

INSIDE

**IMPLEMENTATION**

Three Generation Firm  
Assists National Guard

**ENHANCED APPROACH**

GPS MC Saves Time for  
Drainage Contractor

**MAX EFFICIENCY**

Minimal Waste for  
Landfill Projects

# MACHINE CONTROL

THE MAGAZINE FOR MACHINE CONTROL AND GUIDANCE

VOL. 1 ISSUE 1



# DIGITAL REVOLUTION

---

# New West Virginia Armories Taking Shape

Armed with three generations of experience and a nice complement of GPS gear, company moves Army National Guard projects forward.

**T**here's little denying that the face of the Army National Guard has changed in the last couple decades. Once considered "Weekend Warriors," members of The Guard now represent a critical component in this country's active fighting force. In fact, according to a 2004 Congressional Research Service report, soldiers considered "part-time" (National Guard, Reserves, etc.) comprised more than 40 percent of the U.S. military presence in Iraq; hardly a weekend commitment. To meet the needs which accompany that growing role, a number of new armories are being constructed across the country. In West Virginia, Brown's Excavating Inc. (BEI), is handing site and

utility work for two such facilities: one in Millwood, another in Fairmont, and, much like The Guard itself, has changed to adapt to newer, different challenges.

## **Basements for a Boom**

Brown's Excavating is a veteran firm, established in 1955 by Charles "Charlie" Brown as a company focused mainly on doing residential basements. According to current owner and president Eric Brown, his father's timing was no accident.

That was shortly after the Korean War, a time in which huge numbers of people were being discharged from the army, coming back to this area and wanting to build homes. Housing construction was going on everywhere

and dad was one of the companies that would help start that process. From there we expanded into industrial maintenance work, then we branched out into civil construction for larger buildings such as hospitals, then added utility work to the mix."

Today, he says, site work for new civil projects is really the cornerstone of the business which, with the addition of son Charlie, is now a three-generational company. It is also very much a family affair with Charlie and his brother Brian holding down vice presidential positions, and their mother Sandy, sister Debbie, and Charlie's wife Michelle handling BEI's administrative duties.

BY LARRY TROJAK



The crew onsite at the Millwood, WV armory.  
From left: Charlie Brown, Dean Rhodes and Eric Brown.



Brown estimates that Topcon's 3D-MC2 system will probably knock four to six weeks off the project length, largely because of gains they've made in final grading.



The increasingly important role of the National Guard, coupled with funds made available as part of the AARA of 2009, have increased new army construction in West Virginia.

## All About the Service

Despite their small, rural location in Sistersville, WV, a town of about 1,400 on the Ohio River (midway between Parkersburg and Wheeling), BEI has always been committed to staying abreast of changes in technology, particularly those which can improve onsite operations. It should come as no surprise then, that GPS had been on their radar for some time.

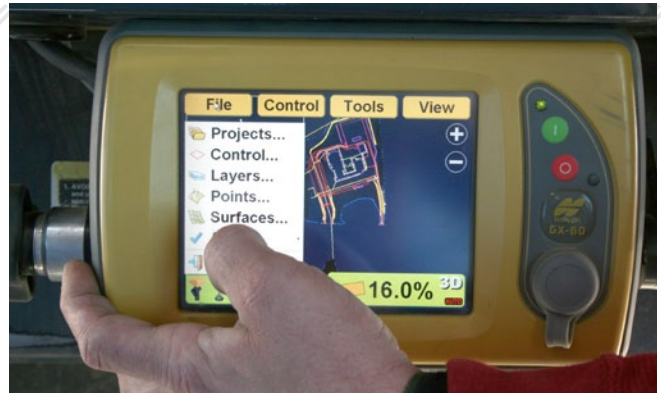
"We started considering GPS about five years ago," he says. "We liked the concept and saw how much it could do for us, but, because we are a smaller company, we were waiting for the right job to warrant the investment. When we won the bid for such a job—a new laundry facility for the University Hospital at Morgantown—we decided to make the move. We went to ConExpo, looked at all the major manufacturers and started narrowing down our choices."

He adds that when they returned from the show, they were visited by Dave Krautz of Productivity Products and Services (PPS), the area Topcon dealer. It was that visit, says Brown, that ultimately sealed the deal for them and resulted in a purchase of their first system: a Topcon HiPer Ga base station and rover, Pocket-3D software, an FC-200 field controller and Topcon's latest machine control system 3D-MC2 to be installed on a John Deere 700J dozer.

"I can't say enough about Dave and the job he's done for us," he says. "I've been in this business for a long time now and have dealt with a lot of companies, a lot of dealers, and reps for each. But I have never received a better level of service than we get from him and PPS. Dave took the time to get us up to speed on every piece of equipment we've purchased from them, he is there to resolve any issues we have, and he



Topcon's GX-60 control box is a fully-functioning Windows computer that provides real-time grade information and control.



A simple touch of the screen allows instant access to a range of tabs and menus including a View tab for plan, profile and section.

makes sure we always have everything we need to get the job done. Service like that makes all the difference to us.“

For his part, Krautz says the instructional aspect of the sale, essentially showing Eric Brown's son Charlie the ins and outs of machine control, went unbelievably smooth. “Topcon's system is very user-friendly,” he says. “Even given that, however, Charlie caught on to the technology extremely fast, “He immediately put the dozer to work on that hospital job and, by the time they were out of there, he was teaching me some things.”

### Putting Up Their Guard

That project went so smoothly that when BEI won the initial bid to do site work and utilities for one National Guard Armory—and then a second one—it became apparent an additional purchase was needed.

“We quickly learned how valuable the technology could be to us,” he says. “On the University Hospital job, we almost totally eliminated our reliance upon surveyors, which was not only a cost-savings, but also made us a lot more efficient on site. That was what Dave Krautz told us it would do, but it still impressed us. So when the armory jobs came around, we knew we needed to

be ready; we ordered a second Topcon HiPer base and rover, and upgraded the handheld unit to their FC-250 model.”

The two facilities to which Brown refers are located in Jackson and Marion Counties in the west-central and north-central part of the state, respectively. The first is located in Millwood, about 20 miles southwest of Parkersburg; the second in Fairmont, about 50 miles south of Pittsburgh.

### Welcome to the Machine

Each armory site is situated on about 30 acres of land and both jobs involved a decent amount of earthmoving—work which Eric Brown says was a snap with their new machine control capability.

“Work at the Millwood site started in May of last year and we are expecting to be out of there by the same time this year,” he says. “That location, in addition to serving as the home for the West Virginia chapter of the Order of the Eastern Star, was originally a cornfield. It had a decent slope from the road downward, so we had to move about 100,000 cu. yd. of soil to get things to the point where actual excavation and construction of the armory could begin.”

He says there is no question that the project went significantly faster and

smoother with Topcon's 3D-MC2; he guesses it will probably knock four to six weeks off the project length, largely because of the gains made in final grading. “It has really been an eye opener for us,” he says. “There was so much activity at that site that we couldn't keep a stake out there if we wanted to. In the past, that would have meant calling surveyors out time and time again. Having the ability to go stakeless takes care of that whole issue.”

Brown says they anticipate getting get similar—but even more impressive—benefits at the Fairmont job since that project involves moving better than a half million cu. yds. of dirt. “GPS has changed so many things for us,” he says. “We use it for earthmoving, for final grading, for utility work—we even help the GC mark out the structures and set his stakes. On larger jobs like these, it's fair to say that each system pays for itself in productivity and efficiency of effort. We've been really pleased with what it's done for our operation and, given the amount of utility work we do, we are already considering Topcon's machine control for one of our excavators. I have no doubt it would be a really nice fit.”

**Larry Trojak** is owner and president of Trojak Communications, a Minnesota-based marketing communications company.