

Who We Are

Our company collectively combines 50 years of earth moving and Civil Engineering experience to provide you with a data preparation service for 3-D machine control, layout and quantity takeoffs. Daily we use our knowledge, with McGowan-Stauffer, Inc., thereby guaranteeing you that we can combine theory with its real world application.



GPS BASED MACHINE CONTROL AND HOW WE CAN HELP YOU

Technology is constantly changing businesses, including the earth moving business. In recent years there has been a lot of discussion about the use of Global Positioning System (GPS) satellite technology to control the blade elevations of dozers, graders, scrapers and other equipment.

A short summary of how GPS based automatic machine control works: GPS allows a piece of equipment to be located three dimensionally on a job site. The computer, located in that same piece of equipment, then compares its actual 3-D location to a digital terrain model (DTM) of the proposed site. Based on this comparison it then determines whether

to automatically raise or lower the blade. This same system also allows for complete site layout through the use of a "rover" which is similar to a prism pole but it does not require a theodolite.

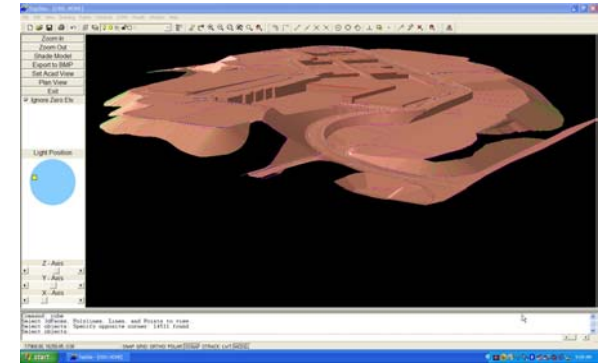
Benefits of GPS based automatic machine control and layout: Numerous benefits occur when using GPS based automatic machine control and layout. Such as:

- ❖ Improved accuracy of finished grades, usually to within +/- .10'.
- ❖ Less reworking grades thought to be completed.
- ❖ Performing your own layout for projects thus eliminating the need for an engineering firm. Also eliminated is down time while waiting on restaking.
- ❖ Moving your company to, what will be, the industry standard of the future. The state of Minnesota already issues digital terrain models as part of their bid documents on certain projects.
- ❖ For monthly billing purposes, you'll have firm quantities of how much dirt has been moved.
- ❖ Reduced Survey Costs

Barriers to automatic machine control: For the small to medium size contractors the major stumbling block is the generation of the digital terrain model (DTM). This model provides the computer with the proposed site plan. This is a stumbling block for several reasons:

- ❖ Lack of in-house personnel with the knowledge to build digital terrain models.
- ❖ CADD files from engineering firms often need to be "cleaned-up" and converted to the proper format for use in automatic machine control.
- ❖ Many Engineering firms will not provide CADD Files, as they would like to perform the layout work.

How we can help you: Building your digital terrain models in a timely manner and at reasonable cost. This will allow your company to take advantage of all the benefits that GPS based machine control and layout have to offer while being economical. You won't have to add personnel and software to the company overhead. Also you will benefit by being able to compete with the larger, more sophisticated, contractors in your area who have their own people to build digital terrain models.



Terrain Modeling Services

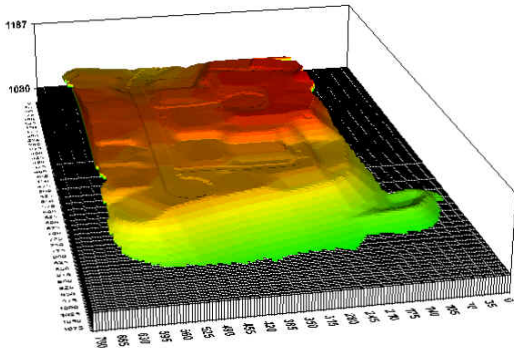
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SERVICES



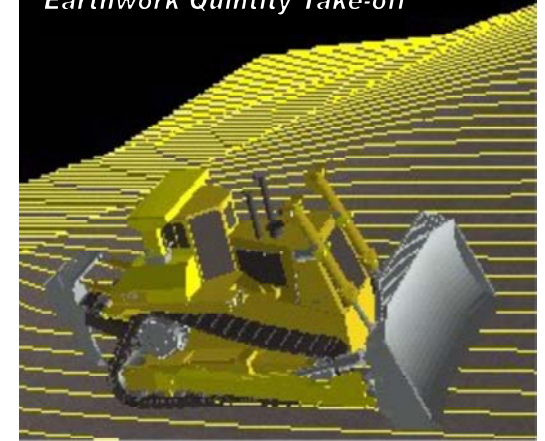
- ❖ Provide digital 3-D surfaces from AutoCAD files and /or construction plans for machine control and grade checking
- ❖ Supply linework and point files for job site stakeout
- ❖ Compute earthwork quantities for bidding and billing purposes



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*Specializing in Site Data Preparation
For Machine Control, Layout and
Earthwork Quantity Take-off*



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