

## **30 TERRESTRIAL MOBILE LIDAR**

The CONSULTANT shall perform Terrestrial Mobile LiDAR tasks in accordance with all applicable statutes, manuals, guidelines, standards, handbooks, procedures, and current design memoranda.

In addition to the maps and LiDAR products, the CONSULTANT shall submit all computations and reports to support the mapping. This will include documentation of all decisions reached from meetings, telephone conversations, and site visits.

### **30.1 Mission Planning**

Research and prepare materials necessary for the successful execution of the Mobile LiDAR Mission. This includes but is not limited to route and safety planning, GPS /data acquisition scheduling, weather reports, and site terrain research.

### **30.2 Project Control Point Coordination**

All efforts necessary to coordinate the proper placement of project ground control i.e. base stations, transformation control points, and validation points, supporting the Mobile LiDAR survey.

### **30.3 Mobilization**

Prepare the LiDAR sensor and vehicle for project data collection, and get specialized personnel and equipment on site.

### **30.4 Mobile LiDAR Mission**

Perform site calibrations of LiDAR sensor and collect laser survey data, including any simultaneous base station GPS occupations and operation of any necessary safety equipment.

### **30.5 LiDAR Processing**

Download and post process collected measurement data from Mobile LiDAR vehicle sensors, and any base stations occupied during mission. Analyze Mobile LiDAR measurement points and scan route overlaps. Separate any large point cloud data sets into manageable file sizes with corresponding indexes.

### **30.6 Terrestrial Mobile Photography Processing**

Process, reference, and name digital photographic imagery files collected during Mobile LiDAR mission.

### **30.7 Transformation / Adjustment**

Adjust LiDAR point cloud data to Project Control points. Create point cloud data file(s) in approved digital format. Prepare required reports of precision and

accuracy achieved. If this task is performed by separate firm, or is the final product to be delivered, include effort for Survey Report.

**30.8 Classification / Editing**

Identify and attribute (classify) point cloud data into requested groups. Classify or remove erroneous points.

**30.9 Specific Surface Reporting**

Prepare reports, data and/or graphics of specific surface details such as, but not limited to pavement rutting, bridge structure clearance to roadway surface.

**30.10 Topographic (3D) Mapping**

Produce three dimensional (3D) topographic survey map(s) from collected Mobile LiDAR data. This includes final preparation of Construction Information Management (CIM) deliverable, if applicable.

**30.11 Topographic (2D) Planimetric Mapping**

Produce two dimensional (2D) planimetric map(s) from collected Mobile LiDAR data.

**30.12 CADD Edits**

Perform final edit of graphics for delivery of required CADD files. This includes final presentation of CIM deliverable, if applicable.

**30.13 Data Merging**

Merge Mobile LiDAR survey and mapping files, with other field survey files, and data from other sources.

**30.14 Miscellaneous**

Other tasks not specifically addressed in this document.

**30.15 Field Reviews**

Perform on site review of maps.

**30.16 Technical Meetings**

Attend meetings as required.

**30.17 Quality Control/Quality Assurance**

Establish and implement a QC/QA plan.

**30.18 Supervision**

Supervise all Terrestrial Mobile LiDAR activities. This task must be performed by the project supervisor, a Florida P.S.M.

**30.19 Coordination**

Coordinate with all elements of the project to produce a final product.