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Joe Birschbach,
Project Engineer,
Cole & Associates

Engineering Firm Completes Projects 15 Percent Faster

Cole & Associates uses Autodesk Civil 3D to make many types of design revisions more quickly, accelerating the pace of projects

Project Summary

Cole & Associates (Cole) provides a full range of civil engineering and land development services, including landscape architecture, planning, and surveying, to clients in the public and private sectors. With clients looking to control their own costs by accelerating the pace of projects, Cole has been quick to embrace innovative and time-saving technology while delivering the highest quality service to each of its clients. Among the first to implement Autodesk Civil 3D, Cole is:

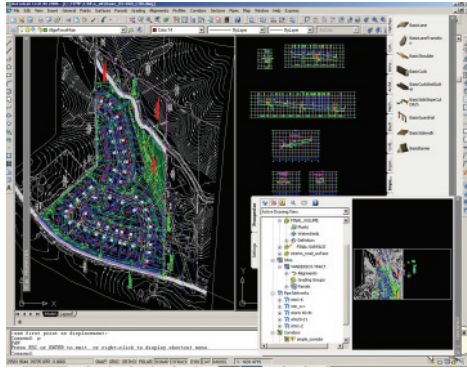
- Making many types of project changes 40 times faster
- Completing projects 15 percent faster
- Outstripping the competition by offering faster service to clients
- Gaining the ability to make machine-ready models during the design phase

The Challenge

Speed Is Critical to Success

From privately funded residential subdivisions to publicly funded roads and everything in between, development projects need to progress quickly and efficiently from initial surveys through construction, or costs can skyrocket. Because of this, clients seeking engineering and development planning services want firms to deliver exceptional service while adhering to aggressive schedules. In order to stay ahead of the competition and satisfy clients' needs, Cole is always looking for ways to deliver better service—as quickly as possible.

“We typically spend a significant amount of time on every project making changes,” says Mark Mosby, CAD manager and a civil designer with Cole. “Emerging model-based civil design tools provide a way to make virtually instantaneous changes to designs without sacrificing accuracy. We decided to adopt a model-based approach sooner rather than later in order to realize maximum competitive advantage.”



The Solution

Better Designs

After exploring the model-based civil design applications available, Cole chose to implement Autodesk Civil 3D because of its compatibility with the firm's other key applications, including Autodesk Land Desktop and Autodesk Survey. However, the firm was also impressed with the streamlined user interface within Autodesk Civil 3D and its ability to intuitively integrate consistent standards into designs.

"Autodesk Civil 3D helps designers to be better drafters without having to think about it," observes Mosby. "Once the styles and standards are set up, all the elements of the design are linked dynamically. That not only saves time, it also allows you to focus on doing a better overall design rather than tedious and time-consuming drafting."

Autodesk Consulting Ensures Smooth Transition

To accelerate its deployment of Autodesk Civil 3D, Cole turned to Autodesk Consulting. Autodesk Consulting began by developing a custom Quick Start program using data from a current project. While walking them through the project in Autodesk Civil 3D, Autodesk Consulting helped Cole's design team explore the application's full range of functionality. In addition, Autodesk Consulting advised Cole on

ways to resolve potential issues and ensure a successful implementation.

"Autodesk Consulting focused on our needs, functions, and workflow," says Mosby. "They didn't waste time with useless demonstrations or canned data sets. We learned about the software much faster than we could have without their help. The Autodesk Consulting team also did an outstanding job of answering our questions and addressing our concerns."

Instantaneous Changes

Cole began its transition to Autodesk Civil 3D just as the firm was entering the design phase of a subdivision development project called the Vanderbos Tract. When finished, the 16-acre development in Wentzville, Missouri, will include 34 single-family and 28 multi-family housing units. The design team simply loaded initial planning information from Autodesk Land Desktop and completed the roadway, storm structure, sewer, and grading portions of the project within Autodesk Civil 3D.

According to Joe Birschbach, Cole's project engineer on the Vanderbos Tract, "The application's ability to dynamically link alignments, profiles, and corridors impressed me immediately. At one point, we found we needed to change several radiuses to achieve the required frontage requirements. Because the application's capabilities eliminated several steps from the process, I was able to make changes happen much faster. This particular edit was basically instantaneous."

Twice as Fast

Looking ahead, Cole plans to use Autodesk Civil 3D on an upcoming major roadway design project in Missouri. In order to familiarize himself with the application, Mosby used Autodesk Civil 3D to create a model of portions of an overpass for the project. "I used it to create several iterations of a wall," he reports. "Before, the process would have taken an entire day, but with Autodesk Civil 3D, it took less than half a day. When I made a change to a profile, the modification was automatically reflected throughout the design."

The Result

Completing Projects 15 Percent Faster

Although Cole only recently turned to Autodesk Civil 3D, the firm sees the application delivering measurable benefits now—and into the future. "With Autodesk Civil 3D, I estimate that we will spend less time on the revision stage of projects, and we will be able to respond to client requests more quickly," says Birschbach. "Looking at the entire timeline of a project from survey to construction, Autodesk Civil 3D has the potential to reduce that up to 15 percent. In this industry, being able to save time is a significant competitive advantage."

On the subject of the application's potential impact on projects beyond the design phase, Mosby adds, "Autodesk Civil 3D helps to support the use of machine-controlled equipment in the construction phase, which is becoming increasingly common. Because Civil 3D data is largely based on dynamically linked 3D models, changes required for models to be used effectively in the field can happen much faster. Being able to load the data more quickly into the earth-moving equipment will be a huge time and cost benefit for both contractors and clients. And it's another way that the application will help us stand out from the competition."

For More Information

To learn more about how Autodesk Civil 3D accelerates the pace of projects, visit us on the web at www.autodesk.com/civil3D.