CFLHD MAPPING GROUND TOPOGRAPHY AND PLANIMETRIC SPECIFICATIONS

I Collect field data for the preparation of MicroStation® .map, .con & .TIN files. These files require a high degree of accuracy and are used for triangulation, cross section extraction, volume calculations and machine guidance. Data shall be collected according to the following:

(a) Map all break lines, natural and man made features, utilities, etc.;

(1) Measure longitudinally along all natural and man made features and along break lines;

(2) Measure along features at regular intervals and at all terrain breaks so that the distance between recorded observations represents the feature to the required standard of accuracy. Features typically include, but are not limited to;

(a) Edge of roads;
(b) Fences;
(c) Roadway ditches;
(d) Top of roadway cuts;
(e) Toe of roadway fills;
(f) Drainage flow lines;
(g) Ridges;
(h) Edge of water;
(i) Retaining walls;
(j) Culvert inverts;
(k) Manholes;
(l) Utility poles and boxes and;
(m) Evidence of underground utilities.

(3) Measure to the lowest point of overhead utility lines crossing roads;

(a) Engage a competent utility location service to mark underground utilities to be located on the map. The depth of the utility may be required;

(b) Map all breaks and features which vary from the prevailing ground terrain that would affect the overall accuracy of the terrain model;

(4) Assign a unique point code to all break lines according to the most current CFLHD feature code list. Use Begin Line (BL), End Line (EL), On Curve (OC), and Close Figure (CL) codes for linear elements.

(b) Make ground measurements as required to meet the accuracy standard:

(1) Measure sufficient spot elevations to identify high or low/depression areas;

(2) Include all high points, ridge lines, swales, saddles and depressions;

(3) Also depict other locations pertinent to highway engineering, such as:

(a) Road intersections;
(b) Road crests and sags;
(c) Centerline of a road at culvert crossings; and
(d) Flowline of visible culvert inlets and outlets with a spot elevation.

(c) Locate vegetation features such as trees, scrub lines, brush lines and wet areas within the required specifications. Certain species may require detailed location and attributes.

(d) Maintain a vertical and horizontal accuracy of 0.2 foot (0.06 m) for 90% of the measured spot locations/elevations, random ground locations/elevations and break lines;

(e) Maintain a vertical and horizontal accuracy for well defined planimetric features within 0.05 foot (0.03 m) (i.e. edge of road, concrete slabs, curb and gutter and walls).