement which provides for services by the CONSULTANT in connection with Districtwide Statistics Traffic Data Collection.

1.0 OBJECTIVE

The primary objective of this contract is to provide professional and technical services to the FDOT Transportation Statistics Staff (the DEPARTMENT) in relation to data collection and data reporting for the Traffic Characteristics Inventory (TCI) and Roadway Characteristics Inventory (RCI). The activities to be performed by the CONSULTANT may include, but are not limited to the following:

(1) Average Daily Traffic (ADT) and Vehicle Classification Surveys for the District Routine Annual Traffic Count Program
(2) Traffic surveys and miscellaneous tasks to meet project specific traffic data collection requirements
(3) Mapping and Graphics Applications
(4) Traffic data analyses and reports
(5) Data entry for TCI or RCI
(6) Traffic Monitoring Site development and operation
(7) Furnish, install, and maintain Traffic Monitoring Sites

2.0 RESPONSIBILITIES OF THE DEPARTMENT

2.1 PROJECT MANAGEMENT

2.1.1 The DEPARTMENT will provide a Project Manager who will be responsible for the day-to-day management of this contract, including coordination with the CONSULTANT pertaining to the development and execution of Task Work Assignments.

2.1.2 The DEPARTMENT will direct the CONSULTANT's work through Task Work Assignments that describe the project requirements for which CONSULTANT services are required.

2.1.3 The DEPARTMENT will designate a Professional Services Contract Manager who shall represent the DEPARTMENT in all matters pertaining to contract administration.

2.2 SUPPORTING DOCUMENTATION

The DEPARTMENT will furnish the CONSULTANT the following material:

(1) Survey Processing Software (SPS)
(2) Traffic Monitoring Handbook CD
(3) Florida Traffic Information DVD

3.0 RESPONSIBILITIES OF THE CONSULTANT

3.1 SERVICES

3.1.1 The CONSULTANT shall perform the required services and complete each Task Work Assignment within the specified time limits, while maintaining the required degree of accuracy.

3.1.2 The CONSULTANT shall provide all equipment, materials, accessories, transportation and incidentals that are required to perform the services.

3.1.3 The CONSULTANT shall be responsible for assuring that an adequate number of skilled personnel are available for the duration of this contract.

3.1.4 The CONSULTANT will be required to have the capabilities of communications with the DEPARTMENT through electronic email (E-Mail), mobile phone, GoToMeeting, and File Transfer Protocol site capabilities.

3.1.5 The CONSULTANT shall complete all work performed under this contract in accordance with current DEPARTMENT Policies, Procedures, Guidelines, Standards, and other information applicable to the services.

3.1.6 The CONSULTANT shall perform all tasks in accordance with specified District Court of Appeals Rules, applicable Florida Statutes, and other State laws and policies, including applicable Homeland Security guidelines.

3.1.7 The CONSULTANT shall correct or revise, without additional compensation, any work product that is found to be in error or deficient.

3.1.8 The CONSULTANT shall obtain any necessary permits.

3.2 PROJECT MANAGEMENT

3.2.1 The CONSULTANT shall provide a Project Manager who will be the primary point of contact on issues related to the scope, scheduling, man-power coordination, negotiation of task man-hours

and completion of Task Work Assignments.

3.2.2 The CONSULTANT may be requested to assist in preparing the Task Work Assignments. The CONSULTANT and the DEPARTMENT shall discuss the requirements of the task as well as the number of man-hours required to complete the work. Task Work Assignments may include:

(1) Type of study
(2) Beginning date
(3) Ending date
(4) Task costs
(5) Location of study
(6) Traffic count station numbers
(7) Work schedules
(8) Staffing
(9) Equipment
(10) Documentation
(11) Product submittal
(12) Invoicing

3.2.3 Progress reports and transmittal lists are vital to effective management of the project, and shall be provided as requested by the DEPARTMENT.

3.2.4 Should the DEPARTMENT determine that the materials, equipment, expertise or number of staff assigned for a specific task are inadequate, the DEPARTMENT may coordinate with the CONSULTANT to remedy the situation so as to ensure the timely completion of the work with the required degree of accuracy.

3.3 SAFETY

The CONSULTANT is responsible for assuring that all personnel adhere to the safety procedures as described in the TRAFFIC MONITORING HANDBOOK.

4.0 KEY PERSONNEL

The CONSULTANT's work will be performed and directed by key personnel identified in the technical/fee proposal presentation of the CONSULTANT.

The CONSULTANT shall provide sufficient staff, either the requested staff person or acceptable staff, at defined levels of expertise as agreed to by the DEPARTMENT. Prior to any changes in the indicated personnel, a request must be submitted to the DEPARTMENT for review and approval.

The CONSULTANT may be required to assign a Task Manager to coordinate activities associated with assigned tasks.

Equivalent Single Axle Load (ESAL) Reports shall be prepared by a certified individual, or signed and sealed by a Professional Engineer.

5.0 SUBCONTRACTING SERVICES

All sub-consultants must be pre-qualified by the DEPARTMENT to perform all work assigned to them.

A formal contract amendment is required to use a sub-consultant who is not specifically listed in the contract.

Additional sub-consultants with specialized areas of expertise may be required by the DEPARTMENT or requested by the CONSULTANT to complete specific Task Work Assignments.

6.0 MEETINGS

During the contract period, a number of meetings may be necessary between appropriate CONSULTANT and DEPARTMENT personnel. Meetings may be scheduled at the request of either party, as needed. These meetings may include, but are not limited to, the following purposes:

(1) To provide documentation
(2) Review of proposed task assignments, scheduling needs, and personnel resources
(3) Review of the financial and legal administration of the contract
(4) Address any questions the CONSULTANT or DEPARTMENT may have
(5) Resolve unforeseen problems

7.0 WORK FLOW

Work will not commence until a Task Work Assignment is issued.

The CONSULTANT shall perform all required duties and document all work within time deadlines specified in the Task Work Assignment.

Scheduling of counts may be included in the Task Work Assignment, which is subject to negotiation as the overall count program progresses.

Services may be performed in conjunction with the Central Office Transportation Statistics staff and/or District personnel, or performed independently by the CONSULTANT and submitted to the DEPARTMENT.

8.0 TASKS TO BE PERFORMED

8.1 UNIT-BASED TASKS

All work covered under this type will have a unit cost associated with each task to be performed. During contract negotiations, the CONSULTANT and DEPARTMENT will agree to a unit cost for each of the traffic data collection activities that fall into this category. These unit costs will be used throughout the duration of this Agreement. The CONSULTANT may be required to conduct the following unit-based activities:

8.1.1 Average Daily Traffic (ADT) Counts

(1) Twenty-four (24) Hour
(2) Forty-eight (48) Hour
(3) Seventy-two (72) Hour
(4) Seven (7) Day
(5) Fourteen (14) Day

8.1.2 Vehicle Classification Surveys

Unless otherwise specified, all vehicle classification surveys must be conducted using the 15 class Scheme F.

(1) Twenty-four (24) Hour
(2) Forty-eight (48) Hour
(3) Seventy-two (72) Hour
(4) Seven (7) Day
(5) Fourteen (14) Day

8.1.3 Intersection Turning Movement Counts (TMC) and Pedestrian Counts

8.1.3.1 The CONSULTANT may be required to conduct TMCs and/or Pedestrian Counts along with a 24-hour ADT approach count for each leg of the intersection, as set forth in the MANUAL ON UNIFORM TRAFFIC STUDIES (MUTS).

8.1.3.2 Approach ADTs and TMCs will be conducted as required by the Task Work Order.

8.1.3.3 Turning movement and/or pedestrian counts will be recorded and summarized in 15-minute intervals with hourly and grand totals for each location. Compatible DEPARTMENT software must be used.

8.1.3.4 The CONSULTANT will provide a condition diagram and an intersection schematic showing the counts on a basic geometric layout, including the location of all counting personnel and equipment. The format will be specified in the Task Work Assignment.

8.1.3.5 The CONSULTANT may be required to provide a SPS.INV file of the corridor, electronic files, and documentation.

8.1.4 Portable Traffic Monitoring Site (PTMS) Inspections

8.1.4.1 The CONSULTANT may be required to provide a qualified technician to inspect PTMS and provide a hard and/or electronic inspection report to the DEPARTMENT. See the TRAFFIC MONITORING HANDBOOK for procedure and equipment details.

8.1.4.2 The DEPARTMENT may request a 48-hour count following a repair or installation, as part of the inspection requirements.

8.1.5 Bridge Closing/Boat Volume Surveys

8.1.5.1 The CONSULTANT may be required to conduct a 14-day volume count of the traffic crossing over or under a specified bridge.

8.1.5.2 Volume data will be collected in 15-minute intervals and summarized according to U.S. Coast Guard procedures.

8.1.6 Speed Surveys

Spot Speed Studies, as set forth in the MANUAL ON UNIFORM TRAFFIC STUDIES (MUTS), may be required.

8.1.7 Vehicle Classification and Speed Surveys

The DEPARTMENT may request speed data along with Vehicle Classification. All vehicle classification surveys must be conducted using the 15 class Scheme F. Speed studies should be taken on a typical weekday (Tuesday, Wednesday, Thursday). Speed data should be collected for a 24 hour period in both directions and must be in Excel format (date, time, speed). The results presented shall document the following for each direction of travel as well as combined:

a. 85^{th} percentile
b. 50^{th} percentile
c. Average Speed
d. Posted speed
e. Total number of vehicles
f. 10 mph pace
g. Number of vehicles in pace
h. Percent of total vehicles in (10 mph pace)

(1) Twenty-four (24) Hour
(2) Forty-eight (48) Hour
(3) Seventy-two (72) Hour
(4) Seven (7) Day
(5) Fourteen (14) Day

8.2 PROJECT-SPECIFIC TASKS

The CONSULTANT may be required to conduct project specific activities for which the price must be negotiated when the Task Work Assignment is written. The types of work that fall under this category may include:

(1) Mapping and Graphics Applications using Arcview, Microstation, MS Office Suite, or other software
(2) Traffic and Highway data collection
(3) Traffic and/or highway data analysis and reports
(4) Data entry for TCI or RCI
(5) Origin-destination surveys
(6) Travel time and delay surveys
(7) Trip generation tables
(8) Saturation flow rates
(9) Parking
10) Accident/safety
(11) Traffic conflicts
(12) Public transportation surveys
(13) Computer Assisted Drafting and Design (CADD) related duties
(14) Geographic Information System (GIS) work
(15) Technical support
(16) Technical in-house training
(17) Legal proceedings
(18) Project Traffic Forecasting
(19) Traffic Breaks
(20) Level of Service (LOS) Breaks
(21) Intelligent Transportation System (ITS)
(22) Strategic Intermodal System (SIS)
(23) Development of Traffic Monitoring Site plans for inclusion in highway construction projects---Telemetered Traffic Monitoring Site (TTMS), Portable Traffic Monitoring Site (PTMS), Weigh-in-Motion (WIM), Remote Traffic Microwave Sensor (RTMS) and other non-intrusive devices
(24) Traffic Monitoring Site inventory, inspection, and minor off-road upgrades or repair
(25) Other Planning or Traffic Operations Studies
(26) Furnish, install, maintain and operate Traffic Monitoring Sites.

8.2.1 TRAFFIC MONITORING SITES

At the Department's option, the Consultant may be required to install, trouble-shoot, repair, upgrade, maintain, and operate traffic monitoring sites at various locations throughout District One. Three types of traffic monitoring sites are addressed. They are described as follows:

(1) Portable Traffic Monitoring Site (PTMS)

PTMS sites will have piezo-loop-piezo, loop-piezo-loop, loop-loop, loop, or other configuration. They will not be permanently equipped with a traffic counter and will have no power or phone connections. The sites will have traffic volume, classification, speed, or other data collection capability depending upon the configuration.

(2) Remote Traffic Microwave Sensor (RTMS)

RTMS sites will have a non-intrusive (not in the pavement) radar side-fired traffic sensor which detects presence and measures traffic parameters in multiple independent lanes. They may operate continuously and must be able to collect volume, speed, presence, and occupancy data in up to eight discreet user-defined detection zones up to 200' away. Output information is provided via contact pairs. Data may be gathered via telemetry.

(3) Other Non-Intrusive Traffic Monitoring Site

The Department may incorporate other non-intrusive traffic monitoring sites into its traffic data collection program.

8.2.1.1 UNIFORM CONFIGURATION DRAWINGS AND DOCUMENTS

The Consultant is required to prepare and submit to the Department proposed uniform configuration drawings and documents for each type of site before commencing any work. Each drawing should be properly labeled and should show typical sensor layouts, conduit runs, pull boxes, poles, cabinets, lane numbering schemes, and electronic component placement within the cabinets (traffic counter, modem, lightning protection, battery, etc.). The Department will review and revise as necessary.

All new and upgraded sites will be constructed to conform to these drawings and documents. Any time the Consultant has to perform work at a site, the cabinet will be reworked if necessary to conform to the in-cabinet wiring and component layout for that particular type of site.

8.2.1.2 INSTALLATION OF NEW SITES

The Consultant must complete the installation of each site to meet the task work order deadlines. Any changes must be justified, submitted in writing, and approved in writing by the Department prior to execution of any

alternate schedule. The Consultant will provide as-built drawings and documents for each site after it is constructed.

8.2.1.3 REPAIR, UPGRADE, AND MAINTENANCE OF EXISTING SITES

The Consultant must propose a repair, upgrade and/or maintenance price per site per inspection to ensure that the sites are working accurately. All repair parts shall be separately priced.

8.2.1.4 WORK ZONE SAFETY AND TRAFFIC LANE CLOSURE

The Consultant must provide for nighttime work, work zone safety, and traffic lane closures in accordance with the documents in Section 8.2.1.4 (above) and in consultation with the appropriate Department construction and/or maintenance office if required. The Consultant shall obtain any necessary permits.

8.2.1.5 ACCEPTANCE AND WARRANTY

Each new site must be fully guaranteed by the Consultant for a warranty period of one year from the date of acceptance of the site. Repair work for specific parts of an existing site shall be fully guaranteed by the Consultant for a warranty period of one year from the date of acceptance of the site.

Acceptance of each newly installed, repaired, or upgraded site will be based on compliance with the specifications and special provisions contained in this document. The Department may inspect each site, both while work is being performed and after all work has been completed, to ensure that compliance with specifications is met.

The Consultant will be responsible for all normal warranty actions (equipment failure, required repairs, nighttime work, work zone safety, traffic lane closure, etc.). The Consultant will determine any costs for warranty requirements and include these costs in the installation of new sites and in the repair and upgrade of existing sites.

8.2.1.6 SCOPE MODIFICATION

The Department retains the right to make modifications to this scope to meet changing requirements of the traffic monitoring system and/or traffic data needs. This may include, but is not limited to, Federal Highway Administration (FHWA) requirements, site installation instructions, repair/upgrade requirements, and equipment specifications.

8.2.1.7 DAMAGE OR EQUIPMENT LOSS

Damage or equipment loss due to road maintenance, vandalism, vehicle accidents, weather conditions, acts of God, and/or theft, etc., should be reported immediately to the Department. The Department will direct what

action is to be taken to resolve the issue. Although each situation may require special action, the following shall generally apply:

If damage is caused to a site due to the Department's maintenance program (milling, etc.), the Consultant shall provide a written estimate of the cost of repairs to the Department.

If damage is caused to a site due to vandalism, vehicle accidents, theft, etc., the Department shall be immediately notified. The Consultant shall provide a written estimate of the cost of repairs and documentation (police report at a minimum from the Consultant) describing the nature and cause of the loss/damage to the Department. The Department may conduct further investigation or direct that repairs may be made based on the documentation provided.

8.2.1.8 INSPECTIONS OF TRAFFIC MONITORING SITES

PTMS sites will be inspected as needed. Inspections may include the following:

(1) Inspection should be necessary when:

a. Quarterly (telemetry sites)
b. A loop or piezo is replaced or repaired.
c. Cabinet is replaced.
d. Site will not count, speed, or classify correctly.
e. Cabinet shows visible signs of damage.

(2) Cabinet Inspection:

a. Ensure cabinet is not damaged.
b. Ensure cabinet is sealed to the base (check for water tightness and insect control).
c. Inspect lock assembly and lube.
d. Ensure that identification stickers are in place.
e. Ensure the cabinet has a screen or air filter in place.
f. Ensure that a correct wiring diagram is present.

(3) Cabinet Electrical Inspection:

a. Ensure all terminal screws are tight.
b. Ensure loops and Piezos are on correct terminals and labeled correctly.
c. Inspect cable harnesses for corrosion.
d. Ensure all conduits are sealed with duct seal.

(4) Loop Test:

a. Ensure test equipment is accurate.

b. Test loops with ohmmeter for not more than 3.5 ohms series resistance.
c. Test insulation resistance: Meg test = +100 meg ohms (on new installations only, may be somewhat less on older loops). However, the series ohm test is required on all inspections (new and old loops).

(5) Piezo Inspection:

a. All Piezo output sine waves should be 100 MV (varies with manufacturer and temperature) or greater (both old and new Piezos).
b. Sine wave should not have a negative pulse; only positive.
c. There should not be a + offset voltage at baseline.
d. There should be minimal or no noise at baseline.
e. For resistance test, use a 500 volt meger for +20 meg ohms.
f. For capacitance test, use a multimeter with a farad scale.
g. Resistance and capacitance tests are required quarterly to establish a trend. Capacitance of Piezo should be within +/- 20% suggested by manufacturer.
h. Visually inspect Piezo at road surface for wires showing, insulation defects, or just sticking out of pavement. Piezo should not be installed in the middle of the lane, or extend into two lanes.

(6) Test equipment:

a. Fluke series 190 scope meter or equivalent. Must be able to store sine wave.
b. Volt ohmmeter that has a farad scale for capacitance test.
c. Megometer, 500V, for loop insulation test and Piezo resistance test.
d. Necessary hand tools:
   - Screwdriver and Phillips Screwdriver
   - Set of wrenches 3/8 to 9/16
   - Long nose pliers
   - Kline crimper
   - Set of sockets
   - Terminal lugs (for 16 and 18 gauge wire)
   - Offset pliers (To open the pull box)
   - Wire strippers
e. Ground test meter for initial inspection only. Must read 25 ohms or less.
f. Must have a traffic counter to insure the site will count volume, speed, and classification as the final test.

(7) Technician testing requirements:

a. Must be at least a level one IMSA signal tech or have an electronic background. This is necessary to insure proper test equipment usage.
b. The consultant shall submit a copy of the certificate to the Department.
c. It is very important that the factory installation procedures for Piezos be used exactly as stated. There cannot be any air under the Piezo. If there is an air pocket under the sensor, there will be no compression of the sensor, and therefore there will be a lower or nonexistent output from the piezoelectric sensor. It is this compression that creates the piezoelectric output from the sensor. If there are small pockets under the sensor, some areas will have a very low output where there is air, and others will have high output where there is good compression of the sensor.

(8) Notes:

a. Piezo should not be located in the middle of the lane or in more than one lane.
b. Piezos should be installed parallel to the roadway.
c. Ensure that the correct sealant is used. Recommended materials are AS 475, P6G or G100. If you are not sure what kind to use, call the Department.
d. Do not use the Piezo sealant for the coax part of the Piezo. For the Piezo coax, use the same sealant as for loop installation. Do not use hot tar for either loops or Piezo installation as it will melt the materials rendering them useless.
e. Insure pull boxes have 12” of gravel below the bottom of the pull box.
f. Ensure all loops and Piezos are labeled correctly in pull box.
g. Ensure conduits are proper heights and are sealed.
h. Insure pull box lid has correct name and is bolted down.
i. Ensure the cables are spliced with splitters.
j. Check pull box for cracks.
k. Adhere to the Department’s safety regulations.
l. Leave laminated diagram of traffic monitoring site in the cabinet.
m. Leave inspection log inside the cabinet to show who, when, and why the site was inspected. Include copy of the last test results in the cabinet.
n. Send test results to the Department.

(9) RTMS:

a. Ensure that the RTMS unit is aimed correctly and counting correctly.

9.0 ROADWAY INVENTORY SERVICES

The CONSULTANT may be required to assist the DEPARTMENT in the data entry and the preparation of Straight Line Diagrams (SLDs). Preparation of Straight Line Diagrams will be in accordance with the latest FDOT rules, procedures and standards. The CONSULTANT may be required to assist the DEPARTMENT with the District GIS Basemap (Arc View), Straight-line Diagrammer, Microstation, AutoCad and other mapping activities. All other services to be provided by the CONSULTANT under this contract are to be accomplished in accordance with all applicable guidelines, policies, procedures, and State of Florida laws.

The following types of work elements may be assigned under the terms of this agreement.

9.1 ROADWAY CHARACTERISTICS INVENTORY AND DATA COLLECTION

9.1.1 The CONSULTANT may be required to collect new or verify existing roadway characteristics data on and off the State Highway System in District One. The purpose of this data collection may be the result of recently completed construction projects or as part of the Department's re-inventory schedule.

9.1.2 The data to be collected under this task and the schedule for collection shall be in accordance with Transportation Statistics latest RCI Field and Office Hand books and may include, but is not limited to, the following data characteristics: number of lanes, pavement widths, median types and widths, shoulder types and widths, intersection names and location, bridge number and locations, and other RCI characteristics.

9.2 RAMP INVENTORY

9.2.1 The CONSULTANT may be required to collect new or verify existing data on all entrances and exit ramps on the State Highway System within District One.

9.2.2 The data to be collected under this task may include, but is not limited to, the following data characteristics: length of ramp, number of lanes, pavement width, shoulder type and width, bridges and other RCI characteristics.

9.3 HIGHWAY PERFORMANCE MONITORING SYSTEM (HPMS)

9.3.1 The CONSULTANT may be required to collect new or verify existing data for the Highway Performance Monitoring System on sample roadway segments, which are located on and off of the State Highway System.

9.3.2 The data to be collected under this task may include, but is not limited to, the data characteristics: number of signals, number of stop signs, number of lanes, pavement widths, median types and widths, shoulder types and widths and other HPMS characteristics.

9.3.3 The CONSULTANT will review and analyze HPMS reports from the Department's mainframe database and the Federal Highway Administration guidelines and procedures to determine the extent of data collection necessary to meet DEPARTMENT needs.

10.0 COMPUTER SERVICES

The DEPARTMENT will not be responsible for providing proprietary software packages to the CONSULTANT. Computations based on computer programs other than the DEPARTMENT's must conform to all DEPARTMENT format requirements.

All contractually required documentation will be prepared using software compatible with the DEPARTMENT.

10.1 SURVEY PROCESSING SOFTWARE (SPS)

10.1.1 The CONSULTANT must use SPS to process ADT and Vehicle Classification counts obtained for the Routine Annual Traffic Count Program.

10.1.2 Counting devices must be setup and configured in accordance with the guidelines set forth in the SPS USER MANUAL.

11.0 MATERIALS AND EQUIPMENT

All materials, services, and equipment (including tools and vehicles) must be provided by the CONSULTANT. This includes, but is not limited to: Global Positioning System (GPS) capability, a vehicle equipped with a Distance Measuring Instrument (DMI), measuring wheel, 100-foot cloth measuring tape and other minor tools, sensors, electronics, batteries, solar panels, lightning protection systems, traffic counters, modems, cabinets (including incidentals such as terminal strips, voltage regulators, receptacles, brackets, shelves, keys, locks, etc.), pull boxes, poles, grounding, lightning rods, backplane assemblies, conduit, wiring, cables, connectors, plugs, wiring harnesses, sealant material, splicing material (if necessary), back-fill (if necessary), and/or concrete (if necessary).
The CONSULTANT may select any equipment vendor or combination of vendors to satisfy the requirements of the resulting contract and Department specifications – subject to approval by Department staff. It is the CONSULTANT'S responsibility to pay all subcontractors and material suppliers promptly.

All equipment and materials installed as part of the contract will be considered to be

permanently installed and will become the property of the Department. All equipment serial numbers must be reported to the Department after installation.

All equipment used in the installation, repair, and maintenance of sites will comply with the testing and calibration requirements of the selected equipment vendor, and be acceptable to the Department.

All work, equipment and material must comply with the FDOT *Standard Specifications for Road and Bridge Construction* (latest edition), the FDOT *Design Standards for Design, Construction, Maintenance, and Utility Operations on the State Highway System* (latest edition), the FHWA *Traffic Monitoring Guide* (latest edition), the FHWA *Traffic Detector Handbook* (latest edition), the FHWA *Manual on Uniform Traffic Control Devices* (latest edition), the *Approved Products List*, the FDOT *General Interest Roadway Data* procedure, and any special and/or supplemental provisions not incorporated in the aforementioned documents.

The CONSULTANT will submit an annual certification of all counters prior to beginning the Routine Annual Count Program each year, and prior to putting a new or repaired counter into service. Calibration methodology and documentation must have DEPARTMENT approval, or will be provided by the DEPARTMENT. See the TRAFFIC MONITORING HANDBOOK for additional information.

Traffic counters placed in the field will be clearly marked with the name and telephone number of the CONSULTANT.

At PTMS containing J1 cables, the CONSULTANT's equipment must have the corresponding P1 cable. The CONSULTANT shall not disconnect the J1 cable and connect their counter directly to the back panel.

The DEPARTMENT has the option to approve variances to the documents in this section. The DEPARTMENT reserves the right to accept other products not on the Approved Products List and to approve variances to the Department's specifications and standards. All variances including other products shall be approved in writing by the DEPARTMENT.

12.0 SENSORS

The DEPARTMENT reserves the right to specify the type of sensors used to collect traffic surveys.

12.1 PORTABLE TRAFFIC MONITORING SITES (PTMS)

12.1.1 Where the DEPARTMENT has installed permanent sensors, the CONSULTANT is required to use them unless otherwise directed by the DEPARTMENT.

12.1.2 The CONSULTANT will notify the DEPARTMENT of any problems concerning a PTMS.

12.1.3 A Task Work Assignment may be issued to perform a PTMS inspection at a site where the CONSULTANT has determined that the sensors are not operating properly. The site inspection report will be submitted within a week of its completion, so that the DEPARTMENT can schedule it for repair.

12.1.4 When repairs can be made in a timely fashion, the CONSULTANT may be required to return and obtain a traffic survey at this PTMS.

13.0 SPECIFICATIONS FOR WORK

13.1 GENERAL REQUIREMENTS FOR ROUTINE ANNUAL TRAFFIC COUNTS

ADT Counts and Vehicle Classification Counts will be conducted according to guidelines published by the DEPARTMENT in the TRAFFIC MONITORING HANDBOOK.

13.2 QUALITY ASSURANCE

13.2.1 The CONSULTANT shall avoid collecting data one day prior to, during, or one day after holidays or special events, or as specified in the Task Work Assignment.

13.2.2 Random inspections by the DEPARTMENT personnel may be conducted to verify the CONSULTANT's data collection efforts.

13.2.3 If the Technician determines that a valid survey cannot be obtained as specified, the equipment will not be set until the CONSULTANT has obtained instructions from the DEPARTMENT.

13.2.4 The CONSULTANT will assure that Routine sites (counted by portable sensors) will be counted in the same location each year by using GPS, or an alternate method as approved by the DEPARTMENT.

13.2.5 The CONSULTANT will monitor the traffic data instruments for accurate operation before leaving the site.

13.2.6 The CONSULTANT will record the GPS latitude and longitude coordinates of the counter for a new location.

13.2.7 The CONSULTANT shall be responsible for the professional quality, technical accuracy and other services furnished by the Consultant under this contract. The Consultant shall, without additional compensation, correct or revise any errors and/or omission's and (approved corrections of same) that result from Consultant's error or substandard performance of the service's described in this contract.

13.3 RECOUNTS

13.3.1 The DEPARTMENT reserves the right to reject traffic count surveys that appear to be incorrect. Many times a bad traffic survey can only be detected in the office when the DEPARTMENT analyzes the submitted data.

13.3.2 At the DEPARTMENT's discretion, if a recount confirms the first survey, the CONSULTANT may be paid for both surveys.

13.4 SUBMITTALS

13.4.1 The CONSULTANT shall provide hard copies and/or electronic files, and documentation as required by the Task Work Assignment.

13.4.2 All ADT, Classification and Speed Surveys must be submitted in a format that can be processed by SPS.