CAD Estimating:

Meet Indiana's Steve Shrader, The Electronic Electrical Contractor

Steve Shrader is a unique kind of electrical contractor. With a crew of about 60 electricians and foremen, his company, Shrader Industrial Systems Inc., of Muncie and Ft. Wayne, Ind., has no project managers, in the traditional sense!

"Our overhead can run as low as 5 percent," Shrader claims. "We're ahead of the game, thanks to technology." In his design/build electrical contracting work, Shrader has moved from paper to electronics. An integral part of his work is McCormick's CAD Estimating system and AutoCAD.

One Effort, Three Products

Essentially, when Shrader is doing the computer work on a job, he does it once, but he gets three products:

1. A set of drawings for his design-build client and other key people involved in the job, including the electrical engineer who must put a stamp on the drawings;
2. A set of working plans for his jobsite foremen to follow; and
3. An estimate, thanks to the CAD Estimating interface between AutoCAD and McCormick.

"AutoCAD works by creating blocks and layers; a block can represent anything that you would count on a drawing, including outlets, fixtures, and panels," Shrader says. "I then lay out all of the conduit and wire using different layers. Each layer represents a different type of conduit. Then CAD Estimating tells me how much material I need and the lengths and types of wires I've put in there.

"Using standard drawings, it's almost impossible to calculate the exact amount of material required for a job. But when I get done with the drawings, we have all of the details, so we get an exact bill of material for the work. I would guess that, when we're done with the drawing, we can order from the bill of material and have 99 percent of what we need on that job," Shrader says.

A Convincing Argument

One key to making electronic contracting work, Shrader says, is convincing everyone at the job site of its value. "I make the point that if they have all of the information and drawings and material right there at the job site they can more easily get their work done.

"You can't hand a foreman a set of drawings that are not complete and expect him to put a job in. Over time, our guys in the field have come to love this electronic approach. It has given them a certain level of confidence that, when they go to do their job, they will have what they need."

Shrader says that, at first, the foremen on his jobs weren't used to this new approach. "They would call me and ask me questions, and I'd tell them, 'The answer is on the drawing.' I had designed the job and created the working drawings, so I knew the answer was there.

"After a while, the phone calls started to drop. The guys knew the answer was on the drawings. Now, when they call, it's only in the case of a real problem."

CAD Estimating Is Integral

McCormick's CAD Estimating software is integral to Shrader's approach. It's vital that the estimate be created at the same time he creates the design-build drawings for clients and working drawings for his field people.

"I do the prep work and the working drawings, and once I get the drawing done, the estimate is done," he says. "It has increased our gross profit on jobs by 15 percent or more.

"Basically, the architects just e-mail us their drawings. The only problem we run into is that the architects don't submit drawings the way they need to be drawn to allow CAD estimating to work. To make the work go even faster, I've been building a symbol library for the two main architectural firms we work with.

"And, sure, there are always little things you have to go back and tweak a bit. But, basically, the CAD Estimating system helps me get all of this work done at once, and it gives my people the bill of material they will work from. There's no substitute for it."