AutoCAD Civil 3D Surface Modeling for Existing Conditions II – 1.5 Hours ±

This is the second of two courses examining the creation of Digital Terrain Models, or Surfaces, in AutoCAD® Civil 3D®, with an emphasis on applying the Civil 3D Surface tools to work with point and breakline data as supplied from a survey.

Civil 3D Points can easily be added to a Surface; effectively filtering and adding only desirable point data facilitates the rapid creation of accurate surfaces. Breaklines are often the most critical pieces of data to be added to a Surface and are, unfortunately, the least well understood. Civil 3D Surface Feature Settings affect the way data selected for a Surface will be processed, and, if ignored, can prevent some data from being utilized at all. These factors often conspire to result in a less-than-accurate surface produced from survey data, while a thorough understanding of how the Civil 3D processes point and breakline data will yield desirable results.

This session follows the processing of surveyed point and breakline data, the creation of a new surface in the project from these data, Surface quality-control and editing, and the merging of the new Surface into the contour-based already produced in the previous class. Participants will get a detailed look at data management in a real project, and how Surface creation interacts with Civil 3D Points, Point Styles and Point Groups.

Learning Objectives

1. Participants will be able to describe the process of creating breakline data from field surveyed information to accurately model existing site features in a Digital Terrain Model as demonstrated in the sample project used in the class.

2. Participants will be able to describe the process of incorporating and controlling surveyed point data in a Digital Terrain Model to accurately model existing site conditions as demonstrated in the sample project used in the class.

3. Participants will be able to describe the process of performing surface editing on Digital Terrain Models to correct deficiencies and accurately model existing site conditions as demonstrated in the sample project used in the class.

4. Participants will be able to describe the process of displaying and labeling contours from Digital Terrain Models to produce existing topography in drawings as demonstrated in the sample project used in the class.