



Machine Control Position Statement

WHEREAS:

Professional Engineers produce plans showing the position of proposed improvements and specifications detailing the procedures/processes to be utilized in the construction of the project.

WHEREAS:

These plans;

1. Are used to create three-dimensional data used in the operation of GPS guided construction equipment, and
2. Specific events during the construction process.

WHEREAS:

The success of a machine control project is dependant on the quality of the DTM produced to represent the plan and the quality of the project GPS calibration used to control the Machine Guidance system.

THEREFORE:

COPS herein recommends that Professional Engineers state in construction plans and specifications they prepare that Professional Land Surveyors or Engineers must be in responsible charge of the DTM creation and site calibration.

In addition, having appropriate contract language can help avoid costly defense fees when engineering firms are named in a lawsuit involving the use of their plans, yet the firm had nothing to do with the creation of the DTM used by the contractor. Moreover, having appropriate contract language can establish the activities engineering firms will conduct during construction and how firms are to be compensated. During the ACEC Annual Convention in Washington, D.C. earlier this year, ACEC/COPS made a thought provoking presentation aimed at developing language suitable for including in contracts and specifications and on plans to address this growing issue. A draft of what was developed can be found on the following page. ACEC/COPS encourages the membership to review this language, offer comments to improve it, and consider implementation.

Suggested Language for Use in Construction Plans Where Machine Guidance May be Used:

1. These plans are not suitable for machine guidance use or purposes.
2. Should these plans be used to prepare files for machine guidance a Professional Land Surveyor and/or Engineer shall be in responsible charge of Digital Terrain Model (DTM) creation and site calibration.
3. All DTM files used for machine guidance shall be reviewed by the Engineer of Record prior to use.

Suggested Language for Use in Contracts Where Machine Guidance May be Used:

1. Unless specifically stated herein, plans prepared under this agreement are not suitable for machine guidance use or purposes. No guarantee is made that the electronic data systems or file structure used by the firm will be compatible with the electronic systems used by the contractor.
2. Information shown on the permitted plans shall take precedence over the electronic files data.
3. Should plans prepared per the Scope of Services of this agreement be used to prepare files for machine guidance, a Professional Land Surveyor and/or Professional Engineer must be in responsible charge of Digital Terrain Model (DTM) creation and site calibration.
4. All Digital Terrain Model (DTM) files created by someone other than the Engineer of Record and to be used for machine guidance shall be reviewed by the Engineer of Record prior to use.